Evaluate Tiered Lessons

- Choose 2-3 lessons with a partner or two.
- Read through the activities and discuss the structure and purpose of this Readiness strategy.
- How well do these lessons fit with the principles of DI?
  - Are the learning goals clear and embedded in every task, every choice?
  - Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  - Are groupings changing?
  - Do tasks feel respectful, meaningful?
  - Are students engaged, putting forth effort, and growing from what they already know and can do?
- With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity.
- Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.

---

Tiered Lesson Planning Sheet

Tiering is a readiness response, and usually differentiates the skill levels of students. The skills are the “Do” part of the learning goals, the verbs. Sometimes, though, the content level or the difficulty/complexity of the problem or task is the differentiating element in a tiered lesson.

1) Learning goals of lesson:
   • What should students KNOW (facts)
   • What should students be able to DO (verbs)
   • What should students UNDERSTAND (statement)

2) If you have taught this lesson or activity before, what group of students would most benefit from a modification to this version? How will you pre-assess and find this group?

1) What element(s) should be changed to make the activity more appropriate in challenge to the defined group? Use the Equalizer to analyze the lesson and determine how you might improve the lesson for the defined group of learners. Write that first cloned version here.

1) If time permits, what might be a second cloned version that would benefit a different group of learners?

1) Describe the grade level activity for the lesson.
Adding Fractions

**Green Group**
Use Cuisenaire rods or fraction circles to model simple fraction addition problems. Begin with common denominators and work up to denominators with common factors such as 3 and 6. Explain the pitfalls and hurrahs of adding fractions by making a picture book.

**Red Group**
Use Venn diagrams to model LCMs. Explain how this process can be used to find common denominators. Use the method on more challenging addition problems. Write a manual on how to add fractions. It must include why a common denominator is needed, and at least three different ways to find it.

**Blue Group**
Manipulatives such as Cuisenaire rods and fraction circles will be available as a resource for the group. Students use factor trees and lists of multiples to find common denominators. Using this approach, pairs and triplets of fractions are rewritten using common denominators. End by adding several different problem of increasing challenge and length. Suzie says that adding fractions is like a game: you just need to know the rules. Write game instructions explaining the rules of adding fractions.

Order of Operations: Tiered Activity

- **Basic:** Use five 4's and any of the four arithmetical operations along with parentheses to write an equation for each of the numbers 1-10. There is more than one way to get each number. List all of your attempts and explain why you tried each combination based on results from previous attempts.

- **Advanced:** Using the numbers 1-7 in an equation, determine the largest possible answer as well as the smallest possible answer. You must use each arithmetic operation at least once plus an exponent. List all of your attempts and explain why you tried each combination based on results from previous attempts.
Graphs of Polynomials (tiered lesson)

Introductory discussion by whole class:
• Can you predict how people will act or what they will do?
• What characteristics would you look for in doing so?
• Can you predict a family member better than a stranger?
• How well can you predict what your friends will think?
• What factors will affect people’s behaviors?
• What else can be predicted in the world by behavior? (stocks, economy, weather, etc.)
• How are world behaviors predicted? (data, graphs, etc.)
• How can we predict what an extension of a graph might do? (patterns)
• If you do not have a piece of the graph, could you predict what a graph might look like, or how it will behave? Based on what?

Whole group introduction to polynomial activities:

You are all going to investigate characteristics of the graphs of polynomials. Your goal is to draw conclusions about their general behaviors based on specific attributes of the equation. (Discuss what an end behavior and zeros are if the student do not already know this term.) Each group will share their findings when finished in order for all to have a complete picture.

The teacher creates groups of 3-4 students, based on pre-assessed readiness. There are four tasks, but some tasks may be done by multiple groups; in other words, there may be two or more groups doing the same task, depending on how many students are at the same readiness level.
**Sea Green Group:**
Students are given four quadratic equations, two with positive lead coefficients and two with negative lead coefficients. They are to graph the parabolas in a graphing calculator, then copy the graphs onto graph paper with the equations.

Repeat this process with four cubic polynomials, four quartic polynomials, and four quintic polynomials.

Describe the change in the behavior of the graph of a polynomial based on the sign of the lead coefficient.

What conclusions can you draw?
Test your hypothesis with equations and graphs of your own.
Defend mathematically why graphs respond the way that they do based on the sign of the lead coefficient.

**Indigo Group**
Students are given several even degree polynomials. They are to graph on a graphing calculator and then sketch on graph paper with the equation.

Repeat the process with several odd degree polynomials.
What conclusions can you draw from your graphs about end behaviors related to the degree of the polynomial? What about the number of zeros of the function?

Students are then given equations of polynomials. They are to predict what the graph will look like based on the degree.

Students are given graphs of polynomials. They are to write an equation of a polynomial that would be appropriate. (These do not have to be exact.)
**Violet Group:**

Students are asked to graph the following in a graphing calculator, then copy the graphs and equations onto graph paper.

\[
Y_1 = (x+1)(x-2) \quad Y_2 = -(x-3)^2 \quad Y_3 = 2x^2 + 5x + 6
\]

Describe the behavior of the graph including its relationship to the x-axis and its end behaviors. Do you see any patterns?

Repeat the process:

\[
Y_1 = (x+3)(x+2)(x-1) \quad Y_2 = -(x-2)(x+1)^2 \quad Y_3 = -x^3 + 2x - 5
\]

Describe the behavior of the graph including its relationship to the x-axis and its end behaviors. Do you see any patterns?

What conclusions can you draw?

How can you predict the number of times a graph will touch or cross the x-axis? Based on your observations, describe how a graph behaves from its equation. Include end behaviors and x-intercepts.

---

**Dark Red Group:**

Give students multiple polynomials to graph. Some should be in factored form. Both even and odd degrees and positive and negative lead coefficients should be included.

Students are to graph and copy the graphs and equations onto graph paper.

Draw conclusions about how the equation of a polynomial can predict the behavior of a graph. Include end behaviors and zeros.

Test your conclusions by writing polynomial equations and predicting the corresponding graphs. Check your prediction with a graphing calculator.
Vectors: Tiered Activity by Kim Pettig

Students are given one of the following problems to do based on pre-assessment of the complexity of calculations and problem. What makes each task successively more difficult, and how might the teacher determine which students need which problem?

- **Task 1:** A travel assistant at the auto club planned two routes for two different families to go from [Rochester, NY to NYC]. One route went mostly south towards [Corning, NY] and the other went mostly east towards [Albany, NY]. The families stopped for the night in those cities. Assuming the roads could go mostly straight, show and calculate which family had further to go the next day.

- **Task 2:** A flight from [Rochester, NY to Charlotte, NC] has a stopover in Philadelphia, PA. Show how much further the passengers traveling on that stopover route had to go than if they could have flown directly from [Rochester, NY to Charlotte, NC].

- **Task 3:** A homing pigeon was released from [Rochester, NY] to go home. It landed [75] miles west and [23] south of the city. Pinpoint which town is nearest the pigeon’s home? How far did it fly?

---

**Ball Drop Measurement: Tiered Activity for Math & Science**


**Basic version:** Do you think a ball dropped from 100 cm will bounce back higher than if it is dropped from 40 cm?

- Rotate jobs for each height. (Or group according to skill or interest)
  - **Recorder:** records the bounce back height for the 3 trials
  - **Measurer and dropper:** Measures the correct height (40, 60, 80, 100 cm) from which the ball is to be dropped.
  - **Observer:** Notes the bounce back height. (You may need a second observer)
  - **Calculator:** Find the mean of the three trials

**Advanced version:** Change the previous version so that the ball types become the experimental variable. The height remains constant and the type of ball varies. 3 trials for each with an average taken. Ask students to designate the dependent and independent variables.
Tiered Activity

Subject: Science
Concepts: Density & Buoyancy

Introduction: All students take part in an introductory discussion, read the chapter, and watch a lab activity on floating toys.

Activities Common to All Three Groups
- Explore the relationship between density and buoyancy
- Determine density
- Conduct an experiment
- Write a lab report
- Work at a high level of thinking
- Share findings with the class

The Soda Group

- Given four cans of different kinds of soda, students determined whether each would float by measuring the density of each can.
- They completed a lab procedure form by stating the materials, procedures, and conclusions. In an analysis section, they included an explanation of why the cans floated and sank, and stated the relationship between density and buoyancy.
The Brine & Egg Group

• Students developed a prescribed procedure for measuring salt, heating water, dissolving the salt in the water, cooling the brine, determining the mass of water, determining the mass of an egg, recording all data in a data table, pouring the egg on the cool mixture, stirring the solution and observing.
• They answered questions about their procedures and observations, as well as questions about why a person can float in water, whether it is easier to float in fresh or seawater, why a helium filled balloon floats in air, and the relationship between density and buoyancy.

The Boat Group

• Students first wrote advice to college students building concrete boats to enter in a boat race.
• They then determined the density of a ball of clay, drew a boat design for a clay boat, noting its dimensions and its density.
• They used cylinders of aluminum, brass, and steel as well as aluminum nails for cargo, and determined the maximum amount of cargo their boat could hold.
• They built and tested the boat and its projected load.
• They wrote a descriptive lab report to include explanations of why the clay ball sank, and the boat was able to float, the relationship between density and buoyancy, and how freighters made of steel can carry iron ore and other metal cargo.
PHYSICS A High School Tiered Lesson

After reading and discussing text and looking at models of flight, the students will refine thinking about the physics of flight. As a result of the Lab, students should:

**Know**
Key vocabulary (thrust, drag, lift, fluid, pressure, velocity, camber, airfoil, chord, trailing edge, leading edge)

**Understand**
Bernoulli’s Principle—As the velocity of a fluid increases, its pressure decreases. (Moving fluid creates an area of low pressure. Decrease in pressure on the top of the airfoil causes lift.)
Newton’s Third Law of Motion (For every action, there is an equal and opposite reaction)
Aerodynamics is the study of forces acting on an object because air or another gas is moving.

**Be Able to Do**
Construct objects that project themselves through space in different ways as a demonstration of student knowledge of key information and understanding of key principles.

Explain, illustrate and defend thinking regarding the objects they create and modify.

Students are assigned to work in pairs at a lab station based on a brief preassessment writing prompt asking for their basic knowledge and understandings of the physics of flight. Each lab station has three tasks, increasing in complexity of design and understandings. Required elements included a written explanation of their findings for initial designs and modified designs, and the use of key vocabulary and key principles.

**In the lab students design, redesign, and explain**

**Paper Airplanes** that fly for
- Maximum Distance
- Maximum Hang Time
- Tricks

**Kites**
- Diamond
- Box
- Triangle-Layered

**Pinwheels**
- Forward Motion
- Backward Motion
- Upward Motion
New World Explorers

KNOW
• Names of New World Explorers
• Key events of contribution

UNDERSTAND
• Exploration involves
  – risk
  – costs and benefits
  – success and failure

Group A
Using a teacher-provided list of resources and list of product options, show how 2 key explorers took chances, experienced success and failure, and brought about both positive and negative change. Provide proof/evidence.

Group B
Using reliable and defensible research, develop a way to show how New World Explorers were paradoxes. Include and go beyond the unit’s principles.

Jacksonian Democracy: Tiered Social Studies RAFT

Learning goals are to review vocabulary, people, and essential questions related to the chapter.

The teacher assigns choices based on readiness in analysis of text.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>Andrew Jackson supporters</td>
<td>conversatio n</td>
<td>Why I believe in the spoils system</td>
</tr>
<tr>
<td>Concrete</td>
<td>Democratic Party settlers &amp; farmers</td>
<td>TV commercial</td>
<td>Why Jackson is the man you want as president</td>
</tr>
<tr>
<td>Mod</td>
<td>Martin van Buren Voter</td>
<td>Q and A transcript</td>
<td>Questions about the economy and state’s rights</td>
</tr>
<tr>
<td>Mod</td>
<td>Expansion of voting rights</td>
<td>National bank issue and economy</td>
<td>Venn diagram or graphic organizer</td>
</tr>
<tr>
<td>Hard</td>
<td>John C. Calhoun Future citizens</td>
<td>Prediction in a diary entry</td>
<td>How the nullification crisis foreshadowed issues that would divide the nation and lead to war.</td>
</tr>
<tr>
<td>Hard</td>
<td>Southern citizens Northern politicians</td>
<td>Argument or debate</td>
<td>Why these tariffs on manufactured goods are unfair to our region!</td>
</tr>
</tbody>
</table>
Tiered Lesson: Regions of the United States

**Students will KNOW:**
- Characteristics of regions,
- Landforms
- Natural resources
- Historical economic resources
- Climate

**Students will be able to DO:**
- Research,
- Analyze cause and effect
- Communicate findings in oral presentation, writing, and graphic diagrams

**Students will UNDERSTAND that:**
- Changes are taking place within regions of the US.
- Issues and changes faced by one region are affected by the geography and history of that region

Based on preassessment of reading and writing skills, and readiness levels for research and complex thinking, the teachers assigns students to tiered tasks. Students may work alone or in groups of two or three. Students will present their findings at a class conference on change in the United States. Research materials will be available for varied reading levels.

---

**Single Region Investigation:**

You have been exploring regions of the US and ways in which they are changing. Research one region and find an important change that is taking place in that region.

Create a product that illustrates this change and that answers the guiding questions.

You will present your product to the class at the conference. Your product may be a timeline, a photo essay, a dramatic play, or a simulation. You may choose one of these ideas or develop your own idea:

- **Northeast** – traffic, pollution, decline in industries
- **Southeast** – natural disasters, illegal immigration, industries moving to Asia
- **Middle West** – changing water supply, farming/agriculture,
- **West** – traffic, water supply, population growth
- **Southwest** – population/immigration, energy sources, environmental impact

**Key Questions**
- What caused the change in this region?
- What have been the effects of the change?
- How is this change a result of the history or geography of this region?
- How are people in this region adapting to this change and what responses or solutions have been created because of the change?
Product Guidelines: Single region investigation continued...

1. Read the selection from the textbook and complete the information in the chart given below:

<table>
<thead>
<tr>
<th>Region</th>
<th>Landforms</th>
<th>Climate</th>
<th>Natural Resources</th>
<th>Other chosen area</th>
</tr>
</thead>
</table>

2. Your product should show that you understand the causes and effects of change and should contain the answers to the key questions.

3. You will need to show careful research from several sources, including video clips, textbooks, other books, and/or Internet sites on the topic. Although there will be materials provided in the classroom, you will need to gather information from other resources.

4. Your product should be clean and neat, and the writing should be clear to a reader unfamiliar with this topic. Captions should be informative. Writing should reflect your best effort and contain good grammar and no abbreviations or contractions.

5. You will need to keep a planning log which will be turned in as part of your grade. Complete entries on each part of the plan. If you are working with a partner, both individuals must turn in a planning log.

- Plan Part I (checkpoint day 2) Choose a region. Explore changes within that region. Choose a change within that region for your project.
- Plan Part II (checkpoint days 5, 7) Research change/region.
- Plan Part III (checkpoint days 10, 12) Use research notes to create product.
- Plan Part IV (final day 15) Class conference and self-reflection.

Total Regions Investigation (advanced level):

You have been exploring regions of the US and ways in which they are changing. Research one change and find how it is taking place in multiple US regions. Create a product that illustrates this change and that answers the guiding questions. You will present your product to the class at the conference.

Possible areas of change to explore include:

- Transportation
- Agriculture
- Pollution
- Jobs and industries
- Energy sources
- Population make-up (age, ethnic groups)
- Population growth or decreases
- Natural disasters
- Immigration/illegal immigration
- Road and railroad and/or public transportation

Key Questions

- What caused the change? Why is it happening in different regions?
- What have been the effects of the change and how do they differ between regions?
- How are people in different regions adapting to this change? Examine the responses or solutions.
- What geographic or historical factors are affecting whether changes are viewed positively or negatively?
Product Guidelines:  Total Regions Investigation (advanced level):

1. Your product should show that you understand the causes and effects of change, and should contain answers to the key questions.
2. You will need to show careful research from several sources, including video clips, textbooks, other books, and/or Internet sites on the topic. At least two sources must be from governmental departments or data-gathering reports, such as population census, Army Corps of Engineers reports, Dept. of Transportation reports, and other such sources. I have a list of websites for you to use, if you wish.
3. Your product should illustrate a change over time. Using your research, create a magazine article, a news program/video, a dramatic play, a simulation, or other product of your choice. It should be clearly written, engaging and informative, neat, contain good grammar and reflect your best work.
4. Your product should include a graphic illustration of change over time. This may be in the form of a table, graph, map, concept web, diagram, or timeline.
5. You will need to keep a daily planning log. On some days, I will ask you to respond to prompts and to reflect on what you have done so far, where you go next, and your thoughts about particular topics. Your job is to complete your entries thoughtfully and to turn the planning log in with your project. If you are working with a partner, both individuals must turn in a planning log.

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**Tiered Lesson on Sequence**

*The teacher will assign the student the sequence task of most appropriate challenge based on pre-assessment. Students may work alone or with a skill-alike partner. Students may present to teacher individually, or they may present to another student who has done a different sequence.*

**Learning Goals:** Place items in order of occurrence. Use vocabulary teacher has introduced (first, next, last; or first, second, third; or before and after)

1. Using 3 simple pictures, a student will put them in order of occurrence. (Example: Man blowing up balloon. Child with balloon in hand, smiling. Child with sad face and balloon popping.) Student will then explain aloud to another student and teacher, describing the action sequence. Remind student to use either first, next, last; or before and after.

2. Using 4-5 pictures, a student will put them in order of occurrence. (Example: Photo of bread on plate and person unscrewing peanut butter jar. Photo of peanut butter being spread on bread. Photo of second slice of bread being placed on top. Photo of knife being used to cut sandwich into diagonals. Photo of child eating sandwich.) Student will then explain aloud to another student and teacher, describing the action sequence. Remind student to use either first, second, third; or before and after.
Character Map 1

The teacher wants all students to write a short character study essay. This graphic organizer is tiered by readiness. Can you see the changes from Map 1 to Map 3 that make this fit students’ range of readiness in writing?

<table>
<thead>
<tr>
<th>Character Name</th>
<th>How the character looks</th>
<th>How the character thinks or acts</th>
<th>Most important thing to know about the character</th>
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Character Map 2

<table>
<thead>
<tr>
<th>Character Name</th>
<th>What the character says or does</th>
<th>What the character really MEANS to say or do</th>
<th>What the character would mostly like us to know about him or her</th>
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Sandra W. Page  bookpage@nc.rr.com 2009
### Character Map 3

**Character Name**

**Clues the author gives us about the character**

**Why the author gives THESE clues**

**The author’s bottom line about this character**

---

**Directions:**

- Read your instructions and make a plan to complete them.
- Check your plan with the teacher.
- Select the size bag you want to use – as well as other materials.
- Create your bag.
- Be ready to share your bag with the Brown Bag Seminar Group tomorrow.
- Bring objects for the inside of your bag from home if you want to.
- Be ready to listen to other Brown Bag presenters to see how they are thinking about the story.

**1st Presenters**

- Write the story elements. (Use the bulletin board to make sure you get them all.)
- Then write or draw something that illustrates the story element.

- Select key lines from the story for this side of the bag. The lines you pick should help us see what is most important for us to understand about the story. Use colors, cutouts, or a design to help us see your reaction to the meaning of the story.
2nd Presenters
Use lines from the story that help us identify the conflict in the story. Also figure out a way to help us see who or what caused the conflict in the story.

Use quotes from Bartlett's to let us see what you think the theme of the story is. Use colors, cutouts, sketches or other ways to expand on the theme.

3rd Presenters
Use information from books and the internet to help us understand how the meaning of the story we read today connects with the author’s life. Feel free to let illustrations help you.

Write (and illustrate) a note from the author to our class telling us what she likes best about the story.

4th Presenters
The story is going to be made into a booklet. Draw the cover illustrations so it hints at the book’s meaning.

Do a PMI chart on your opinion of the story’s meaning.

5th Presenters
Do a PMI chart in the character’s voice telling what he or she thinks about the way the author wrote the story to shape its meaning.

Show us a connection between the meaning of this story and:
1) our lives
2) something else (not in language arts) you’ve studied this year.

For all students: Inside your bag place 2 or 3 objects you think reveal something important about the story’s meaning.
Metaphor Lesson (UKDs)

• **Students will UNDERSTAND THAT...**
  – Metaphors and similes allow us to communicate meaning in ways that normal language cannot.
  – Metaphors and similes communicate ideas by making sensory connections.

• **Students will KNOW...**
  – Definitions of metaphor, simile, figurative language, imagery, stanza, couplet, free verse

• **Students will BE ABLE TO...**
  – Use metaphors and similes to convey descriptions
  – Write in a given stanza format

---

Metaphor Lesson

ENTRY CARD

Name: _____________  Period: _____

• What is a “metaphor”?
• Give at least two examples.
• Explain why song-writers and poets use metaphors.
Two Tasks...

**“ME” Metaphor Poem**

- Choose something to compare yourself to. Choose something that captures all aspects of your personality. It can be something in nature, a machine of sorts, a song, a force, and animal, a color—the only thing it CAN’T be is another person.
- Strive for at least 4 stanzas (line lengths in stanzas can vary).

*(Advanced Understanding – Complete assignment independently)*

**“ME” Metaphor Poem**

- Write a poem describing yourself using a series of metaphors and similes. You can describe both what you are and what you are not. Try to capture all aspects of your personality.
- Try using couplets – and strive for about 5-7 couplets. See page 314 an 315 for more information.

*(Basic understanding – Assignment follows mini-lesson on metaphors)*

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**Secondary Literature Tiered Lesson**

All students will know: (key ideas, vocabulary, facts)

- Elements of literature
- Author’s voice
- Concept of responsibility

All students will understand: (generalizations)

- We are responsible for ourselves and our choices
- We “write” our own lives.
- Our actions have a ripple effect.
- Responsibility may require sacrifice and may result in fulfillment.
- Our work bears our hallmark.

All students will be able to do: (skills)

- Argue and support
- Edit and revise skills
- Use figurative language effectively
- Analyze literary pieces
The teacher uses several differentiated strategies in teaching these lessons, including offering a range of articles, books, or chapters to read. All students will read *The Little Prince*, but some students will be helped by using a recorded version or by shared reading.

All students will analyze pieces of literature to explore the premise that we are responsible for those we tame, and will frame an argument to support their position.

**Group 1**

Read pages from *The Little Prince*

Complete an analysis matrix that specifies the fox’s feelings about responsibility toward those we tame and why he believes what he does.

Read story, “Bloodstain”

Complete analysis matrix on the beliefs of the main character.

Select a newspaper article from folder.

Write 2 paragraphs that compare beliefs of the people in the article with the two characters

What advice would you give children about responsibility toward people we tame? Brainstorm on paper and then either:

- Write a letter to a kid, giving your advice
- Write guidelines for adults who affect children’s lives
- Draw and explain a blueprint for becoming a responsible adult

Peer revise and then peer edit your work before turning in to teacher.
Group 2

Read pages from *The Little Prince*.

Using article and story list provided by the teacher, find at least one piece of writing that shares the fox’s view on responsibility for those we tame.

Find at least 2 contrasting pieces.

Develop notes on two views of responsibility with reasons and examples from your reading selections. Be sure you are thoughtful about each view.

Then either:

- Write an editorial about the implications of the two approaches for our school.
- Write an interior monologue of a teen at a point of decision about responsibility for someone he/she has tamed.
- Create a series of editorial cartoons that look at the ripple effect of such decisions in history, science, or our community.

Peer revise and then peer edit your work before turning in to teacher.

---

Learning Log Prompts (tiered lesson)

**Skills:** identify sensory words; apply and analyze; write a response.

**Understand:** Sensory words can be a tool and an art form.

Students begin reading *The Winter Room* by Gary Paulsen. After reading the first few pages, the teacher assigns students one of these three learning log prompts, based on readiness in writing and analysis:

- List words that relate to smells, to sounds, and to hearing. Write a sentence or two about anything in your experience the sensory words remind you of.
- How does a reader draw from personal experiences to relate to smells, sounds, and visual descriptions?
- Select a setting and a moment in time. Write a descriptive paragraph or two, modeling after Paulsen’s writing. Add a statement or two about why sensory words make a passage seem to come alive.
**Elementary Physical Education**

**SKILL: Dribbling and basketball**

1. Dribble from point A to point B in a straight line with one hand. Switch to the other hand and repeat.
   Use either hand and develop a new floor pattern from A to B (not a straight line).

2. **ZIGZAG**
   - One hand
   - Other hand
   - Increased speed
   - Change pattern to simulate going around opponents

3. In and out of pylons as fast as possible
   - Change hand
   - Increase speed

4. Dribble with one hand – and a partner playing defense.
   - Increase speed and use other hand
   - Trade roles

5. Through pylons, alternating hands, & partner playing defense
   - Increase speed
   - Trade roles

---

**German: Past Tense Verbs (tiered lesson)**

For part of today, students will work in one of three groups to practice using verbs.

**Group One:** Complete an oral round-robin exercise by reading German sentences and questions from a flipchart, and select which of two verb forms beneath a sentence should be placed in the sentence.

**Group Two:** Take turns reading sentences with present-tense verbs, converting them into sentences with past-tense verbs, and then converting them into past-tense questions.

**Group Three:** Work in pairs to ad lib a conversation in which they ask questions and give answers about what happened at home and school yesterday and today.

Tomorrow, students will work in mixed readiness triads (one person from each group) to prepare for a “skill drill”.

Sandra W. Page  bookpage@nc.rr.com 2009
Tiered Lesson on a Foreign Language - French

- Know: Use of past tense verbs (regular)
- Do: Sentence construction

Group A:
Given English sentences, supply the correct French pronoun and regular past tense as verb, as well as other missing words.

Group B:
Given an English scenario, write a French dialogue that uses correct nouns, pronouns, present and past tense verbs, and other vocabulary as necessary.

Group C:
Develop a conversation that shows your fluency with French verbs, word pronouns, and other vocabulary. Use “blip” sparingly, but when essential. Be sure to incorporate idioms.

Tiered Lesson -- ART

Skill: Contour Drawing

1. Students with less refined eye-hand coordination
Complete a contour drawing of a hand, look at your hand and the paper as you draw. Study lengths of finger segments shapes of finger tips, widths of fingers as your draw.

Draw a teacher selected object in your sketch book looking at the paper and object as you do your drawing.

with somewhat more refined eye-hand coordination
Complete a half-blind contour drawing of your hand.
That means you can look at your hand and the paper but Cannot draw any time you look at the paper.
Draw a teacher selected object in your sketchbook doing a half-blind contour drawing.

3. Students with excellent eye-hand coordination
Do a blind contour drawing of your hand.
Do a blind contour drawing of a teacher selected object in your sketchbook.
Business Letter Tiered by Readiness

K – basic conventions of business letter format (date, inside address, salutation, purpose of letter, body, closing, etc.), font choice and spacing

U– The business letter style conveys information concisely, effectively.

D – Produce business letter accurately & completely

After teaching the format of a business letter, the teacher uses a classroom practice letter as an assessment and assigns each student one of the following two tasks:

BASIC: Students are given a graphic organizer containing the information needed in elements of a standard business letter. Suggested phrases for each element are given. Students are asked to compose a three paragraph letter, giving information to the recipient. The first paragraph refers to correspondence inquiring about items for sale. The letter’s second paragraph includes a list of merchandise items, price per unit, and the number of units being ordered. The third paragraph concludes with opportunity to respond to further questions, make the sale, etc.

ADVANCED: Students are given a less detailed list of information needed for the 3-paragraph letter, with NO suggested phrases included. These students are also asked to create a table for merchandise items, costs, etc. (Creating tables has been previously taught.) They will embed the table in the business letter’s 2nd parag.

Use of Spreadsheets: Tiered Activity

Based on pre-assessment, the teacher assigns students in pairs to do one of these activities. Each pair receives information to format into a spreadsheet, and the info will increase in complexity from A to C. After completing the task, students jigsaw into groups of 6, including one pair from A, B, and C to present and share their responses.

A. After you create the spreadsheet using the information provided by the teacher, then create a step-by-step guide to the process of setting up a spreadsheet. You may use a bulleted list, a graphic organizer, a flow chart, a demonstration, or other format.

B. After you create the spreadsheet using the information provided by the teacher, then describe how we can use the spreadsheet to interpret, communicate, and/or analyze information. You may use a series of “what would happen if” situations, a poster, a powerpoint presentation, simulation or another format.

C. After you create the spreadsheet using the information provided by the teacher, then describe the advantages of using a spreadsheet format compared to at least 3 other formats (graphs? lists? tables? outlines?) Show your evaluation through illustrations, side-by-side comparisons, demonstration, or other format.
Business Plan: Tiered for Readiness

Students are assessed and given one of two versions of this product differentiation. Basic Students are given the scaffolded version, pages 2-6.

Advanced Students: You have been given 3 examples of business plans. Analyze the format and content of each of the sections and determine what you will need to do to develop your own business plan.

Elements you must include:
- Cover Sheet
- Executive summary
- Table of Contents
- Section One: The Business
  a) Description of Business
  b) Product or Service
  c) Market
  d) Location of Business
  e) The Competition
  f) Management
  g) Personnel
  h) Application for Loan

- Section Two: Financial Data
  a) Sources of Collateral
  b) Capital Equipment List
  c) Balance Sheet
  d) Break Even Analysis
  e) Income Projections (Profit and Loss statement)
  f) Cash Flow Projection
     1. Detail by month for two years
     2. Notes of explanation
  g) Historical Financial Reports for Existing Business
     1. Balance Sheets for past three yrs
     2. Income statements for past 3 years

OUTLINE OF A BUSINESS PLAN
High School Product Scaffolding

Cover Sheet: Name of business, names of principles, address and phone number

State of purpose in Executive Summary

1. Who is asking for money
2. What is the business structure (for example: sole proprietorship, partnership, corporation, Sub-Chapter S corporation)?
3. How much money is needed?
4. What is the money needed for?
5. How will the funds benefit the business?
6. Why does this loan or investment make business sense?
7. How will the funds be repaid?

Table of Contents

1. The Business:
2. Financial Data and
3. Supporting Documents
OUTLINE OF A BUSINESS PLAN  
High School Product Scaffolding
(3 of 6)

Section One: The Business

A. Description of Business
1. Business form: proprietorship, partnership or corporation?
2. Type of business: merchandising, manufacturing or service?
3. What is the product and/or service?
5. Why will your business be profitable?
6. When is your business open?
7. Is it a seasonal business?
8. What have you learned about your kind of business from outside sources (trade, suppliers, bankers, other business owners, publications?)

B. Product/Service
1. What are you selling?
2. What benefits are your customers buying?
3. Which products are rising stars? What are steady cash cows? Which are in decline or investments in ego?

C. Market
1. Who buys from you? Define your target markets.
2. Are your markets growing, steady or declining?
3. Is your market share growing, steady or declining?
4. Have you segmented your markets? How?
5. Are your markets large enough for expansion?
6. How will you attract, hold and increase your market share?
7. Are you planning to enter or leave any markets?
8. How do you price your products?

D. Location of Business
1. Where are you (or should you be) located?
2. Why is it a desirable area? A desirable building?
3. What kind of space do you need?
4. Are demographic or other market shifts going on?
OUTLINE OF A BUSINESS PLAN  (cont’d)
High School Product Scaffolding
(5 of 6)

Section One: The Business

E. The Competition
1. Who are your nearest competitors? Who are your indirect competitors?
2. How are their businesses similar to and different than yours?
3. What have you learned from their operations? From their advertising?

F. Management
1. How does your background/business experience help you in this business? For your own use, what weaknesses do you have and how will you compensate for them?
   What related work experience do you have?
2. Who is on the management team?
3. What are their strengths and weaknesses?
4. What are their duties?
5. Are these duties clearly defined? How?
6. What additional resources are available to your business?

G. Personnel
1. What are your current needs?
2. What skills will your employees need in the near future? In five years?
3. What are your plans for hiring and training personnel?

Section Two: Financial Data

A. Sources of Collateral
B. Capital Equipment List (see example)
C. Balance Sheet (see example)
D. Break Even Analysis
E. Income Projections (profit and Loss statement) (see example)
F. Cash Flow Projection
   1. Detail by month for two years
   2. Notes of explanation
G. Historical Financial Reports for Existing Business
   1. Balance Sheets for past three yrs
   2. Income statements for past 3 years
**Simple Machines Visual Tiered Activity** (by Kenny ’95)

*Students were assigned activity 1, 2, or 3 based on a preassessment of their understanding of the simple machines and need for either more concrete or more abstract problem. Each student received the slip of paper that corresponded with their assigned activity.*

1. **Draw 5 examples of levers, wheels and axles that you use in your daily life. Next to the picture, describe how this machine makes work easier.** (Application, very concrete).

2. **I have a huge box that I need moved from my classroom to another classroom. Design and draw a machine that uses both a wheel and axle and a lever to move it from here to there. Describe how it works.** (Known problem, unknown solution).

3. **Write a problem that could be solved using two or more simple machines. Show visually and describe how the combination of these two simple machines would solve the problem.** (Unknown problem, unknown solution).

---

**Reading Homework Coupon**

Name:  
Date:  
☐ Please ask your child to tell you the story in the book he or she brought home today by looking at the pictures.

---

**Reading Homework Coupon**

Name:  
Date:  
☐ Please echo read the book your child brought home. (Echo reading means you read a line, then your child reads or echoes the same line.) 
☐ Ask your child to show you some words in the story he or she recognizes.

---

**Reading Homework Coupon**

Name:  
Date:  
☐ Ask your child to read with expression as if he or she were reading to entertain someone.
☐ Ask your child to give you several reasons why he or she likes (or dislikes) the book.
☐ Have your child tell you what feelings the character in the book has. Ask for evidence from the book.

---

**Reading Homework Coupon**

Name:  
Date:  
☐ Ask your child to read with a different voice for each character.
☐ After the reading, ask how your child decided on how his/her voice could help you know the various characters better.
☐ Ask your child to tell you which character would be most fun to spend time with. Ask for reasons for his/her choice.

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*Adapted from Managing A Diverse Classroom by Carol Cummings - by Tomlinson ’02*
Evaluate Sternberg lessons

• Choose 2-3 lessons with a partner or two.
• Read through the activities and discuss the structure and purpose of this learning style strategy.
• How well do these lessons fit with the principles of DI?
  – Are the learning goals clear and embedded in every task, every choice?
  – Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  – Are groupings changing?
  – Do tasks feel respectful, meaningful?
  – Are students engaged, putting forth effort, and growing from what they already know and can do?
• With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
• Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.
Journal Prompts for On-going Assessment: Math

A. Write a set of step-by-step directions, including diagrams and computations, to show someone who has been absent how to do the kind of problem we’ve worked with this week.

B. Write a set of directions for someone who is going to solve a problem in her/his life with the kind of math problem we’ve studied this week. Explain her/his problem first. Be sure the directions address the problem, not just the computations.

C. Write a dialogue or short story in which the characters discuss how they will solve a problem like the kind of math problem we have studied this week. You may use humor or illustrations in the explanation, but be sure to show computations also.

These prompts reflect learning preferences: Analytical A, Practical B and Creative C.

Math with Sternberg Triarchic Intelligences
Order of Operations (PEMDAS)

Learning goals: Students will demonstrate knowledge of the order of operations in math.

The teacher may want to demonstrate all three ways given below, but then allow students to individually practice the way that fits best with their own individual learning style. This could be a classroom task or a homework assignment.

Analytical: In a bulleted or numbered list, give step-by-step instructions for the order of operations.

Practical: Use a real problem (teacher may supply this). Work the problem in segments so that you demonstrate each task in the order of operations.

Creative: Come up with a song, a beat, a rhyming device or a mnemonic that helps you remember the steps in the order of operations. or

Make connections from math to music to help show how the order of operations works in both subjects.
Sternberg Triarchic Intelligence Preferences: Positive and Negative Numbers

Choose ONE of the following three to demonstrate your knowledge of adding and subtracting integers:

1) Analytical: Create a chart listing the rules for adding and subtracting positive and negative numbers, including examples of each. Discuss the similarities and differences in the rules. You must have at least four different rules explained in detail.

2) Practical: Explain where both positive and negative integers are used in the real world (temperature, financial, etc.). Why are negative numbers necessary? Give at least three examples of where negative numbers are used. Present your conclusions to the class.

3) Creative: Write or illustrate a short story about a flag on a tug-of-war rope. Include information from a global positioning (gps) standpoint of where the flag is relative to the starting location. There must be a winner, and the lead must change at least three times.

Circle Vocabulary

All Students:

Students find definitions for a list of vocabulary (center, radius, chord, secant, diameter, tangent point of tangency, congruent circles, concentric circles, inscribed and circumscribed circles). They can use textbooks, internet, dictionaries or any other source to find their definitions.
Circle Vocabulary

Analytical

Students make a poster to explain the definitions in their own words. Posters should include diagrams, and be easily understood by a student in the fifth grade.

Practical

Students find examples of each definition in the room, looking out the window, or thinking about where in the world you would see each term. They can make a mural, picture book, travel brochure, or any other idea to show where in the world these terms can be seen.

Circle Vocabulary

Creative

Find a way to help us remember all this vocabulary! You can create a skit by becoming each term, and talking about who you are and how you relate to each other, draw pictures, make a collage, or any other way of which you can think.

OR

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>Radius</td>
<td>email</td>
<td>Twice as nice</td>
</tr>
<tr>
<td>Circle</td>
<td>Tangent</td>
<td>poem</td>
<td>You touch me!</td>
</tr>
<tr>
<td>Secant</td>
<td>Chord</td>
<td>voicemail</td>
<td>I extend you.</td>
</tr>
</tbody>
</table>
Triarchic Theory

Distance = rate x time

A  Solve for d = r t (Analytical)

C  Design your own formula for d = r t (Creative)

P  Estimate the time it takes to fly from Charlottesville, Virginia to Madrid (Practical)

Yale Summer Psychology Program

Evaluating Plot

Standard: Students will evaluate the quality of plot based on clear criteria

Analytical Task

Experts suggest that an effective plot is: believable, has events that follow a logical and energizing sequence, has compelling characters and has a convincing resolution.

Select a story that you believe does have an effective plot based on these three criteria as well as others you state. Provide specific support from the story for your positions.

OR

Select a story you believe has an effective plot in spite of the fact that it does not meet these criteria. Establish the criteria you believe made the story’s plot effective. Make a case, using specific illustrations from the story, that “your” criteria describes an effective plot
Evaluating Plot

**Practical Task** (cont'd)

A local TV station wants to air teen-produced digital videos based on well known works. Select and storyboard your choice for a video. Be sure your storyboards at least have a clear and believable plot structure, a logical sequence of events, compelling characters and a convincing resolution. Note other criteria on which you feel the plot’s effectiveness should also be judged. Make a case that your choice is a winner based on these and other criteria you state.

**Creative Task**

Propose an original story you feel has a clear and believable plot structure, a logical sequence of events, compelling characters, and a convincing resolution. You may write it, storyboard it, or make a flow chart of it. Find a way to demonstrate that your story achieves these criteria as well as any others you note as important.

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**A Science Example: Migration**

Know: animals' traits and needs

Understand: that animals migrate in order to meet their needs.

Be able to: trace an animal's migratory path and explain why it follows that pattern

- **Analytical** – Find two animals that share a similar migration pattern. Chart their similarities and differences. Be sure to include information on each animal's characteristics, habitat(s), adaptations, needs, migratory path, movement time frames, etc., as well as the reasoning behind these facts. Include an explanation as to why you think they share this pattern.

- **Practical** – National Geographic has asked you to research the migratory habits of ________ (your choice). They would like you to share your findings with other scientists AND to offer them recommendations about the best manner of observing in the future. Be sure to include information on the animal's characteristics, habitat(s), adaptations, needs, migratory path, movement time frames, etc., as well as the reasoning behind these facts. Include a "How To" checklist for future scientists to use in their research pursuits of this animal.

- **Creative** – You have just discovered a new species of _________. You have been given the honor of naming this new creature and sharing the fruits of your investigation with the scientific world via a journal article or presentation. Be sure to include information on this newly-discovered animal's characteristics, habitat(s), adaptations, needs, migratory path, movement time frames, etc., as well as the reasoning behind these facts. Include a picture of the animal detailed enough that other scientists will be able to recognize it.

Kristi Douzet 05
Three States of Matter

**KNOW:**
- Three states of matter: solid, liquid, and gas

**UNDERSTAND:**
- All matter has both mass and volume.

**DO:**
- Distinguish one state of matter from the others.
- Show how one state of matter changes to the others.

---

**Analytical**

- Choose three items from the classroom that are all in different states of matter. Show how each item is in a different state of matter in comparison to the other two items. Use terms like mass and volume to explain your answer.
- Use the idea of water, ice, and vapor to create a chart to show how these 3 things change from one state to another. Include condensation, evaporation, melting point, freezing point, expanding, and contracting in your chart.

**Creative**

- Create three imaginative items to demonstrate different states of matter. Make an illustration of each item and explain why each one fits into the state it is in. Use mass and volume in your explanation.
- Make a visually appealing poster to teach second graders how each state changes into the other states. Be sure the way you teach is original. Show condensation, evaporation, melting point, freezing point, expanding, and contracting in your poster.

**Practical**

- There are three mysterious objects in a box on a museum shelf. Their states of matter are not yet identified. Your task is to figure out the state of matter for each one. Design a museum exhibit for the 3. Use the terms mass and volume in your exhibit signs.
- There is a close friend of yours who does not understand how one state of matter changes into another. You want to help your friend out. Write out how you would explain to your friend using all these terms: condensation, evaporation, melting point, freezing point, expanding, and contracting. Make your explanation as clear as you can.

---

The Food Pyramid

- **Students will UNDERSTAND...**
  - ...that the food pyramid represents our current understanding of the balance needed to best sustain human beings
  - ...that the levels of the pyramid exist in an interdependent relationship with each other; change to one level will result in change to at least one of the other levels

- **Students will KNOW...**
  - ...the structures of both the old and the revised food pyramids
  - ...examples of foods that are representative of each level of both pyramids

- **Students will BE ABLE TO...**
  - ...apply the theoretical pyramid to a practical diet plan
  - ...explain how the recent changes in the pyramid manifest themselves in the “ideal” diet.
Sternberg on a Diet: Food Pyramid continued

- **Analytical:** Analyze the two pyramids to discover which change is the most significant as measured by the changes in caloric consumption at that level. Provide a breakdown of how you arrived at your decision, and illustrate your findings with examples of representative food items that illustrate the shift in the balance.

- **Creative:** Think of another way to proportionally illustrate the principles set forth by the food pyramid. Illustrate an “old” and “new” version of your metaphor, making sure to adhere to the proportions set forth by each version of the pyramid. For each metaphor version, include representative examples of food choices.

- **Practical:** Using the old version of the pyramid, devise the ideal diet for a 17 year old girl of a certain height; then, revise this diet to reflect the principles set forth by the new pyramid. Provide notes you would use as you explain to this “client” exactly how her “recommended” diet has changed and why.

---

Social Studies – Immigration

**Lesson Objectives**

**KNOW**
- A Metaphor is figure of speech using a word or phrase and applying it to a different idea or thing to represent a similarity between the two.

- Meanings of the metaphors “melting pot,” “mosaic,” and “salad bowl” as they relate to immigration in America

**UNDERSTAND**
- Thinking about ideas from fresh perspectives causes us understand the ideas more fully.

**DO**
- Connect understanding of the metaphors to immigration in America through explanation of change in immigrant assimilation as related to the existing metaphors; create new metaphors to characterize past immigration and present immigration; or apply of the metaphors to evaluation of assimilation in the local community.
Analytical
• Analyze how and why the U.S. population has shifted from a melting pot to a salad bowl or mosaic as it has assimilated immigrants.

Practical
• Think of the population of Charlottesville and Albemarle County. Is it better for Charlottesville to assimilate new people to this area like a melting pot or a salad bowl? Defend your position.

Creative
• Create a different pair of metaphors to characterize how immigrants assimilated in the past and how they assimilate today. Write an explanation for each or create a visual to depict them.

Social Studies Topic: Civil Rights Era
Sternberg Intelligence Lrng Style Response to Discussion & Texts

<table>
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<tr>
<th>Analytical</th>
<th>Practical</th>
<th>Creative</th>
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<tbody>
<tr>
<td>Explain the key factors leading to start the Civil Rights Movement of the 1960’s. Identify the major people, current events, political climate, and economic factors that influenced the changes at least 2 areas: laws governing voting, school desegregation, hiring practices or social behaviors such as water fountains, seating on buses, housing, etc..</td>
<td>Deliver a series of monologues, diary entries, or interviews, in either written, performance, or taped format, from several perspectives of persons living during the Civil Rights Movement of the 1960’s. Be thorough and cover each person’s perspective on at least 2 areas: laws governing voting, school desegregation, hiring practices or social behaviors.</td>
<td>Create a set of artifacts (you may collect real items, but you may also make them up) that convey the Civil Rights Movement of the 1960’s. Include ads, symbols, news items, laws, music, etc., that convey the issues and changes in at least 2 areas: laws governing voting, school desegregation, hiring practices or social behaviors such as water fountains, seating on buses, housing, etc..</td>
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</tbody>
</table>

Sandra W. Page bookpage@nc.rr.com 2008
Learning Style Social Studies Lesson on Landforms based on Sternberg’s Intelligence Preference

**Know:** Geographical terms (isthmus, delta, peninsula, river, island)

**Understand:** Landforms and bodies of water effect human movement and influence the development of cities.

**Do:** Locate and label specific landforms
- Analyze how landforms produce economic advantages that establish settlements.

After students have read and taken notes on the chapter, the teacher reviews with the whole class the basic information on landforms. Then, students are given a choice of three assignments to be done individually or in groups of two or three.

**Practical:** Using these 8 given cities, (or you may choose other cities after approval by teacher), demonstrate how landforms and bodies of water contributed to the development and movement of people to this site over a period of time. You may use overlay transparencies or models to show the areas and growth.

**Creative:** Develop a map of a new world that has at least 8 different types of landforms and/or bodies of water. Using labels, etc., determine how these sites would grow due to economic possibilities of these geographical features, and predict population growth over a period of time.

**Analytical:** Create clues or a set of directions to help us identify and locate at least 8 landforms on the map (given in the textbook, or a map provided by the teacher). Clues/directions should also be based on population and economic growth and changes.
US Government
(Sternberg Learning Profile)

Analytical
Provide students with access to learning stations that contain examples of art, song lyrics, poetry, etc. with a patriotic theme. Encourage students to browse the materials and then choose 2 examples from the same or different genres & compare the works in a brief essay or visual addressing how these works communicate American ideals.
Students should be ready to discuss how the works support or do not support the unit principle: “Enduring ideals are the basis of America’s political identity and culture.”

US Government
(Sternberg Learning Profile)

Creative
Ask students to compose or design their own artistic work expressing what they perceive American ideals to be. They must compose an exhibit card or catalog entry to go along with the work.”
Students should be ready to discuss how their work supports or does not support the unit principle: “Enduring ideals are the basis of America’s political identity and culture.”
US Government
(Sternberg Learning Profile)

Practical
Ask students to study their school or city or state government. In visual or written format, they should provide a brief overview of what that government looks like (in picture or prose) and how the system reflects (or doesn’t reflect) American ideals.

Students should be ready to discuss how their findings support or do not support the unit principle: “Enduring ideals are the basis of America’s political identity and culture.”

Sternberg Triarchic Intelligence Preference (Learning Style Differentiation) Lesson differentiated by Readiness

Characterization

Know: character description, character word choice, character behavior, interior monologue, point-of-view

Understand: Fictional characters reflect traits and choices we find in our own lives.

Do: write a narrative, write from a character’s point-of-view, write in first person, analyze motivation, predict character actions

The teacher assesses students prior to lesson to determine learning style preference and also readiness needs in writing and character analysis, and then assigns the task.
Sternberg Triarchic Intelligence: **Practical**

- **Grade level** – Use a lesson that a literary character learned and apply it to your life. Write an explanation of what was learned and how it impacts your own behavior or decision.

- **Advanced level** -- Write a guide entitled “How To Understand Characters in Fiction.” Use the novel we’ve been reading as an example in the guide. Be sure to include: character descriptions, attitudes, language, word choice, actions, decision-making, and beliefs & values.

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Sternberg Intelligence Preference: **Analytical**

- **Grade level**— Decide which two traits of the main character in the novel you think are most important. Make a list of your reasons for selecting these two traits. Cite at least three moments from the novel that emphasize each trait.

- **Advanced** -- Select a character from the novel and list three significant traits that describe that character. For each trait, develop a list of advantages and benefits for displaying that trait and disadvantages or risks. Write a summary statement that shows the balance and importance of the “yin/yang”.

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Sandra Page bookpage@nc.rr.com 2008
Sternberg Intelligence Preference: **Creative**

- **Grade Level**— Suppose that a character had made a different decision at the moment of crisis. What would happen instead? Develop a story line in a summary, an outline, a storyboard, or write a different ending.

- **Advanced** — Imagine that the story was told from the point of view of a different character: rewrite a significant moment from that p.o.v., and be sure to use dialog and word choice appropriate for that character.

---

**Characterization Options based on Sternberg’s Triarchic Intelligence Preferences/Learning Preferences**

**Understand:** Characters (and people) change over time
The author provides insights into the characters of a story.
Decisions and events create change in characters.

<table>
<thead>
<tr>
<th>Analytical Thinker</th>
<th>Creative Thinker</th>
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<tbody>
<tr>
<td>Create a chart to show what you’ve learned about the main character. Include clues from the author about (1) how the character looks; (2) what the character does; (3) what the character says, thinks, feels; &amp; (4) how other characters respond to him/her. Include at least two clues for each aspect of character.</td>
<td></td>
</tr>
<tr>
<td>Gather a Treasure Chest (pictures, quotes, maps, clothing, symbols, sketches, diary entries, objects, etc) that reflect your character’s traits, conflicts, and way he/she overcame obstacles in life. Include a brief written description of the significance of each item.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Practical Thinker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be an interviewer for a TV news program or magazine. Write a series of questions that might be asked of the character and write the character’s response to those questions. The questions should elicit insights into how the character thinks, feels, and behaves. The responses should “sound like” the character being interviewed.</td>
</tr>
</tbody>
</table>
Dance Lesson Differentiation by Learning Profile (Sternberg Intelligence)

Students will discuss their understanding of “Dance is communication” in a journal reflection.

**Analytical:** Give specific examples of different ways dance can communicate. Discuss how space can be manipulated to create different moods. Present your conclusions in a chart or list.

**Practical:** Choose 4 moods that can be communicated through dance. Discuss how dance would communicate each mood, and include the use of space for each.

**Creative:** Dance is a form of communication. Create a story filled with emotion to communicate, and describe what the dance would look like. Be sure to include how the dance manipulates space.

---

Differentiating Physical Education Task using Sternberg Triarchic Intelligences

Learning Goals:

K: Behaviors that foster cooperation & safety

U: A safe & healthy environment improves opportunities for success.

D: Participate with respectful listening, sharing of ideas, & leadership
    Improve through practice, communication, and teamwork.
    Have fun and healthy benefits with physical activity

**Teambuilding Task**

Everyone in a learning-style alike group on a mat must get across a “toxic river” (gym floor) to another mat without touching the floor. A few items of equipment (rope, pole, hoop) may be given to group.
PE: PRACTICAL
Perform this task in a way which takes the
• least physical effort
• moderate physical effort
• highest level of physical effort
• relies on each member equally
• uses least/most equipment
Discuss: What might cause you to use each approach? What are the pluses and minuses of each approach? How can this exercise help you in real life?
What safety concerns do you think your teacher had to think about? How did the teacher minimize the risks involved?

PE: ANALYTICAL
• Consider the task. What will you need to do to succeed? What are obstacles you’ll likely encounter?
• What individual strengths can you exploit? How will you ensure that everyone participates?
• Complete the task.
• Critique the performance, focusing on team improvement rather than individual.
• Compare this activity to other Team endeavors. Was this task a good way to learn about teamwork? Why or why not?
• How safe was this activity? How could you (or your teacher) increase or decrease the risks involved?
PE: CREATIVE

• Complete the group’s task to the best of your ability.
• Try an alternative approach and repeat the task.
• Design another such task that encourages cooperation and communication in a different way – perhaps nonverbal communication?
• What if you did not have the equipment you were given? How could you accomplish the task? What equipment is necessary? Unnecessary?
• How could you ensure everyone’s safety and cooperation, yet complete the task in less time, less space, with more people/less people?

Triarchic Intelligence: Business Ethics Example

Learning Goals

KNOW: terms – harassment, ethics, appropriate behavior, perspective

UNDERSTAND:

-- All people deserve to be treated with dignity.
-- When we anticipate possible problems, we can take actions to lessen the impact of the problem.

DO: Read situational scenarios and respond with thoughtful solutions.

Analytical: Assess the strategy used by the office administrator in the scenario you read, stating what steps she took and techniques she used in order to improve or worsen the situation/problem.

Practical: Write a policy to address the issue in the scenario you read that would help prevent harassment problems from occurring and/or help establish the procedures once a problem has been identified.

Creative: Predict changes or consequences to this business office if the problem in the scenario is ignored. What might be the results and why? Cite your reasoning.
Computer Aided Design
Instructional Goal: Identify Capabilities and Benefits of CAD Software

PRACTICAL
Create and print a simple technical drawing using the CAD program. Label your drawing and explain what command capabilities you used to make the drawing. Be ready to explain how specific tools work to simplify your task.

CREATIVE
Write a paragraph telling how you would design an improved version of the CAD software we are using. Be sure you address drawing and command capabilities. Why would architects want to buy your “new and improved” version?

ANALYTICAL
Write a paragraph explaining why the CAD drawing system results in faster and easier technical drawings. List several command capabilities and explain why an architect would choose to use CAD programs instead of pencil techniques.

Develop a Sternberg Triarchic Intelligence Preference Activity

What should students KNOW (facts)

What should students be able to DO (verbs)

What should students UNDERSTAND (concept statement)

<table>
<thead>
<tr>
<th>Analytical</th>
<th>Practical</th>
<th>Creative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break into parts</td>
<td>Act as an expert would by ... Show how this is used in real life ...</td>
<td>See from another point of view ... Use alternative materials or data to ...</td>
</tr>
<tr>
<td>Explain why</td>
<td>Show how this is used to ... Develop a plan using knowledge of ... Show how this info and skills is like ...</td>
<td>Make connections of this lesson to ... Use humor to show ... Find a new way to demonstrate ...</td>
</tr>
<tr>
<td>Diagram...</td>
<td>Simulate ...</td>
<td>Imagine ...</td>
</tr>
<tr>
<td>Present step-by-step</td>
<td>Identify key parts ...</td>
<td>Suppose ...</td>
</tr>
<tr>
<td>Identify key parts...</td>
<td>Strengths and weaknesses of ... Deconstruct ... Sequence ... Write a set of directions ... Outline ...</td>
<td>Discover ...</td>
</tr>
<tr>
<td>Compare and contrast</td>
<td>... Develop a plan using knowledge of ... ... Show how this info and skills is like ...</td>
<td>Create ...</td>
</tr>
</tbody>
</table>

Sandra W. Page  bookpage@nc.rr.com 2009
Tips for Teaching Triarchically

- Some of the time, teach analytically, helping students learn to analyze, evaluate, compare and contrast, critique, and judge.
- Some of the time, teach creatively, helping students learn to create, invent, imagine, discover, explore, and suppose.
- Some of the time, teach practically, helping students learn to apply, use, utilize, contextualize, implement, and put into practice.
- Some of the time, enable all students to capitalize on their strengths.
- Most of the time, enable all students to correct or compensate for their weaknesses.
- Make sure your assessments match your teaching, calling upon analytical, creative, and practical as well as memory skills.
- Value the diverse patterns of abilities in all students.
Evaluate Learning Modalities Lessons

- Choose 2-3 lessons with a partner or two.
- Read through the activities and discuss the structure and purpose of this learning style strategy.
- How well do these lessons fit with the principles of DI?
  - Are the learning goals clear and embedded in every task, every choice?
  - Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  - Are groupings changing?
  - Do tasks feel respectful, meaningful?
  - Are students engaged, putting forth effort, and growing from what they already know and can do?
- With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
- Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.

**CLOUDS: differentiated by interest & learning profile**

**Know:** Types of clouds and their characteristics

**Understand:** People study clouds in the sky as one way to predict upcoming weather.

**Do:** Use clouds to predict weather.

**Directions:** You are given a set of “windows” that show you what the sky looks like at different times each day. Please choose one of the following scenarios and show what you have learned about clouds by completing one of the products described.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Learning Style Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meteorologist</td>
<td><strong>Write a script</strong> for the news show explaining your prediction and your reasons for it.</td>
</tr>
<tr>
<td></td>
<td><strong>Create a poster or prop</strong> for the news show that shows the audience what you think the weather will do and why.</td>
</tr>
<tr>
<td></td>
<td><strong>Role-play</strong> the part of the meteorologist &amp; verbally present your forecast predictions &amp; your reasoning to the audience.</td>
</tr>
</tbody>
</table>
### Continued Clouds Learning Style options

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Learning Style Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Military</strong></td>
<td>- Write a letter to the pilot to let him know which day the troops will jump and why.</td>
</tr>
<tr>
<td></td>
<td>- Create a poster to inform the troops which day is best to jump and why.</td>
</tr>
<tr>
<td></td>
<td>- Role-play telling the troops which day and why.</td>
</tr>
<tr>
<td><strong>City/Concert Manager</strong></td>
<td>- Write the script for the radio announcement explaining your prediction &amp; your reasoning</td>
</tr>
<tr>
<td></td>
<td>- Create a poster for the arriving audience that shows what you think the weather will do and the reasons for your decision</td>
</tr>
<tr>
<td></td>
<td>- Role play the part of the manager and verbally present your forecast predictions &amp; reasoning to the audience</td>
</tr>
</tbody>
</table>

**Athletic Coach**

You are a coach, athletic director or player for the local college team. The major game with your chief rival is this Saturday. You have a great chance of winning because the star player recently recovered from an injury. However, if it rains, he has a greater chance of slipping and being injured again. This could cause him not to be able to play again this year or next. The coach must turn in the starting lineup. Look through your “windows” and use your knowledge of clouds to decide whether the star player should play or not.

- Write a note from the star player to the coach telling him whether or not he wants to start or not and why.
- Create a poster to the fans explaining how the weather will determine whether Star Player will play and why.
- Role-play a conversation between the player and coach talking about decision and explain their reasoning regarding possible weather conditions.

*This task is differentiated for interest (choice of role) and learning profile (choice of writing, drawing, or role-playing).*

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Melissa Casarco Rouco, Alexandria City Public Schools, VA & Cindy Strickland, Action Tool for Differentiated Instruction, ASCD, 2007

Sandra W. Page bookpage@nc.rr.com 2009
### Bloom’s Choice Board/Contract

Choose one response from each level and fill in the 6-box graphic organizer. Use the Learning Goals as a guide to your responses.

**Know ____; Understand ____; Do _____**

<table>
<thead>
<tr>
<th>Knowledge Level</th>
<th>Analysis Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recall the story/events</td>
<td>• Sequence steps or events</td>
</tr>
<tr>
<td>• List the facts</td>
<td>• Organize the info into a chart or graphic</td>
</tr>
<tr>
<td>• Define the terms</td>
<td>• Group, sort, categorize the information</td>
</tr>
<tr>
<td>• Label the parts</td>
<td>• Compare and contrast</td>
</tr>
<tr>
<td>• Name the locations/types of</td>
<td>• Differentiate or distinguish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comprehension Level</th>
<th>Synthesis Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explain the procedure, event, concept</td>
<td>• Design/invent/compose something new</td>
</tr>
<tr>
<td>• Describe the main understanding, the big idea</td>
<td>• Propose an alternate solution/ending</td>
</tr>
<tr>
<td>• Paraphrase what you learned/heard</td>
<td>• Suggest what would happen if …</td>
</tr>
<tr>
<td></td>
<td>• Combine ideas to create something new</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Level</th>
<th>Evaluation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate or illustrate this information</td>
<td>• Judge the importance</td>
</tr>
<tr>
<td>• Give some examples</td>
<td>• Evaluate which is the best/worst/most essential/least important</td>
</tr>
<tr>
<td>• Solve …</td>
<td>• Prioritize or rank in order</td>
</tr>
<tr>
<td>• Use the rule, formula, principle</td>
<td>• Recommend</td>
</tr>
<tr>
<td>• Construct a model to show your understanding</td>
<td>• Agree or disagree</td>
</tr>
</tbody>
</table>

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### Social Studies Chapter Review: Differentiation by Learning Modality

*Students are asked to read a textbook chapter, using a graphic organizer for note-taking. They then prepare a review/response using learning modality preferences. They may work in ‘learning style alike’ partnerships to prepare the response. In class, they will debrief in groups of 4 with each modality represented in each group.*

<table>
<thead>
<tr>
<th>Kinesthetic</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using your notes, create a set of overhead transparencies, 1-3 minute simulation, cardboard puppet theater, or short drama that helps us link the big ideas, crucial moments, and important people in this chapter.</td>
<td>Using your notes, create a set of 5-8 open-ended questions that are designed to be asked of the important people in this chapter. The questions’ responses should reveal the big ideas, crucial moments, and other important people. You will be the responder as someone else reads at least two of the interview questions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visual</th>
<th>Auditory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using your notes, create a powerpoint (4-5 slides), timeline, or concept map that helps us understand the main ideas, crucial decisions, and important people in this chapter.</td>
<td>Using your notes, create a 1-3 minute news item that summarizes the essential ideas, crucial decisions, and people. You may tape or videotape this, using your voice and others.</td>
</tr>
</tbody>
</table>
Differentiation by Learning Modality Preference

Sewing Project Choices in Consumer Education Class

Students will all create a small, original product using skills of: sewing, design & layout, fabric selection, color choice, embellishment choices

<table>
<thead>
<tr>
<th>Kinesthetic</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a cloth book or baby blanket made of varying textures of fabric that would allow a child to feel rough, smooth, thick, thin, soft, hard, etc. Be prepared to justify your choices.</td>
<td>Create a quilt square or small wall-hanging that tells a story or responds to a question. For example, “When I am joyful, I…” Be prepared to justify your choices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visual</th>
<th>Auditory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a fabric illustration, collage, or pillow that sets a strong, visible mood. Be prepared to justify your choices.</td>
<td>Create a fabric collage or pillow using a particular piece of music as inspiration for fabric and color selections. Be prepared to justify your choices.</td>
</tr>
</tbody>
</table>

---

**Multiplication Facts: 4’s and 8’s**

- **Visual:**
  - Make two posters - one will diagram all of the 4 multiplication facts and the other diagrams the 8 multiplication facts.

- **Auditory:**
  - Put together a skit or newscast about multiplying by 4 and 8. Have lots of examples!

- **Kinesthetic:**
  - Play multiplication rummy or memory
  - Use counters to model the 4 and 8 multiplication facts. List all of the resulting equations and answers.
Graphing with a Point and Slope

Modality

• **Auditory Learners:** The students will practice graphing several lines given initial points and slopes. After practicing, they will create a news bulletin that explains the process and implications of this type of graphing and will share their bulletins with the class. The students in this group may work individually or in pairs.

• **Visual Learners:** Given a point and slope, the students graph lines on graph paper. They should plot the given point in one color, use a second color to show the rise form the point, and use a third color to show the run form the point. They should then plot the resulting point in a fourth color. The students should repeat the same process to find a third point on the line. Finally, using a fifth color, they should sketch the line containing all three points. The students will then apply their understanding of the process using a problem such as the following: Josh buys his first pack of baseball cards for $3, the next two packs for $4 more, and the next three packs for $6 more. Show the line that predicts how much Josh will pay for nine packs altogether. The students in this group may work individually or in pairs.
Graphing with a Point and Slope

Modality

- **Kinesthetic Learners:** On a large grid on the floor, one student stands at the original point. A second student walks the rise and run from the original point to the next point on the grid, counting aloud while doing so. Another student begins where the second students is standing and repeats the process to find a third point. The students repeat this process until all the students represent points on the line. They then create the line by holding string between them. The students will then apply this same process to a problem such as the one given to the visual learner group (see above). The students in this group should work in groups of five to six students.

Parallel Lines Cut by a Transversal

- **Visual:** Make posters showing all the angle relations formed by a pair of parallel lines cut by a transversal. Be sure to color code definitions and angles, and state the relationships between all possible angles.
Parallel Lines Cut by a Transversal

• Auditory: Play “Shout Out!!” Given the diagram below and commands on strips of paper (with correct answers provided), players take turns being the leader to read a command. The first player to shout out a correct answer to the command, receives a point. The next player becomes the next leader.

Possible commands:

– Name an angle supplementary to angle 1.
– Name an angle congruent to angle 2.

Smith & Smarr, 2005

Parallel Lines Cut by a Transversal

• Kinesthetic: Walk It

Tape the diagram below on the floor with masking tape. Two players stand in assigned angles. As a team, they have to tell what they are called (ie: vertical angles) and their relationships (ie: congruent). Use all angle combinations, even if there is not a name or relationship. (ie: 2 and 7)

Smith & Smarr, 2005
Reading Homework Choice Board

You will have 3 reading assignments this week. You must choose to do an option to respond to each reading as homework, and choose 3 different options total.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete a set of notes or make an outline of the key ideas</td>
<td>Create a Net-Knowledge Page by using the Internet to gather hyperlinks for URLs of websites related to the topic, key ideas, and images to support the reading.</td>
</tr>
<tr>
<td>Create a set of five newspaper headlines representing key ideas</td>
<td>Find 25 important words or phrases in the reading. Group the terms and create your own concept map or graphic organizer to illustrate your understanding of the reading.</td>
</tr>
<tr>
<td>Create a top ten list of things you should understand about the reading</td>
<td>Draw 3 pictures with captions that illustrate three important ideas. Visit a teacher-recommended website related to the reading and summarize your findings. Be sure to relate the reading to the website.</td>
</tr>
<tr>
<td>Create a top ten list of things you should understand about the reading</td>
<td>Draw 3 pictures with captions that illustrate three important ideas. Visit a teacher-recommended website related to the reading and summarize your findings. Be sure to relate the reading to the website.</td>
</tr>
</tbody>
</table>

This contract gives students choices that appeal to learning preferences. Don’t feel you must grade or go over every homework item. Ask students which of these response techniques helped them best understand the reading.

Using Learning Modalities in Reading

Practice with Sight Words

**Kinesthetic**
- word puzzles (building sight words with form-fitting pieces)
- building words with magnetic letters, letter cards, Elkonin boxes
- clapping letters and/or rhymes of words

**Oral**
- flashcard practice with partner
- saying/reading aloud sentence/book containing sight words
- singing song with sight words (Humpty Dumpty – Humpty Dumpty had to go, Humpty Dumpty then said ‘NO’!)

**Visual**
- use tree map to sort sight words by 2, 3, 4, etc. letters
- locate sight words within a text
- word wall activities (rhyming, riddles, etc.)
- cloze activity of placing sight words within a sentence

**Auditory**
- read words with an emotion (in – scary voice, the – happy voice)
- echo reading of sight words or sentence using sight words
- listen to story with text present and sight words highlighted
**PRODUCT OPTIONS**

**The Good Life....**

**Making Choices About Tobacco Use**

- Use key facts from class and research
- Make a complete case
- Provide defensible evidence for the case
- Weight varied viewpoints
- Be appropriate/useful for its target audience
- Give evidence of revision & quality in content & presentation
- Be thought-provoking rather than predictable

<table>
<thead>
<tr>
<th>Visual</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story boards for t.v. “ad” using few/no words to make the point</td>
<td>Comic book parody with smoking super/ heroes super/ heroines</td>
</tr>
<tr>
<td>Research and write editorial that compares the relative costs and benefits of tobacco to N.C. – submit for publication</td>
<td>Radio-spot (public information with music timed, lead-in) T. Koppel C. Roberts with teen who smokes, tobacco farmer, tobacco CEO, person with emphysema</td>
</tr>
<tr>
<td>Brochure for pediatrician’s office – patients 9-16 as target audience – with graphics</td>
<td>Pantomine a struggle of “will” regarding smoking—including a decision with rationale</td>
</tr>
<tr>
<td>Act out printed skit on pressures to smoke an reasons not to smoke</td>
<td></td>
</tr>
</tbody>
</table>

**Partial List of Learning Modality Tasks/Skills**

<table>
<thead>
<tr>
<th><strong>Kinesthetic</strong></th>
<th><strong>Visual</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• model</td>
<td>• diagram</td>
</tr>
<tr>
<td>• demonstrate</td>
<td>• overlay</td>
</tr>
<tr>
<td>• build</td>
<td>• map</td>
</tr>
<tr>
<td>• act out</td>
<td>• chart</td>
</tr>
<tr>
<td>• use tools to..</td>
<td>• timeline</td>
</tr>
<tr>
<td>• dance</td>
<td>• web</td>
</tr>
<tr>
<td>• produce</td>
<td>• illustrate</td>
</tr>
<tr>
<td>• simulate</td>
<td>• cartoon</td>
</tr>
<tr>
<td>• craft</td>
<td>• model</td>
</tr>
<tr>
<td>• transform</td>
<td>• graph</td>
</tr>
<tr>
<td>• show in lab</td>
<td>• video</td>
</tr>
<tr>
<td>• make</td>
<td>• pop-up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Auditory</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• radiocast</td>
</tr>
<tr>
<td>• music</td>
</tr>
<tr>
<td>• preach</td>
</tr>
<tr>
<td>• chant</td>
</tr>
<tr>
<td>• persuade</td>
</tr>
<tr>
<td>• rhythm</td>
</tr>
<tr>
<td>• compose</td>
</tr>
<tr>
<td>• phone</td>
</tr>
</tbody>
</table>
Develop a Learning Modality Activity

Learning Goals
What should students KNOW (facts)

What should students be able to DO (verbs)

What should students UNDERSTAND (concept statement)

Develop a learning preference/modality preference activity:

<table>
<thead>
<tr>
<th>Verbal</th>
<th>Kinesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>write, tell a story, read &amp; summarize, concept web, editorialize, song lyrics, etc.</td>
<td>act out, dance, move, model, graph, manipulate, puzzle, use symbolic objects, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auditory</th>
<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>set to music or rhyme, chant, rap, recite, cheer, readers' theater, sing, mnemonic device, etc.</td>
<td>speak, discuss, persuasive argument, debate, give a radio address, ask a series of questions, etc.</td>
</tr>
</tbody>
</table>
Evaluate Tiered Cubes and Think Dots

- Choose 2-3 lessons with a partner or two.
- Read through the activities and discuss the structure and purpose of this Readiness strategy.
- How well do these lessons fit with the principles of DI?
  - Are the learning goals clear and embedded in every task, every choice?
  - Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  - Are groupings changing?
  - Do tasks feel respectful, meaningful?
  - Are students engaged, putting forth effort, and growing from what they already know and can do?
- With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
- Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.
Create a Think Dot Activity

Cubing

1. **Describe It**
   Look at the subject closely (perhaps with your senses in mind).

2. **Compare It**
   What is it similar to? What is it different from?

3. **Associate It**

4. **Analyze It**
   Tell how it is made. If you can’t really know, use your imagination.

5. **Apply It**
   Tell what you can do with it. How can it be used?

6. **Argue for It or Against It**
   Take a stand. Use any kind of reasoning you want—logical, silly, anywhere in between.
Example

Ideas for Kinesthetic Cube

• Arrange _________ into a 3-D collage to show_________
• Make a body sculpture to show____________________
• Create a dance to show____________________________
• Do a mime to help us understand___________________
• Present an interior monologue with dramatic movement that________________________
• Build/construct a representation of__________________
• Make a living mobile that shows and balances the elements of _________________
• Create authentic sound effects to accompany a reading of
  __________________
• Show the principle of ______________ with a rhythm pattern you create. Explain to us how that works.
Ideas for Cubing in Math...

• **Describe** how you would solve_____________
• **Analyze** how this problem helps us use mathematical thinking and problem solving.
• **Compare** this problem to one on p._____
• **Contrast** it too.
• **Demonstrate** how a professional (or just a regular person) could apply this kind of problem to their work or life.
• **Change** one or more numbers (elements, signs) in the problem. Give a rule for what that change does.
• **Create** an interesting and challenging word problem from the number problem. (Show us how to solve it too)
• **Diagram or Illustrate** the solution to the problem. Interpret the visual so we understand.

Think Dots:
Grade 2 Math

• **What students should know**
  – Count by fives
  – Count up to sixty
  – Tell time to the half hour
  – 4 quarters is equal $1.00
  – 3 fives makes fifteen
  – There is quarter after and a quarter till
  – Clock is divided into 4 parts and is similar to 4 quarters equaling $1.00

• **What students should understand**
  – Time helps people plan their lives better.
  – Time helps people communicate.

• **What students should be able to do**
  – Tell time to the quarter hour
Think Dots:
Grade 2 Math
Students will tell and write time to the quarter hour, using analog and digital clock.

Think Dots Version 1: Time

● How many fives are in the number 60?
●● If it is 5:15pm, how many minutes after 5 is it?
●●● How many minutes are in quarter after 2:00?

●●
A soccer player has practice at 6:00pm. Draw what the clock face would look like if soccer practice were an hour and fifteen minutes.

●●
How many minutes are in quarter after 2:00?

●●●
Create an interesting word problem using the times 4:00pm and 5:15pm.

The Think Dots could be used the following ways:
Anchor Activity, Pre-assessment, Review, Post-assessment

Think Dots Version 2: Time

● Explain the similarities between quarter till and quarter after.

●● It is 4:15pm and dinner starts at 6:00pm. How many minutes until dinner?

●●● Explain the difference between 5:15 and 5:45.

●●
It’s 3:15 in Egypt. What do you think the people of Egypt are doing?

●●
Create a word problem using the times 9:00pm and 7:00am.

●●●
Explain the difference between 12:00am and 12:00pm.

The Think Dots could be used the following ways:
Anchor Activity, Pre-assessment, Review, Post-assessment
Cubing Fractions

Each student at a table rolls two dice a designated number of times. The 1st dice/cube tells students what to do with a fraction.

1. **Order/compar**e all the fractions from the smallest number to the largest.
2. **Add** 2 rolled fractions together.
3. **Subtract** 2 rolled fractions.
4. **Divide** 2 rolled fractions.
5. **Multiply** 2 rolled fractions.
6. **Model** 2 rolled fractions using circles or bars of paper.

• The 2nd cube/dice contains the fraction which can vary in complexity based on student number readiness.

Lynne Beauprey, Illinois

---

Describe how you would solve \( \frac{1}{3} + \frac{1}{3} \) or roll the die to determine your own fractions.

Compare and contrast these two problems:
\[
\begin{align*}
\text{and} & \\
\frac{1}{3} + \frac{1}{2} & \\
\text{(Or roll the fraction die to determine your fractions.)}
\end{align*}
\]

Create a word problem that can be solved by \( \frac{1}{3} + \frac{2}{3} = \frac{11}{15} \)

---

Nanci Smith

Describe how people use fractions every day.

---

Roll the fraction die to determine which fractions to add.

---

Sandra W. Page  bookpage@nc.rr.com 2009
Describe how you would explain why you need to solve or roll a common denominator when determining the total amount of fractions. But not when multiplying. Can common denominators ever be used when dividing fractions?

Create an interesting and challenging word problem:

A carpet-layer has 2 yards of carpet. He needs 4 feet of carpet. What fraction of his carpet will he use? How do you know you are correct?

Diagram and explain the solution to __ + ___ + ___.

Roll the fraction die to determine your fractions.
I introduced a unit in Math 8 with an activity similar to this one. I have a set of wooden and plastic cubes, spheres, pyramids, and prisms. Before jumping into the calculation of surface area, volume and base perimeter, I like to have my students become familiar with the feel of these geometric solids. Because of this assignment, and attending the class, I was able to extend this into activities 5 and 6. This activity lent itself to varying levels of readiness because the end result could be so varied, which is unusual for a math assignment. All of my students gained from this experience.

### Cubing Activity
**Geometric Solids: Volume, Surface Area & Base Perimeter**

1. **Describe**
   - With your partner look at your two geometric solids and describe each shape. Invent a name for your shapes.

2. **Compare**
   - With your partner, make a list of ways your solids are alike and another list of ways they are different.

3. **Associate it**
   - What are some real world examples of these shapes. Try to come up with a list of _____ more.

4. **Analyze**
   - Draw a 3-D illustration of each solid. Create a model with cubes or construction paper. Make a list of all measurements of this solid. Be sure to label these – – – – – – measurements.

5. **Apply**
   - In the shapes present form (wood, plastic), write a short story of how you might use these two items. Feel free to use fact or fantasy in telling your story. Be sure to provide illustration.

6. **Argue**
   - Which of these 2 solids is the most practical in terms of real-world use (in any form). Write a paragraph of at least four sentences supporting your position. Write another arguing against the other solid.

### Differentiating Instruction in Mixed Ability Classrooms
**Spring 2001, Amy G. Jones**
**Riverglen Junior High School, Boise, Idaho**

### Algebra ThinkDOTS

**Level 1:**

1. a, b, c and d each represent a different value. If $a = 2$, find $b$, $c$, and $d$.
   - $a + b = c$
   - $a - c = d$
   - $a + b = 5$

2. Explain the mathematical reasoning involved in solving card 1.

3. Explain in words what the equation $2x + 4 = 10$ means. Solve the problem.

4. Create an interesting word problem that is modeled by $8x - 2 = 7x$.

5. Diagram how to solve $2x = 8$.

6. Explain what changing the “3” in $3x = 9$ to a “2” does to the value of $x$. Why is this true?
Level 2:

1. a, b, c and d each represent a different value. If a = -1, find b, c, and d.
   
   \[
   \begin{align*}
   a + b &= c \\
   b + b &= d \\
   c - a &= -a
   \end{align*}
   \]

2. Explain the mathematical reasoning involved in solving card 1.
3. Explain how a variable is used to solve word problems.
4. Create an interesting word problem that is modeled by 2x + 4 = 4x - 10. Solve the problem.
5. Diagram how to solve 3x + 1 = 10.
6. Explain why x = 4 in 2x = 8, but x = 16 in \( \frac{1}{2} x = 8 \). Why does this make sense?

Level 3:

1. a, b, c and d each represent a different value. If a = 4, find b, c, and d.
   
   \[
   \begin{align*}
   a + c &= b \\
   b - a &= c \\
   cd &= -d \\
   d + d &= a
   \end{align*}
   \]

2. Explain the mathematical reasoning involved in solving card 1.
3. Explain the role of a variable in mathematics. Give examples.
4. Create an interesting word problem that is modeled by \( \cdot \). Solve the problem.
5. Diagram how to solve 3x + 4 = x + 12.
6. Given \( ax = 15 \), explain how x is changed if a is large or a is small in value.
<table>
<thead>
<tr>
<th><strong>Red Cube</strong></th>
<th><strong>Describe</strong></th>
<th><strong>Big Idea:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compare</strong></td>
<td>Your favorite picture in the story <em>Family Pictures</em>. Tell why you picked that one.</td>
<td>To understand basic connections that all people have regardless of their culture in order to function in the real world</td>
</tr>
<tr>
<td><strong>List</strong></td>
<td>Words that describe your feelings about the Mexican culture as you look at each picture in the story.</td>
<td></td>
</tr>
<tr>
<td><strong>Chart</strong></td>
<td>Using a Venn diagram, show your favorite things and compare to the favorite things you found in the story. Find common areas that you and the story share.</td>
<td></td>
</tr>
</tbody>
</table>

**Third Grade Southwest Unit Cubing Example**

*Family Pictures* by Carmen Lomas Garza

---

<table>
<thead>
<tr>
<th><strong>Orange Cube</strong></th>
<th><strong>Describe</strong></th>
<th><strong>Big Idea:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compare</strong></td>
<td>Use the Compare/Contrast graphic organizer and look at areas of food, shelter, traditions, family life, fun</td>
<td>To understand basic connections that all people have regardless of their culture in order to function in the real world</td>
</tr>
<tr>
<td><strong>Pretend</strong></td>
<td>That you are a child from Mexico. Tell me about your day. What would your chores be? What would you eat? How would you spend your free time? Would you take naps? Tell me why.</td>
<td></td>
</tr>
<tr>
<td><strong>Critique</strong></td>
<td>Find another story to read at the reading center. Compare it to <em>Family Pictures</em> and discuss elements you liked and did not like of either.</td>
<td></td>
</tr>
</tbody>
</table>

**Third Grade Southwest Unit Cubing Example**

*Family Pictures* by Carmen Lomas Garza

---

| **Create** | Make your own family album by drawing at least five special activities your family shares |  |
| **Dance** | Choreograph a dance or mime to represent three main ideas that you learned about the Mexican culture. |  |

Adapted from a lesson by Joy Peters, Nebraska
CONCEPT: Culture

GENERALIZATIONS: Culture is:
- learned from others
- created by people
- passed on to others
- a major factor in shaping our lives
- a key element that helps define who we are

STRATEGY: Cubing to help students with an early exploration of culture. Jigsaw to provide multiple perspectives.

1. **Describe It** - As homework students spend 25 minutes making lists of specific examples of culture in their homes.
2. **Compare It** - Alone or in pairs, students will develop a list of 5 items/things that are not culture-specific.
3. **Associate It** - With a partner, describe 2 situations where culture made you feel happy and 2 where it made you feel sad. Talk about elements of culture that triggered these feelings in you.

(continued)

4. **Analyze It** - What are the most important creators of the culture? Why? Who has had the biggest impact on the creation of your own culture? Why? Does culture grow at a constant rate? When does it start? END?

5. **Apply It** - How can culture be used to build better understanding between people?

6. **Argue/Take A Stand** -
   1) A thorough knowledge of cultures of the world is the best way to ensure world peace. Agree or disagree and support your position.
   2) Prejudice and discrimination result from a lack of appreciation for other people’s cultures. Agree or disagree. Support your position.
### Prejudice
Discuss how prejudice and discrimination are not only harmful to the victim, but also to those who practice them.

### Scapegoating
Imagine a group of people that could be scapegoats. List and describe stereotypes of this group and the treatment they received because of them.

### Articles
Read the article. What could be reasons for the persecution? How can you justify the minds of those responsible?

### “Generic” Think DOTS for High School Literature – Concept: Prejudice

<table>
<thead>
<tr>
<th>Photography</th>
<th>Genetics</th>
<th>Stereotypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photographs tell stories. Write a caption for the photo and explain why you chose it.</td>
<td>Certain characteristics are blamed on genetics. Do genetics impact the characteristics of your group? Explain the reasoning behind your answer. Use your science knowledge.</td>
<td>Your group was persecuted. Identify a group who has been persecuted in more recent years. Compare the two and give reasons why.</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Prejudice</th>
<th>Scapegoating</th>
<th>Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it possible to grow to adulthood without harboring some prejudice? Why or why not?</td>
<td>What is scapegoating? Explore the word’s etymology and hypothesize about its present day meaning. How was your group scapegoated?</td>
<td>Read the article. What is genocide? Did the people in your article face genocide? Why?</td>
</tr>
</tbody>
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<tr>
<td>Look at the clothing, hair, setting, body language, and objects to help determine social, economic, country of origin and so on. Can you see the emotions in the people? How? Do you think they are related?</td>
<td>Do genetics cause brown hair? How? List one way genetics affects your group (in your opinion). If genetics don’t affect your group explain why.</td>
<td>Identify stereotypes your group faced. Pick a clique in the school and discuss the traits of that group. Are they stereotyped?</td>
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### Photography
- Photographs tell stories. Write a caption for the photo and explain why you chose it.

### Genetics
- Certain characteristics are blamed on genetics. Do genetics impact the characteristics of your group? Explain the reasoning behind your answer. Use your science knowledge.

### Stereotypes
- Your group was persecuted. Identify a group who has been persecuted in more recent years. Compare the two and give reasons why.

### Prejudice
- Is it possible to grow to adulthood without harboring some prejudice? Why or why not?

### Scapegoating
- What is scapegoating? Explore the word’s etymology and hypothesize about its present day meaning. How was your group scapegoated?

### Articles
- Read the article. What is genocide? Did the people in your article face genocide? Why?

### Prejudice
- Is it possible to grow to adulthood without harboring some prejudice? Why or why not?

### Scapegoating
- Identify and discuss the scapegoating that took place in your group. Compare the scapegoating of your group to that of a present day group.

### Stereotypes
- Identify stereotypes your group faced. Pick a clique in the school and discuss the traits of that group. Are they stereotyped?

### Articles
- Read the article. If you were the person behind the persecution and were asked why you did what you did, what would you say?

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### Poetry

<table>
<thead>
<tr>
<th>Setting</th>
<th>Theme</th>
<th>Figurative Language</th>
<th>Line</th>
<th>Rhyme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illustrate the setting of your poem. Use color (markers, pencils) and give your picture a title that is connected to the poem but not the title of the poem.</td>
<td>Describe the theme of your poem in a paragraph. Check for topic sentence, supporting details and conclusion.</td>
<td>Using a graphic organizer, list all the similes and metaphors in your poem. If you need help finding metaphors, consult With your group members.</td>
<td>Describe the way the lines are arranged.</td>
<td>Figure out the rhyme scheme of the poem. Be prepared to teach it to the class.</td>
</tr>
</tbody>
</table>

### Poetry Analysis

**Setting**
Illustrate the setting of your poem. Use color (markers, pencils) and give your picture a title that is connected to the poem but not the title of the poem.

**Theme**
Describe the theme of your poem in a paragraph. Check for topic sentence, supporting details and conclusion.

**Figurative Language**
Using a graphic organizer, list all the similes and metaphors in your poem. If you need help finding metaphors, consult With your group members.

**Line**
Describe the way the lines are arranged.

**Rhyme**
Figure out the rhyme scheme of the poem. Be prepared to teach it to the class.

Beth Atkins & Kay Brimijoin
(1999) Amherst, VA
Setting
Illustrate the setting of your poem. Use color (markers, pencils) and give your picture a title that is connected to the poem but not the title of the poem.

Theme
Compare the theme of your poem to the theme of a story or novel you have read. Use a Venn diagram to show your comparison.

Figurative Language
Tell how the similes and metaphors in your poem enhance the imagery. Be prepared to share orally.

Rhyme
What does the rhyme scheme have to do with the meaning of the poem? Why do you think the poet chose this pattern?

Line
Describe the impact the line arrangement has on the poem. Argue convincingly.

Speaker
How does the speaker feel? Find at least 2 feelings and be prepared to explain orally.

Poetry

Setting
If your poet were an artist, how would he/she express this poem as a picture? Use markers, pencils, etc. to illustrate your answer.

Theme
Write a short poem to express the theme of the poem you have chosen. Choose your own style.

Figurative Language
Write 2 more similes and metaphors that could be added to the poem.

Rhyme
Provide other examples of rhyme or rhythm. Besides end rhyme used in your poem. How does this add to the sound of the Poem? Be prepared to share orally.

Line
How would the poet arrange the next lines of this poem if he/she were extending the meaning and theme?

Speaker
Create another line for this poem that the speaker may have written.

Beth Atkins & Kay Brimijoin
(1999) Amherst, VA
The Cube

First graders have been studying weather. They visit the Review Center at various times throughout the week as a way to review what they have learned about weather.

**Draw it**
Divide your paper into 4 sections. Label each section with a season and draw what the playground might look like.

**Associate it**
Choose one type of weather. Create a web with this weather in the center. Write words in the bubble connecting to the center that describe how you feel when you see it.

**Compare it**
Choose 2 seasons. Use a Venn diagram to compare them.

**Describe it**
Work with a partner. Draw a card from the jar. Describe the weather type on the card so your partner can guess.

**Explain it**
Talk with a partner about your favorite type of weather.

**Analyze it**
Work with a partner. Read a book about rain. Talk about why we need rain.

---

**ThinkDOTS Activities for Science Lesson**

**Concept: STRUCTURE**

<table>
<thead>
<tr>
<th>Why do you think scientists used the term “cloud” to describe the position of electrons in an atom?</th>
<th>How do the atomic numbers in the periodic table change from the top to the bottom? From left to right across the table?</th>
<th>Share two ways that scientists study atoms. Suggest any new ways you might think of.</th>
<th>What is the correct symbol for the element helium? Research the history of this element and create a timeline showing what elements were discovered just before and after helium.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppose you were given some sugar cubes, a grinder, some water, a pan, and a hot plate. What physical and chemical changes could you make in the sugar?</td>
<td>Predict as many properties for potassium as you can. To make your predictions, look at the information in the box for this element and consider its location on the periodic table.</td>
<td>How are physical and chemical properties different? Why?</td>
<td>Name three types of physical changes. Create a list with at least two examples of each that are different from the examples in the book.</td>
</tr>
<tr>
<td>There are 3 jars in the front of the room. Each has a substance with a strong odor. One is a solid, one is a liquid and one is a gas. Which odor would students in the back of the room smell first? Why?</td>
<td>Carbon is atomic number 6. How are 2 carbon atoms with mass numbers of 12 and 14 different? Why are these atoms called isotopes?</td>
<td>What does the periodic table tell us about calcium? How can this help us in our everyday lives?</td>
<td>Which is higher, an element’s atomic number or its mass number? Why?</td>
</tr>
</tbody>
</table>
Space Think DOTS

ThinkDOTS were used as a final assessment and to complete research after a full unit of study about space. Students worked in groups of 2-4 over two plus weeks to complete ThinkDOTS tasks and then presented what they had learned to the school and parents.

**KNOW:**
- Key vocabulary - astronomer, atmosphere, axis, constellation, gravity, moon, orbit, phase, planet, revolution, rotation, solar, system, star (X Factor, crater, eclipse, flare, galaxy, meteorite, nebula, sunspot)
- Components of the solar system
- Physical characteristics of the Sun, Moon, and Earth
- Four seasons and their characteristics
- Objects that move in the sky

Multi-age Classroom: 3rd & 4th Grades
Judy Rex and Natanya Sabin,
Scottsdale, Arizona

**UNDERSTAND:**
The parts of the solar system influence on another and appear to be a unified whole.
The Sun, the Moon, and the Earth have different physical characteristics and regular movements that result in daily, monthly, and yearly patterns.
Scientific investigation of the solar system has an impact on human activity and the environment and is a result of the contribution of many people.

**DO:**
- Identify the solar system and the planets in relationship to the sun
- Describe and compare the physical-characteristics of the Sun, Moon, and Earth
- Identify objects that move in the sky
- Describe patterns of change visible in the sky over time
- Observe and record phases of the moon, positions of constellations
- Identify the seasons and their characteristics
- Distinguish between revolution and rotation and demonstrate the difference
- Use a variety of resources, including the internet, to complete research
- Work cooperatively in a group
- Plan, design, conduct, and report on the conclusions of basic experiments
- Construct models to illustrate concepts, compare those models to what they represent
- Set goals and evaluate progress
- Organize and present information

Multi-age Classroom: 3rd & 4th Grades • Judy Rex and Natanya Sabin, Scottsdale, AZ
**Space ThinkDOTS (1)**

- Build a model of the solar system and label its parts. Show why it is a system.
- Illustrate the key vocabulary for our space study. Write the word under each picture. Be sure to check your spelling.
- Create a mobile to show the 4 major phases of the moon. Be sure to put them in the order in which they occur.
- Plan a skit that will show you understand the characteristic of the four seasons and when they happen. Be ready to answer questions from the audience.
- Use words, pictures, and color to complete attribute webs for the Sun, the Moon, and the Earth. List the similarities and differences you find.
- You are an astronomer and have discovered another planet in our solar system. Describe the planet’s location and attributes. Draw a picture and name your planet.

Multi-age Classroom: 3rd & 4th Grades • Judy Rex and Natanya Sabin, Scottsdale, Arizona

**Space ThinkDOTS (2)**

- Draw and label a map of our solar system to scale. Describe why it is considered a system.
- Create an illustrated glossary for a book about how the objects in our solar system move in space and are related to one another. Use the key vocabulary from our space study. Be sure to check your spelling.
- Demonstrate that you know all the phases of the moon and why they occur.
- Prove why we have seasons. Create a way to show us what would happen without the rotation and revolution of the Earth.
- You are from another galaxy going to explore the solar system’s Sun, Earth, and Moon. What will you take with you? What will you find there? What useful information will you take back to your galaxy? Share your findings with the earthlings in our class.
- You are an astronomer and have discovered another space system. Find a way to tell us all about it and what makes it a system.

Multi-age Classroom: 3rd & 4th Grades
Judy Rex and Natanya Sabin, Scottsdale, Arizona
Develop a way to categorize the planets in our solar system and their relationship to the sun. Why is it considered to be a system?

If you were going to teach a unit on space, what key vocabulary would you want your students to understand? List the words, their meanings, and how you would teach each one.

Demonstrate that you know all the phases of the moon and why they occur.

Compare and contrast the movement in space that causes day and night to the movement that creates the seasons.

You are from another galaxy going to explore the solar system’s Sun, Earth, and Moon. What will you take with you? What will you find there? What useful information will you take back to your galaxy? Share your findings with the earthlings in our class.

If you were an astronomer, predict what your job would be like during the next 10 years. What might you discover?

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Science Lesson
ThinkDOTS – Matter

What is the correct symbol for the element helium? Research the history of this element and create a timeline showing what elements were discovered just before and after helium.

How are physical and chemical properties different? Why?

Which is higher, an element’s atomic number or its mass number? Why?

Share two ways that scientists study atoms. Suggest any new ways you might think of.

Name three types of physical changes. Create a list with at least two examples of each that are different from the examples in the book.

What does the periodic table tell us about calcium? How can this help us in our everyday lives?
Science Lesson
ThinkDOTS - Matter

How do the atomic numbers in the periodic table change from the top to the bottom? From left to right across the table?

Predict as many properties for potassium as you can. To make your predictions, look at the information in the box for this element and consider its location on the periodic table.

Carbon is atomic number 6. How are two carbon atoms with mass numbers of 12 and 14 different? Why are these atoms called isotopes?

Why do you think scientists used the term “cloud” to describe the position of electrons in an atom?

There are three jars in the front of the room. Each has a substance with a strong odor. One is a solid, one is a liquid, and one is a gas. Which odor would students in the back of the room smell first? Why?

Suppose you were given some sugar cubes, a grinder, some water, a pan, and a hot plate. What physical and chemical changes could you make in the sugar?

P. Goolsby & K. Brimijoin, Amherst County Schools, 2000

BIOLOGY A Differentiated Lesson Using Cubing by Readiness, and Jigsaw

Understand: Functions of cell organelles relatedness of each organelle’s function relatedness of each organelle’s function with others’

Know: Key Vocabulary (nucleus, mitochondria, endoplasmic reticulum, ribosome, nucleolus, vacuole, golgi body, lysome, cell membrane)

Do: Analyze and explain a facet of cell function and interrelationship of parts and interrelationship of parts

First: Class reading and discussion of cell, parts, and interrelationships -- followed by a diagnostic quiz.

Next: The teacher assigns students to Jigsaw groups of 6 -- and a task numbered 1-6 within the Jigsaw groups. Tasks escalate in difficulty and may also tap interest or learning profiles.

Dave Tuckey • Highland Park, Illinois
BIOLOGY A Differentiated Lesson - (Continued)

1. **Describe** cell parts (structure) and function
2. **Illustrate** a cell with organelles and functions
3. **Analyze** how each cell part is related to others
4. **Compare** location of the organelle with its functions and relationship
5. **Connect** how interrelationships among organelle functions are like other relationships in life
6. **Apply** what you’ve learned to predict how organism functions are like cell functions.

from the Within “speciality” groups (all the 4’s, for example) students devise a way of sharing their tasks and understandings with the Jigsaw “home base” groups. Once back in Jig “home base”: groups, each individual is responsible for
(a) presenting and answering questions about one facet of the cube,
(b) taking notes, asking questions, achieving understanding about the other 5 facets of the cube.

Students have an opportunity to pose questions & ask for clarification from the whole class. They then select either a quiz or a journal entry on the topic to demonstrate their understanding.

FOREIGN LANGUAGE CUBING VOCABULARY

1. **Describe it**
   Choose an object from the box. Describe the object, choosing adjectives from the given list. Be sure to make the adjective agree with noun (For struggling learners, could provide correct form of adjective. Be sure to use at least 5 adjectives to describe the object <grand,, petite, jaune, rouge, large, etc... >
2. **Compare it**
   Choose another object from the box. Compare one object to the other. Follow the example given. <Le crayon est pus/minus/aussi long que le stylo>
3. **Associate it**
   What person, place or thing does the object make you think of? Tell why. Follow the example given. (For struggling learners, give them a list of likely objects for comparison.) <Ca me fait penser a une giraffe parce qu’une giraffe a un cou long et jaune.>
4. **Analyze it**
   Tell what the object is made of OR how it is made. Follow the example, using the vocabulary lists given.
5. **Apply it**
   Think of at least three things you could use the object for. Refer to the vocabulary lists if you need help.
6. **Argue for or against it**
   Tell why you should be allowed to keep this object. Follow the examples given.
FOREIGN LANGUAGE CUBING VOCABULARY

“Roll the cube and do what it tells you.”

1. **Describe it**
   Choose an object from the box. Use at least 5 adjectives to describe the object.

2. **Compare it**
   Choose another object from the box. Compare one object to the other.

3. **Associate it**
   What person, place or thing does the object make you think of?

4. **Analyze it**
   Tell what the object is made of OR how it is made.

5. **Apply it**
   Think of at least three things you could use the object for.

6. **Argue for or against it**
   Tell why you should be allowed to keep this object.

Cindy Strickland • 2002
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put yourself in the place of the characters. What are you thinking?</td>
<td></td>
</tr>
<tr>
<td>What are the characters in this cartoon feeling? Why?</td>
<td></td>
</tr>
<tr>
<td>If you were going to describe this scene in exactly one word, which word would you choose? Why?</td>
<td></td>
</tr>
<tr>
<td>What do you like best about this cartoon? Explain.</td>
<td></td>
</tr>
<tr>
<td>Describe a situation you’ve been in recently that this cartoon reminds you of. How are they similar? How are they different?</td>
<td></td>
</tr>
<tr>
<td>How is this cartoon similar to your educational experiences? Why?</td>
<td></td>
</tr>
<tr>
<td>What is the cause and effect of the humor in this cartoon? Why?</td>
<td></td>
</tr>
<tr>
<td>Take a stand. Argue for or against the message of this cartoon.</td>
<td></td>
</tr>
<tr>
<td>If you used this cartoon to teach a concept, what concept could you teach?</td>
<td></td>
</tr>
<tr>
<td>Compare this cartoon to a written editorial on the same subject. Which one would be more effective and why?</td>
<td></td>
</tr>
<tr>
<td>Describe the tone of this cartoon. How did it affect your mood and why?</td>
<td></td>
</tr>
<tr>
<td>If music were playing in the background, what would it be and why?</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Instructions</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Think of the last book you read or movie you saw. Compare the situation in this cartoon to some aspect of the plot. How are they alike? How are they different?</td>
<td>Create two oxymorons that describe the situation in this cartoon. Explain your thinking.</td>
</tr>
<tr>
<td>Rearrange something in the picture and leave the caption the same. Did you improve it? What happens?</td>
<td>Explain how this cartoon could be used, other than for your own enjoyment.</td>
</tr>
<tr>
<td>This situation in this cartoon could be an analogy for what situation in your life? Why?</td>
<td>If this cartoon had another frame before and after it, what would be in each frame and what would be the captions?</td>
</tr>
</tbody>
</table>
Evaluate Contracts, Menus, and Choice Boards

- Choose 2-3 lessons with a partner or two.
- Read through the activities and discuss the structure and purpose of this learning style and/or readiness strategy.
- How well do these lessons fit with the principles of DI?
  - Are the learning goals clear and embedded in every task, every choice?
  - Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  - Are groupings changing?
  - Do tasks feel respectful, meaningful?
  - Are students engaged, putting forth effort, and growing from what they already know and can do?
- With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
- Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.

Learning Contracts

- Gives students control over when to work
- Gives students choice about presentation options
- Can be “tiered” so that challenge levels of the problems, texts, or skills practiced are suitable for each student
Writing Bingo

Try for one or more BINGOs this month. Remember, you must have a real reason for the writing experience! If you mail or email your product, get me to read it first and initial your box! Be sure to use your writing goals and our class rubric to guide your work.

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Thank you note</th>
<th>Letter to the editor</th>
<th>Directions to one place to another</th>
<th>Rules for a game</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation</td>
<td>Email request for information</td>
<td>Letter to a pen pal, friend, or relative</td>
<td>Skit or scene</td>
<td>Interview</td>
</tr>
<tr>
<td>Newspaper article</td>
<td>Short story</td>
<td>FREE Your choice</td>
<td>Grocery or shopping list</td>
<td>Schedule for your work</td>
</tr>
<tr>
<td>Advertisement</td>
<td>Cartoon strip</td>
<td>Poem</td>
<td>Instructions</td>
<td>Greeting card</td>
</tr>
<tr>
<td>Letter to your teacher</td>
<td>Proposal to improve something</td>
<td>Journal for a week</td>
<td>Design for a web page</td>
<td>Book Think Aloud</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme</th>
<th>Setting</th>
<th>Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a pair of collages that compares you and a character from the book. Compare and contrast physical and personality traits. Label your collages so viewers understand your thinking.</td>
<td>Write a bio-poem about yourself and another about a main character in the book so your readers see how you and the characters are alike and different. Be sure to included the most important traits in each poem.</td>
<td>Write a recipe or set of directions for how you would solve a problem and another for how a main character in the book would solve a problem. Your list should help us know you and the character.</td>
</tr>
<tr>
<td>Draw/paint and write a greeting card that invites us into the scenery and mood of an important part of the book. Be sure the verse helps us understand what is important in the scene and why.</td>
<td>Make a model or map of a key place in your life, and an important one in the novel. Find a way to help viewers understand both what the places are like and why they are important in your life and the characters’.</td>
<td>Make 2 timelines. The first should illustrate and describe at least 6-8 shifts in settings in the book. The second should explain and illustrate how the mood changes with the change in setting.</td>
</tr>
<tr>
<td>Using books of proverbs and/or quotations, find at least 6-8 that you feel reflect what’s important about the novel’s theme. Find at least 6-8 that do the same for your life. Display them and explain your choices.</td>
<td>Interview a key character from the book to find out what lessons he/she thinks we should learn from events in the book. Use a Parade magazine for material. Be sure the interview is thorough.</td>
<td>Find several songs you think reflect an important message from the book. Prepare an audio collage. Write an exhibit card that helps your listener understand how you think these songs express the book’s meaning.</td>
</tr>
</tbody>
</table>

Novel Think-Tac-Toe  basic version

Directions: Select and complete one activity from each horizontal row to help you and others think about your novel. Remember to make your work thoughtful, original, accurate, and detailed.
## Novel Think Tac-Toe

**advanced version**

Directions: Select and complete one activity from each horizontal row to help you and others think about your novel. Remember to make your work thoughtful, original, insightful, and elegant in expression.

<table>
<thead>
<tr>
<th>Character</th>
<th>Setting</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write a bio-poem about yourself and another about a main character in the book so your readers see how you and the character are alike and different. Be sure to include the most important traits in each poem.</td>
<td>Research a town/place you feel is equivalent to the one in which the novel is set. Use maps, sketches, population and other demographic data to help you make comparisons and contrasts.</td>
<td>Find out about famous people in history or current events whose experiences and lives reflect the essential themes of this novel. Show us what you’ve learned.</td>
</tr>
<tr>
<td>A character in the book is being written up in the paper 20 years after the novel ends. Write the piece. Where has life taken him/her? Why? Now, do the same for yourself 20 years from now. Make sure both pieces are interesting feature articles.</td>
<td>Make a model or a map of a key place in your life, and in important one in the novel. Find a way to help viewers understand both what the places are like and why they are important in your life and the characters'.</td>
<td>Create a multi-media presentation that fully explores a key theme from the novel. Use at least 3 media (for example painting, music, poetry, photography, drama, sculpture, calligraphy, etc.) in your exploration.</td>
</tr>
<tr>
<td>You’re a “profiler.” Write and illustrate a full and useful profile of an interesting character from the book with emphasis on personality traits and mode of operating. While you’re at it, profile yourself too.</td>
<td>The time and place in which people find themselves and when events happen shape those people and events in important ways. Find a way to convincingly prove that idea using this book.</td>
<td>Find several songs you think reflect an important message from the book. Prepare an audio collage. Write an exhibit card that helps your listener understand how you think these songs express the book’s meaning.</td>
</tr>
</tbody>
</table>

## A Planet “Show & Tell”

*(Each student must pick one square from each horizontal row and use the two together)*

<table>
<thead>
<tr>
<th>Create One</th>
<th>Pick a Way to Explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the computer to make a drawing that shows how the rotation and revolution of the Earth works to create day and night and seasons.</td>
<td>Make labels for the sun, Earth, day, night, orbit to attach to or use with your creation. Be ready to explain orally.</td>
</tr>
<tr>
<td>Paint a picture that shows how the rotation and revolution of the Earth works to create day and night and seasons.</td>
<td>Write sentences* that identify and explain each part of your drawing or model and how each part works.</td>
</tr>
<tr>
<td>Construct a model that shows how the rotation and revolution of the Earth works to create day and night and seasons.</td>
<td>Write a story that explains the Earth’s rotation, revolution, day and night, and seasons.</td>
</tr>
<tr>
<td>Create a book or puppet show that shows how the rotation and revolution of the Earth works.</td>
<td>Write a poem that explains the Earth’s rotation, revolution, day and night and seasons.</td>
</tr>
</tbody>
</table>

**This differentiated review/synthesis task is based on Va. SOLs for science:**

1.6 The student will investigate & understand the basic relationships between the Earth and sun, including *the sun is the source of heat & light* & *night & day are caused by the rotation of the Earth*. 1.7 The student will investigate and understand the relationship of seasonal change (light and temperature) to the activities & life processes of plants and animals.

Based on Unit by Bette Wood, Charlottesville, Virginia City Schools.
**Chemicals in the Environment**

Contract to appeal to interests and learning style preferences

**Know:** How chemicals impact our environment

**Understand:** To be an effective citizen, it is necessary to know how to deal with problems related to science and technology

**Be Able to Do:** Research a current chemical problem in the environment and propose ways to deal with the problem
Contract on Chemical Problems in the Environment, continued

**Imperatives** (you must do all of these)

- Select a chemical problem in the environment, and define or describe why, where, and to whom or what the difficulties this problem presents occur. Your choices are:
  - global warming/greenhouse effect
  - ozone depletion
  - acid rain
  - air pollution
  - water pollution (including thermal pollution of water and land/ground pollution)

- Complete a map showing where the problem exists, what or who is affected by it and its degree of influence.
- Develop a talking paper that describes present and future solutions to the problem, based on what you have researched. Create you set of recommendations and a rationale for them.

---

Contract, Chem Prob in the Environment continued

**Negotiables**: (You must do at least one of them)

- Determine approximate costs of the problem in one badly affected region. Develop a graphic that shows total costs (e.g. health costs, cleanup costs, lost revenues from land, etc.)
- Develop a timeline of the evolution of the problem over the last 100 years, including significant dates and factors that contributed to the change. Take the time line into the future based on your current understanding of trends associated with the problem.
Options: (You may do one or more of these)

- Create a Gary Larson-type cartoon or an editorial cartoon that comments on the problem.
- Prepare a fictionalized account, based on scientific facts, of a person who lives in a badly affected area. Your goal is to put a human face on the problem.
- Develop a taped, 60-second public service announcement to raise audience awareness of the problem and introduce positive actions citizens might take to improve the prognosis for the future.

In this “reading contract” the teacher provides for 2 levels. This first level allows student choice, but includes more “have-to’s” to check for understanding. It also continues to have students practice skills in which students still need practice.
This second level of the reading ticket also provides student choice, but with fewer “have-to’s,” more “once-a-weekers,” and no practice with personal information.
WORD MAP

Definition
Aware of

Cognizant
Non Examples/Antonym
Clueless

Example/Synonym
With it
Clued in

Useful to help many students explore, process, and retain new words.

Can address:
Readiness (vary the words) Interest
Learning Profile Second Language
Exceptionalities including second language, reading, L.D., cognitive disability
<table>
<thead>
<tr>
<th>Reporter’s Notes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Date</td>
</tr>
<tr>
<td>Topic</td>
<td>Reason</td>
</tr>
</tbody>
</table>

Reporter’s Notes help you get the most information out of your data. Here are several tools that can be used to get the most out of your notes. Each tool has a specific function, and they can be used together to get the most out of your notes. Here are the tools:

1. **SONO (Subject, Object, Name):**
   - **SONO:** Subject, Object, Name
   - **SONO:** Subject, Object, Name

2. **MIND (Main Idea, Details, Notes):**
   - **MIND:** Main Idea, Details, Notes
   - **MIND:** Main Idea, Details, Notes

3. **AOA (Action, Observation, Analysis):**
   - **AOA:** Action, Observation, Analysis
   - **AOA:** Action, Observation, Analysis

4. **WHAT (What happened):**
   - **WHAT:** What happened
   - **WHAT:** What happened

5. **WHERE (Where did it happen):**
   - **WHERE:** Where did it happen
   - **WHERE:** Where did it happen

6. **WHEN (When did it happen):**
   - **WHEN:** When did it happen
   - **WHEN:** When did it happen

7. **REALLY (Really, verify, analyze):**
   - **REALLY:** Really, verify, analyze
   - **REALLY:** Really, verify, analyze

8. **REACT (React, act, take action):**
   - **REACT:** React, act, take action
   - **REACT:** React, act, take action

Tools for Thought • Jan Bakke • 2002

Sandra W. Page  bookpage@nc.rr.com 2009
Paragraph Frame

1. As the children watch, write a simple paragraph about a topic that lends itself to sequential ordering. Use clue words such as first, next, then, later, finally.
2. Copy the sentences on sentence strips & mix them up.
3. Reread the original paragraph and discuss the sequence and the sequence words with the children.
4. Have children arrange the mixed-up sentences in the correct order and read the paragraph.
5. Have students copy the paragraph and illustrate it to show the sequence of events.

Once the children understand how a sequential paragraph is written, the teacher can present them with a sequence frame, such as the following.

```
Mother box turtles prepare for their hibernation in a very interesting way. First:

[blank]

Next:

[blank]

Finally:

[blank]

After this:

[blank]
```

“American Turtles” - Cunningham and Allington - Alex & Bacon - 2003

---

**STEP BY STEP BOOK REPORT CHECKLIST**

Checklists offer scaffolding to students who need support in finishing long-range tasks. Teachers can monitor the progress and evaluate the quality of work until the students gradually learn the process of breaking tasks into substeps themselves.

- I picked out a book.
- I have to read ______ pages each day.
- I finished the book.
- I listed the title, author, and illustrator.
- I wrote about story elements (problem, solution, characters, setting).
- I wrote my opinions of the book.
- I wrote a brief summary of the book.
- I listed the number of pages in my book:
- Number of pages I have to read per day: ______ pages per day
- Total number of days I have to read my book:
- Total number of pages read:
- Total number of days = ______ pages per day

Record the number of pages you read each day.

|-----|-----|------|-----|-------|-----|-----|

I read my book and finished my report and I feel

---

Parent Written or Classroom Management
Carol Chimera

Sandra W. Page  bookpage@nc.rr.com 2009
Required Activities
1. Read pages 54-69 in your Social Studies book. Pay careful attention to the questions in the section entitled “Thinking About It”.
2. You are responsible for the following vocabulary words. You should be able to define them and use them in a sentence:
   - glacier
   - evidence
   - agriculture
   - nomad
   - historian
   - archeology
3. Choose one of the following questions. Answer in a minimum of three good paragraphs.
   A. Why did early Americans live in groups? How did it affect their lifestyle?
   B. Geographical features such as rivers, mountains, etc., affect the customs and life style of groups living near them. How have geographical features affected the lives of the early groups described in Chapter 5?
   C. Choose two groups of early Americans and compare them. However their food, homes, customs, and beliefs alike or different?
4. When you feel you have mastered the material in chapter 5, you may take the Chapter Test. See me to schedule a day and time.

Optional Activities: Choose one or more of the following activities. See me to discuss your choice of optional activities.
1. Begin or continue work on a Type III project.
2. Read the poem “Children of the Desert”. Write a poem describing another group’s relationship to its environment. Begin a collection of poems about nature.
3. Find several examples of Indian myths. Plan a way to teach the class about Indian myths. You might want to include a play, filmstrip, or slide presentation.
4. If Europeans had never come to this country, what would America be like today? Write a story or play to describe it.
5. Research techniques of archeological research. Demonstrate them for the class.
6. Plan another project of your choice.
### MENU PLANNER

Use this template to help you plan a menu for your classroom.

**Menu:**

**Due:** All items in the main dish and the specified number of side dishes must be complete by the due date. You may select among the side dishes and you make decide to do some of the dessert items, as well.

<table>
<thead>
<tr>
<th>Main Dish (complete all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Side Dish (select _______)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dessert (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
</tbody>
</table>

---

### Winning Strategies for Classroom Management

---

### Learning Contract----Think Tac Toe

#### Ancient Civilizations

<table>
<thead>
<tr>
<th>As an ancient mapmaker, you are commissioned to create a map of your land including all natural land forms, a compass rose and a scale. Also find examples of each land form in a modern civilization.</th>
<th>Imagine that you are an ancient citizen who awakens to discover that all water has evaporated. Explain in detail how this would alter your way of life. Also, do this for the town where you live.</th>
<th>Assume you are persuading others to visit your ancient civilization. Design a descriptive, accurate travel brochure. Include both natural and man-made elements that would attract tourists.</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are an ancient scribe. Write and illustrate a thorough description of a famous character from each time period being studied. Profile yourself also.</td>
<td>Assume the identity of a famous person from the given time period. Create a journal entry reflecting the ideas, values, and components of daily life for that person &amp; you.</td>
<td>You are a famous sculptor. Create a 3D representation of a well-known leader, god, goddess, or common citizen. Include a museum exhibit card.</td>
</tr>
<tr>
<td>Written language is an essential part of everyday life. Your task is to create an alphabet. Include a translation into modern English, a written description of the language development a &amp; a 3D artifact of the new language.</td>
<td>Recreate in 3D form a famous work of architecture from your time period. Compare and contrast this piece to one piece of modern day architecture. Find one example of this architecture’s presence in modern day society.</td>
<td>Find a way to explain and show the importance of music and the arts to your culture. Also show at least 2 examples with roots in our time.</td>
</tr>
</tbody>
</table>

Charles Kyle & Kathy Reed * Illinois
### CIVIL WAR
#### GRADE SEVEN * Advanced Level

<table>
<thead>
<tr>
<th>Task</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a series of five state maps, which include a key, that illustrates major events of the war.</td>
<td>1</td>
</tr>
<tr>
<td>Make a relief map of U.S. depicting places of historical and geographical significance before, during, or after the civil war.</td>
<td>2</td>
</tr>
<tr>
<td>Create a map which shows the South and its territory at its greatest size as a result of victories in key battles.</td>
<td>3</td>
</tr>
<tr>
<td>Create a collage which illustrates the economic conditions of the North and South – rich/poor for both.</td>
<td>4</td>
</tr>
<tr>
<td>Generate an alternative economic system which would have enabled the South to have a viable economy without slavery.</td>
<td>5</td>
</tr>
<tr>
<td>Create a bar graph reflecting a data base that portrays the costs of the war for the North and the South.</td>
<td>6</td>
</tr>
<tr>
<td>Imagine a conversation between Adams and Jefferson and turn it into a radio play as they &quot;Look down on&quot; the Civil War.</td>
<td>7</td>
</tr>
<tr>
<td>Write a poem or compose a song conveying the feelings of a slave who has just freedom.</td>
<td>8</td>
</tr>
<tr>
<td>Locate two “popular” songs and one slave ‘song.’ Write an exhibit card explaining how the songs reflect the lives &amp; times of the ‘singers.’ Prepare an audio collage to present.</td>
<td>9</td>
</tr>
<tr>
<td>Prepare Jeff Davis’s response to Lincoln when he refused the command of Union forces and assumed presidency of the Confederacy.</td>
<td>10</td>
</tr>
<tr>
<td>Write a letter (one) from five southern people (thoughtful ones) which comprises their responses to the Gettysburg address</td>
<td>11</td>
</tr>
<tr>
<td>Act out a trial: Lincoln is accused of usurping states’ rights. Include Magna Carta, Declaration of Independence and Constitution in you’re arguments.</td>
<td>12</td>
</tr>
</tbody>
</table>

### Graph Bingo: a “go to” math contract – DI by learning style

Students will complete four items from these choices during the two weeks of the Graphing unit. They may ‘go to’ this activity during transition times in the classroom, when they finish an assignment early, when they finish a quiz, or when directed by teacher. The teacher will initial or stamp/sticker a box when it has been successfully completed and the student then chooses the next task to do.

In order to cause every student to work with all of the learning goals stated below, the teacher requires the student to complete a row, a column, or a diagonal and has arranged the Bingo card with tasks to ensure learning goal coverage no matter which row, column, or diagonal.

**Learning Goals**

**Know:** graph formats – bar, line, pie chart; purpose of each graph format

**Understand:** Graphs help communicate information visually.

**Do:** collect data, interpret a graph, select appropriate graph format to use
<table>
<thead>
<tr>
<th>Collect data from at least 20 people about favorite sport to watch on TV. Present your data.</th>
<th>Use any data you want to create a graph that shows both positive and negative numbers</th>
<th>Copy three ways graphs are used in the food industry, restaurants, or agriculture</th>
<th>Create a bar graph using data that you collect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use any data you want to create both a line graph and a pie chart. Which communicates better and why?</td>
<td>Find and interpret a graph related to a health issue or education.</td>
<td>Collect data from at least 20 people about favorite magazines. Present the data.</td>
<td>Present three ways graphs are used in transportation and/or industries</td>
</tr>
<tr>
<td>Find a graph in a newspaper article and write a brief interpretation</td>
<td>Present three ways graphs are used in social studies and/or history</td>
<td>Use any data you want to create a graph that shows change over a time</td>
<td>Collect data from at least 20 people about favorite computer game &amp; present the data</td>
</tr>
<tr>
<td>Prepare a “sales pitch” for a company to use your graph-making skills. Explain how and why you can help them sell more.</td>
<td>Collect data from at least 20 people about favorite comedians &amp; present the data.</td>
<td>Take data on a pie chart and convert it into a bar graph. Which graph communicates better and why?</td>
<td>Find a graph in an advertisement and write a brief interpretation</td>
</tr>
</tbody>
</table>

---

**The Red Contract**

**Key Skills:** Graphing and Measuring  
**Key Concepts:** Relative Sizes  
**Note to User:** This is a Grade 3 math contract for students below grade level in these skills

<table>
<thead>
<tr>
<th>Read</th>
<th>Apply</th>
<th>Extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>How big is a foot?</td>
<td>Work with a friend to graph the size of at least 6 things on the list of “10 terrific things.” Label each thing with how you know the size</td>
<td>Make a group story or one of your own – that uses measurement and at least one graph. Turn it into a book at the author center</td>
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<tr>
<td>How big is a foot?</td>
<td>Work with a friend to graph the size of at least 6 things on the list of “10 terrific things.” Label each thing with how you know the size</td>
<td>Make a group story or one of your own – that uses measurement and at least one graph. Turn it into a book at the author center</td>
</tr>
</tbody>
</table>
**The Green Contract**

**Key Skills:** Graphing and Measuring  
**Key Concepts:** Relative Sizes  

**Note to User:** This is a Grade 3 math contract for students at or near grade level in these skills.

<table>
<thead>
<tr>
<th>Read</th>
<th>Apply</th>
<th>Extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex and Who Used to be Rich Last Sunday or Ten Kids, No Pets</td>
<td>Complete the math madness book that goes with the story you read.</td>
<td>Now, make a math madness book based on your story about kids and pets or money that comes and goes. Directions are at the author center</td>
</tr>
</tbody>
</table>

**Read**  
- Come to the green math workshop on Monday and Friday  
- Complete the multiplication challenge wall chart  
- Work the even problems on pages 73 of your math book. The prompt of the day to work past work |

**Apply**  
- Work at the measuring and graphing center until you complete the green work  
- Solve the graph mystery in your math folder. You can work with someone on the green team if you'd like. Check your answers with the teacher |

**Extend**  
- Read Apply Extend  
- Complete the math madness book that goes with the story you read.  
- Now, make a math madness book based on your story about kids and pets or money that comes and goes. Directions are at the author center |

---

**The Blue Contract**

**Key Skills:** Graphing and Measuring  
**Key Concepts:** Relative Sizes  

**Note to User:** This is a Grade 3 math contract for students advanced in these skills.

<table>
<thead>
<tr>
<th>Read</th>
<th>Apply</th>
<th>Extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dinosaur Before Dark or Airport Control</td>
<td>Research a kind of dinosaur or airplane. Figure out how big it is. Graph its size on graph paper or on the blacktop outside our room. Label it by name and size</td>
<td>Make a book in which you combine math and dinosaurs or airplanes, or something else big. It can be a number fact book, a counting book, or a problem book. Instructions are at the author center</td>
</tr>
</tbody>
</table>

**Read**  
- Come to the blue math workshop on Tuesday or Thursday morning  
- Do a timed test of two-digit multiplication. Use a  

**Apply**  
- Work at the measuring and graphing center until you complete the blue work  
- Solve the graph mystery in your folder. You can work with someone on the blue team if you'd like. |

**Extend**  
- Read Apply Extend  
- Complete the extension problems on pages 74 of your math book. Use a new book to work past your work  
- Research a kind of dinosaur or airplane. Figure out how big it is. Graph its size on graph paper or on the blacktop outside our room. Label it by name and size  
- Make a book in which you combine math and dinosaurs or airplanes, or something else big. It can be a number fact book, a counting book, or a problem book. Instructions are at the author center |
**Math Ticket**

This contract allows for some learning style choices, but also has the teacher giving readiness assignments. (Students receive only 1 option, but all options are shown below: teacher assigns.)

<table>
<thead>
<tr>
<th>Graphics (R)</th>
<th>Problem of the Day</th>
<th>Computer (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangram Ex (p.14#1), or</td>
<td>Complete the odd # problems</td>
<td>Complete the problems 1-9</td>
</tr>
<tr>
<td>Tangram Ex (p.11,#9), or</td>
<td>from the POD board. or blue task cards,</td>
<td>or red tasks</td>
</tr>
<tr>
<td>Geoboard Pentagon, or</td>
<td></td>
<td>or green task</td>
</tr>
<tr>
<td>Geoboard Hexagon</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Math Writing (LS)**

- Explain in clear step by step way how you:
  - *Solved your problem of the day or solved your Tangram/Geoboard challenge*
  - *Use pictures and words to teach someone how to do one of your five math tasks*

**Math with Legs**

- Develop a real problem someone might have which graphing might help them.
- Explain and model how it the problem of the day applies to real life.

**Teacher Feature**

- When you are called

---

**MENU PLANNER**

**Menu for: Algebra 1 – “Probability”  Due:**

All items in the main dish and the specified number of side dishes must be complete by the due date. You may select among the side dishes and you may decide to do some of the desserts items, as well.

### Main Dishes (complete all)

1. Complete the “meteorology simulation” on p. 88-89 of your textbook.
2. Create a list of 10 pairs of events. 5 pairs should contain events that are dependent; 5 pairs should contain events that are independent. Explain each classification.
3. Complete the “frequency table” assignment on p. 506-507 of your textbook.
4. Work with a partner to analyze the game of “Primarily Odd.” See your teacher for game cubes and further instructions.

### Side Dishes (Select _2 _)

1. Design a “game spinner” that has this probability distribution: P(red) =0.1; P(green) = 0.2; P(blue) = 0.3; P(yellow) = 0.4.
2. Suppose a dart lands on a dartboard made up of four concentric circles. For the center of the board (the “bull’s eye”), r=1.5; the remaining rings have widths of 1.5. Use your understanding of area and probability to determine the probability of 1) hitting a “bull’s eye” and 2) landing in the outermost ring.
3. Examine the attached list of functions and determine which functions represent probability distributions.

### Desserts (Optional)

1. Figure the probability of “Murphy’s Law” and make a case for whether or not it should indeed be a “law.”
2. Use a frequency table to chart the colors that your classmates wear for a week. Then, use probability to predict how many students will wear a certain color on a given day.
Use this template to help you plan a menu for your classroom.

**MENU PLANNER**

**Menu for:** [Blank]  **Due:** [Blank]

All items in the main dish and the specified number of side dishes must be complete by the due date. You may select among the side dishes and you may decide to do some of the desserts items, as well.

### Main Dishes (complete all)

1. [Blank]
2. [Blank]
3. [Blank]
4. [Blank]

### Side Dishes (Select ___)

1. [Blank]
2. [Blank]
3. [Blank]
4. [Blank]

### Desserts (Optional)

1. [Blank]
2. [Blank]
3. [Blank]

---

**Electricity**

<table>
<thead>
<tr>
<th>Description</th>
<th>Kinds of Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity is one kind of energy.</td>
<td>There are two kinds of electricity, static and current. Static electricity is on electric charge that does not move. Current electricity is the movement of electrons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electric Circuits</th>
<th>Producing Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are two kinds of electric circuits.</td>
<td>A generator is a machine that changes mechanical energy into electrical energy.</td>
</tr>
<tr>
<td>A series circuit is one in which current can follow only one path.</td>
<td>A dry cell uses a chemical paste, carbon rod, and zinc to produce a flow of electrons.</td>
</tr>
<tr>
<td>A parallel circuit is one in which current can follow more than one path.</td>
<td>A wet cell uses acid and water, which reacts with metal plates, to produce a flow of electrons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using Electricity</th>
<th>Measuring Electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity is an important source of light and heat. Electrical energy can be changed to mechanical energy. Fuses and circuit breakers are safety devices designed to help use electricity safely.</td>
<td>The amount of electricity used is measured in kilowatt-hours.</td>
</tr>
</tbody>
</table>

---

Note: Basic format "Perceptions and Strategies," by M.W.Olson and T.C. Gee, 1991. The Reading Teacher, 45(4), 298-307 Copyright 1991 by the International Reading Association Teaching Reading in Science by Barton and Jordan
Proportional Reasoning
Think-Tac-Toe
Nanci Smith, 2004

<table>
<thead>
<tr>
<th>Create a word problem that requires proportional reasoning. Solve the problem and explain why it requires proportional reasoning.</th>
<th>Find a word problem from the text that requires proportional reasoning. Solve the problem and explain why it was proportional.</th>
<th>Think of a way that you use proportional reasoning in your life. Describe the situation, explain why it is proportional and how you use it.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a story about a proportion in the world. You can write it, act it, video tape it, or another story form.</td>
<td>How do you recognize a proportional situation? Find a way to think about and explain proportionality.</td>
<td>Make a list of all the proportional situations in the world today.</td>
</tr>
<tr>
<td>Create a pict-o-gram, poem or anagram of how to solve proportional problems</td>
<td>Write a list of steps for solving any proportional problem.</td>
<td>Write a list of questions to ask yourself, from encountering a problem that may be proportional through solving it.</td>
</tr>
</tbody>
</table>

Bloom’s Choice Board/Contract

Choose one response from each level and fill in the 6-box graphic organizer. Use the Learning Goals as a guide to your responses.

Know ________; Understand ________; Do ________

Knowledge Level
• Recall the story/events
• List the facts
• Define the terms
• Label the parts
• Name the locations/ypes of

Comprehension Level
• Explain the procedure, event, concept
• Describe the main understanding, the big idea
• Paraphrase what you learned/read/heard

Application Level
• Demonstrate or illustrate this information
• Give some examples
• Solve …
• Use the rule, formula, principle
• Construct a model to show your understanding

Analysis Level
• Sequence steps or events
• Organize the info into a chart or graphic
• Group, sort, categorize the information
• Compare and contrast
• Differentiate or distinguish

Synthesis Level
• Design/invent/compose something new
• Propose an alternate solution/ending
• Suggest what would happen if …
• Combine ideas to create something new

Evaluation Level
• Judge the importance
• Evaluate which is the best/worst/most essential/least important
• Prioritize or rank in order
• Recommend
• Agree or disagree

Differentiation in Action
Judith Dodge, Scholastic Teaching Resources 2005
## Developing a Contract

Things you might include:

- **A Skills Component**
  - Focus is on skills-based tasks
  - Assignments are based on pre-assessment of students’ readiness
  - Students work at their own level and pace
- **A content component**
  - Focus is on applying, extending, or enriching key content (ideas, understandings)
  - Requires sense making and production
  - Assignment is based on readiness or interest
  - Categories of information, tasks, or criteria of work
- **A Time Line**
  - Teacher sets completion date and check-in requirements
  - Students select order of work (except for required meetings and homework)
  - Are there any required meetings?
- **The Agreement**
  - The teacher agrees to let students have freedom to plan their time
  - Students agree to use the time responsibly
  - Group work arrangements
  - Guidelines for working are spelled out
  - Consequences for ineffective use of freedom are delineated
  - Signatures of the teacher, student and parent (if appropriate) are placed on the agreement
- **The Learning Goals for the length of the contract**
  - What should students KNOW
  - What should students be able to DO
  - What should students UNDERSTAND

## Developing CHOICE BOARDS

Consider this as you develop a set of learning preference options (BINGO, Tac-Toes, Menus, etc.):

- What are the learning goals? KNOW, UNDERSTAND, DO
- Do all task choices reflect some aspect of the learning goals?
- Have you prepared the choice options around an organizing learning profile theory? (Gardner’s Multiple Intelligences, Sternberg’s Triarchic Intelligence Preferences, Learning modalities, etc.) Do you have representative choice options for each?
- Should students, and how will students, prepare to present their understandings to a group within the classroom or to other audience(s)?
Evaluate RAFT lessons

- Choose 2-3 lessons with a partner or two.
- Read through the activities and discuss the structure and purpose of this learning style strategy.
- How well do these lessons fit with the principles of DI?
  - Are the learning goals clear and embedded in every task, every choice?
  - Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  - Are groupings changing?
  - Do tasks feel respectful, meaningful?
  - Are students engaged, putting forth effort, and growing from what they already know and can do?
- With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
- Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.

Our Community RAFT (Primary grade)

Know: responsibility, role, respect, behavior
Do: Discuss, reflect, respond
Understand: Our classroom community depends on us working together.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me</td>
<td>myself</td>
<td>Talk inside my head</td>
<td>My top 5 ideas about being a good friend</td>
</tr>
<tr>
<td>Classroom gerbil</td>
<td>Mouse outside the window</td>
<td>Conversation after school</td>
<td>Let me tell you what I saw today that makes me happy about the boys and girls who take care of me.</td>
</tr>
<tr>
<td>Raffi</td>
<td>1st graders</td>
<td>Rhyme or song</td>
<td>“Here’s How to Be a Friend”</td>
</tr>
<tr>
<td>Bunny</td>
<td>Other bunnies</td>
<td>Story or cartoon</td>
<td>What we should do to help each other</td>
</tr>
<tr>
<td>Papa Berenstain Bear</td>
<td>His Bear children</td>
<td>Chart or list</td>
<td>Best Bear Behavior in School</td>
</tr>
<tr>
<td>Our class vocabulary words this week</td>
<td>Our class</td>
<td>Jigsaw puzzle</td>
<td>Together, we make the big picture of a respectful community.</td>
</tr>
</tbody>
</table>
### Consumer Education Class RAFT – differentiated by learning styles

In this RAFT, all students will have a Topic that focus on food safety practices (Learning Goal). The Formats are meant to appeal to different learning styles.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw chicken pieces</td>
<td>Chefs in training</td>
<td>Dramatic speech</td>
<td>Why foods like me (poultry) require special handling and care of utensils</td>
</tr>
<tr>
<td>Cartoon characters</td>
<td>Saturday morning viewers</td>
<td>Jingle, rap, or chant</td>
<td>The importance of cleanliness and washing hands</td>
</tr>
<tr>
<td>National Restaurant Organization</td>
<td>Restaurant workers</td>
<td>Illustrated Poster or Flow Diagram</td>
<td>Proper care of knives and cutting boards</td>
</tr>
<tr>
<td>Bacteria</td>
<td>Ground beef</td>
<td>Role play or simulation</td>
<td>Dangers of thawing meat out on a counter</td>
</tr>
<tr>
<td>Power Company Consumer Relations Dept.</td>
<td>Homeowners who have lost power for 3+ days due to hurricane or ice storm</td>
<td>Consumer Alert messages for broadcast on TV</td>
<td>What to do with items from the refrigerator and freezer that have come to room temperature</td>
</tr>
<tr>
<td>Mayonnaise in egg salad</td>
<td>Picnickers</td>
<td>Urgent Email</td>
<td>Watch out! I’m going to get you!</td>
</tr>
</tbody>
</table>

### Business Education RAFT

**Learning Goals: Items in Insert; when and how we use those items**

Students are reviewing elements from “Insert” Drop Down Menu

This RAFT uses the columns of Role and Audience to review basic elements and vocabulary of this unit. Every Topic deals with food safety practices. This is where the teacher has placed the Learning Goals:

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page number</td>
<td>Writer of a document</td>
<td>List of questions</td>
<td>What to consider about how to format me and where I belong</td>
</tr>
<tr>
<td>Text Box</td>
<td>TV audience</td>
<td>Late Night’s Top 10 List</td>
<td>What you need to know to use me right.</td>
</tr>
<tr>
<td>Clip art</td>
<td>Student preparing a PowerPoint presentation</td>
<td>Song lyrics</td>
<td>“Find me, Place me, Change Me”</td>
</tr>
<tr>
<td>Column break</td>
<td>Page break</td>
<td>Opinion statement</td>
<td>Why I’m more important than you</td>
</tr>
<tr>
<td>A Caption</td>
<td>Editor</td>
<td>Set of directions</td>
<td>How to clarify what is in a pie chart or diagram</td>
</tr>
<tr>
<td>Auto Text feature</td>
<td>Writers of business letters</td>
<td>Energizer Bunny commercial</td>
<td>The advantages of using Auto Text</td>
</tr>
</tbody>
</table>
Technology Lab Safety

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
<th>Points of Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>fashion editor</td>
<td>Mid Sch students</td>
<td>2-page magazine spread</td>
<td>“Here’s what’s ‘in’ in technology-ed fashion.”</td>
<td>Eyewear, earwear, long hair, baggy clothes, jewelry, long sleeves.</td>
</tr>
<tr>
<td>Referee</td>
<td>Mid Sch “tech-leter”</td>
<td>Instruc. playbook</td>
<td>Instant replay outtakes: foul ups in the tech lab</td>
<td>Running, horseplay, injuries, anchor activities</td>
</tr>
<tr>
<td>The TMS Lab</td>
<td>the public</td>
<td>Wanted posters</td>
<td>Wanted: Students caught in the act of breaking cleanup laws</td>
<td>Your 3 primary clean-up responsibilities, your work area</td>
</tr>
<tr>
<td>Newspaper writer</td>
<td>Readers</td>
<td>Cover story</td>
<td>Undercover in the TMS Tech Lab: what materials talk about at night</td>
<td>Proper handling of hand tools, heavy items, materials, cabinets</td>
</tr>
<tr>
<td>Scroll saw &amp; drill press</td>
<td>Each other</td>
<td>comic strip</td>
<td>What we wish middle sch students knew about how to handle us...</td>
<td>chuck key, long end of board, hold work flat on table, cut line, fingers, blade binding, hold-down, upper guide adjustment, brush</td>
</tr>
</tbody>
</table>

World Language RAFT

Know: vocabulary words – see topic column
Do: Write in complete sentences using present tense

<table>
<thead>
<tr>
<th>Choose a Role or point of view</th>
<th>Appropriate Audience</th>
<th>Choose one of these Formats:</th>
<th>Address this Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Traveler</td>
<td>Decide who would the writer be addressing with this format. Would they write to inform, persuade, or share experiences?</td>
<td>• Brochure</td>
<td>Outdoor activities and sports (at least 5) using present tense verb conjugations. Use at least 5 of activity/sports action verbs (to play, run, kick, jump, swim, etc.)</td>
</tr>
<tr>
<td>• Young child</td>
<td></td>
<td>• TV ad</td>
<td></td>
</tr>
<tr>
<td>• Sports fan</td>
<td></td>
<td>• Video voice-over</td>
<td></td>
</tr>
<tr>
<td>• Family</td>
<td></td>
<td>• Series of postcards home</td>
<td></td>
</tr>
<tr>
<td>• Travel agent</td>
<td></td>
<td>• Narrative – fictional or real</td>
<td></td>
</tr>
<tr>
<td>• Celebrity spokesperson</td>
<td></td>
<td>• Diary entries</td>
<td></td>
</tr>
<tr>
<td>• Yourself</td>
<td></td>
<td>• Other</td>
<td></td>
</tr>
</tbody>
</table>
**READINESS DIFFERENTIATION: WRITING RAFT**

The teacher will assign sets of choices to students based on preassessed skill levels in sequencing and writing: Grade level or Advanced level. Within a skill level, students will still have some learning style or interest-based choices through the format options. Levels would NOT be seen by the students.

**Know:** sequence; pace

**Understand:** Seeing events in a logical order helps us better understand them.

**Do:** Place items in order of occurrence; write with accuracy & completeness

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Tortoise</td>
<td>Hare</td>
<td>6-panel storyboard</td>
</tr>
<tr>
<td>G</td>
<td>You</td>
<td>teacher</td>
<td>bulleted list</td>
</tr>
<tr>
<td>G</td>
<td>Sports star</td>
<td>reporter</td>
<td>news item</td>
</tr>
<tr>
<td>A</td>
<td>Cousin</td>
<td>you</td>
<td>set of directions</td>
</tr>
<tr>
<td>A</td>
<td>Hermione Granger</td>
<td>Harry Potter</td>
<td>conversation or dialogue</td>
</tr>
<tr>
<td>A</td>
<td>Marble Kid</td>
<td>&quot;Marble Raceway” model with exhibit card describing each tumble or turning point</td>
<td>Watch me roll!</td>
</tr>
</tbody>
</table>

**LITERATURE: R.A.F.T. Homework Activity**

Acts I and II, *Macbeth*

Step inside a character’s shoes and produce evidence of your understanding of his or her feelings.

Your work will be evaluated not only for creativity & completeness but also for evidence that you understand character action & motivation in *Macbeth*.

Have you taken on the role of the character, replicating the concerns (issues, ideas, motives important to the character) and the voice (the attitude and tone)?

Have you written in Shakespearean language?
<table>
<thead>
<tr>
<th>ROLE</th>
<th>AUDIENCE</th>
<th>FORMAT</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macbeth</td>
<td>the Witches</td>
<td>Missed Connections</td>
<td>When Will I See You Again?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advertisement in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local Paper</td>
<td></td>
</tr>
<tr>
<td>Witches</td>
<td>Hecate, Head Witch</td>
<td>Report</td>
<td>Mischief Made of Late: How We’re Messing With</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Macbeth</td>
</tr>
<tr>
<td>Lady Macbeth</td>
<td>Macbeth</td>
<td>Diary Entry, left open</td>
<td>Nice Guys Finish Last</td>
</tr>
<tr>
<td></td>
<td></td>
<td>on her bed for</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Macbeth to see</td>
<td></td>
</tr>
<tr>
<td>Banquo</td>
<td>Macbeth</td>
<td>Email</td>
<td>Patience is a Virtue</td>
</tr>
<tr>
<td>Duncan</td>
<td>His Scottish subjects</td>
<td>Newspaper editorial</td>
<td>You Win Some, You Lose Some: The Past is Past and Here’s What’s Next</td>
</tr>
<tr>
<td>Macbeth</td>
<td>Self</td>
<td>Diary</td>
<td>It’s Time to Be Two-Faced</td>
</tr>
</tbody>
</table>

**Playwright Voice and Style**

**KNOW:**
- Voice, Tone and Style

**UNDERSTAND:**
- Each playwright has a voice.
- Voice is shaped by life experiences and reflects the writer.
- Voice shapes expression.
- Voice affects communication.
- Voice and style are related.

**DO:**
- Describe an author’s voice and style.
- Mimic a playwright’s voice and style.
- Create a piece of writing that reflects a writer’s voice and style.
### Playwright Voice and Style

<table>
<thead>
<tr>
<th>ROLE</th>
<th>AUDIENCE</th>
<th>FORMAT</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shakespeare</td>
<td>10th Graders</td>
<td>Soliloquy</td>
<td>My many voices</td>
</tr>
<tr>
<td>Henrik Ibsen</td>
<td>Mother</td>
<td>Letter</td>
<td>The role of a woman</td>
</tr>
<tr>
<td>Arthur Miller</td>
<td>Himself</td>
<td>Diary entry</td>
<td>How I’m like Willie Loman</td>
</tr>
<tr>
<td>Tennessee Williams</td>
<td>Edward Albee</td>
<td>Debate</td>
<td>We’re more alike than different</td>
</tr>
</tbody>
</table>

### Playwright Voice and Style

- Reflect on your own life and experiences to determine your own voice.

**Analytic:**
- Make a list of themes, concepts and emotions that reflect your own voice. Explain how they relate to your life and experiences. Write a brief portion of a scene that demonstrates your voice and style.

**Practical:**
- Which playwright most reflects your own voice and style?
- What are the similarities and differences? Are there similarities in your life and the life of the playwright that you can find to explain the similarities?

**Creative:**
- Think of an experience in your life that has shaped who you have become. Explain how that experience could be woven into a play or scene of a play. What would the voice and style of the play or scene be, and why? If you want, write and direct a short scene that reflects your voice and style.
RAFT Assignment
Grade 10 English

Know: Voice, Tone, Style
Understand:
Each writer has a voice
Voice is shaped by life experiences and reflects the writer
Voice shapes expression
Voice affects communication
Voice and style are related
Be Able to Do:
Describe a writer’s voice and style    Mimic a writer’s voice and style
Create a piece of writing that reflects a writer’s voice and style

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edgar Allen Poe</td>
<td>10th grade writers</td>
<td>Letter</td>
<td>Here’s how I found my voice</td>
</tr>
<tr>
<td>Garrison Keillor</td>
<td>10th grade writers</td>
<td>E mail</td>
<td>Here’s how I found my voice</td>
</tr>
<tr>
<td>Emily Dickinson</td>
<td>Self</td>
<td>Diary entry</td>
<td>Looking for my voice</td>
</tr>
<tr>
<td>10th grader</td>
<td>English teacher</td>
<td>Formal request</td>
<td>Please help me find my voice</td>
</tr>
<tr>
<td>Teacher</td>
<td>10th graders</td>
<td>Interior monologue</td>
<td>Finding a balance between voice and expectations</td>
</tr>
<tr>
<td>3 authors</td>
<td>The public</td>
<td>Visual symbols/logos annotated</td>
<td>Here’s what represents my voice</td>
</tr>
<tr>
<td>3 authors from different genre</td>
<td>One another</td>
<td>Conversation</td>
<td>What shaped my voice and style</td>
</tr>
</tbody>
</table>

Tom Sawyer’s R.A.F.T.  (Page 1)

This RAFT is designed for use by students when they have finished reading the novel, Tom Sawyer, by Mark Twain. The RAFT synthesizes the unit’s exploration of characterization and allows students to “step into the skin” of one of the supporting characters to get a look at the protagonist from his/her perspective. A final jigsaw activity allows students to view Tom from multiple perspectives in order to reinforce the unit’s essential understandings (students share their RAFTs in mixed groups and complete a synthesis writing piece in which they draw conclusions about Tom based on all perspectives aired in the group).

Raft Learning Goals

Students should KNOW...
• The definition of characterization
• The six supporting characters’ relationships with Tom Sawyer

Students should UNDERSTAND that...
• Individuals have their own unique perspectives determined by their experiences and relationships.
• In order to gain a true understanding of a person or event, multiple perspectives must be considered.

Students should BE ABLE TO...
• Assume the voice of a supporting character
• Characterize Tom Sawyer using the methods discussed in class
• Draw conclusions synthesizing multiple and varied perspectives
Differentiation: This RAFT is differentiated according to readiness and interest.

Interests: Each student has three options from which to choose, so he/she can select a "strip" that appeals to them in some way (affinity with a character, interest/talent in the format's expression, interest in the topic, etc.)

Readiness:
The first three strips should be given to more advanced students, as these three options are more conceptual.

• The roles and topics represent less accessible points of view and are designed for student who are ready to tackle the novel at a more abstract level and/or
• The formats are designed for students who are reading and writing on or above grade level (and are thus able to handle more complex modes of expression).

The second three "strips" offer options that are simpler and more straightforward.

• The roles and topics represent more accessible views and are designed for students who understand the novel at a more basic level, and/or
• The formats are accessible for students who are struggling readers/writers.

Tom Sawyer’s R.A.F.T. p. 3

• Select one of the following prompts. The “Role” refers to the character’s perspective that you will assume. The “Audience” refers to whom that character will be addressing his/her opinion; The “Format” refers to the form in which the opinion will be expressed; The “Topic” is just that - your topic!

• Circle the ROLE that you plan to pursue, and clear it with your teacher before you begin working. Use your text to help you.

<table>
<thead>
<tr>
<th>ROLE</th>
<th>AUDIENCE</th>
<th>FORMAT</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sid</td>
<td>Aunt Polly</td>
<td>Affidavit</td>
<td>Why Tom should get a lickin’</td>
</tr>
<tr>
<td>Huck</td>
<td>Self</td>
<td>Poem or Song</td>
<td>Who am I without my friend, Tom?</td>
</tr>
<tr>
<td>Aunt Polly</td>
<td>Widow Douglas</td>
<td>Dialogue</td>
<td>Nobody knows the troubles I’ve seen (because of Tom)!</td>
</tr>
<tr>
<td>Becky</td>
<td>Tom</td>
<td>Letter</td>
<td>How I really feel about you…</td>
</tr>
<tr>
<td>Injun Joe</td>
<td>Self</td>
<td>Drawing of Dream</td>
<td>Why I’m going to get even with Tom Sawyer… and HOW I'll do it!</td>
</tr>
<tr>
<td>Muff Potter</td>
<td>Townspeople</td>
<td>Speech</td>
<td>Why I thank goodness for Tom Sawyer…</td>
</tr>
</tbody>
</table>

Authors: Kristina Doubet, Marla Capper, and Christie Reed - 2003
Let us forgive Ty Kendriks
The place was Darktown. He was young.
His nerves were jittery. The day was hot.
The Negro ran out of the alley.
An so he shot.

Let us understand Ty Kendricks.
The Negro must have been dangerous,
Because he ran;
And here was a rookie with a chance
To prove himself a man.

Let us condone Ty Kendricks.
If we cannot decorate.
When he found what the Negro was running for,
It was too late;
And al we can say for the Negro is
It was unfortunate.

Let us pity Ty Kendricks,
He has been through enough,
Standing there alone,
Having to hear the wenches wail
And the dying Negro to moan.

RAFT Assignment: “Southern Cop” by Sterling A. Brown
High School English: Stylistic Elements & Meaning

Know
• Simile, metaphor, repetition, syntax, diction

Understand
• Authors use stylistic elements to create tone.
• Authors use stylistic elements to create point of view.
• Tone and point of view are related.
• Parallelism affects tone and meaning.

Do
• Analyze the importance of stylistic elements.
• Show how style affects tone and point of view in this poem.
• Discuss relationship of style to meaning.
• Analyze the style of another poem and explain how it contributes to the meaning.

To determine the RAFT task, the students will choose RAFT formats based on interests and
ing learning styles. Students are required to use specific stylistic elements for each format.
Upon completion, the students will be put into groups comprised of the six roles. Discussion
will center on how each point of view affects the meaning and how the particular stylistic
element they used contributes to the meaning.

Candy Krueger
Timberline High School
Boise, ID
### “Southern Cop” RAFT Assignment

<table>
<thead>
<tr>
<th>ROLE</th>
<th>AUDIENCE</th>
<th>FORMAT</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV new reporter</td>
<td>Public</td>
<td>News article [syntax]</td>
<td>“Police shooting under investigation”</td>
</tr>
<tr>
<td>National Enquirer Reporter</td>
<td>Public</td>
<td>Front page article [simile, metaphor]</td>
<td>“Cop shoots defenseless man”</td>
</tr>
<tr>
<td>Southern cop</td>
<td>Police chief</td>
<td>Incident report [repetition]</td>
<td>“On the night of August 14…”</td>
</tr>
<tr>
<td>Ty Kendricks</td>
<td>His children</td>
<td>List–words of advice [parallelism]</td>
<td>“Be careful of…”</td>
</tr>
<tr>
<td>Abolitionist</td>
<td>Town meeting</td>
<td>Speech [simile, parallelism]</td>
<td>“Once again injustice reigns…”</td>
</tr>
<tr>
<td>Passer-by</td>
<td>Friend</td>
<td>Letter [syntax, diction]</td>
<td>“You won’t believe what I heard…”</td>
</tr>
</tbody>
</table>

### Weather Topics RAFT choices
These RAFTs focus on weather related vocabulary and instruments. No student would receive all these choices. Some of these choices may be made by teacher to “tier” because the vocabulary is beyond the grade level essentials.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troposphere</td>
<td>Exosphere</td>
<td>Reconciliation</td>
<td>What’s happening between us?</td>
</tr>
<tr>
<td>Ozone</td>
<td>Earth</td>
<td>Poem</td>
<td>What I really want from you</td>
</tr>
<tr>
<td>Earth</td>
<td>Atmosphere</td>
<td>Song</td>
<td>Why I can’t live without you</td>
</tr>
<tr>
<td>Water Droplet</td>
<td>Future Droplets</td>
<td>Advice Column</td>
<td>We’re all in this together</td>
</tr>
<tr>
<td>Stratus Cloud</td>
<td>Cumulus cloud</td>
<td>Weight loss recipe</td>
<td>How to get rid of that puffiness</td>
</tr>
<tr>
<td>Cold &amp; Warm Front</td>
<td>Meteorologists</td>
<td>Dialogue</td>
<td>Use us to forecast weather</td>
</tr>
<tr>
<td>Barometer</td>
<td>Thermometer</td>
<td>e-mail</td>
<td>I’m more important than us</td>
</tr>
<tr>
<td>Air Masses</td>
<td>TV audience</td>
<td>panel discussion</td>
<td>Where we’ve been, what we’ve done</td>
</tr>
</tbody>
</table>
Weather Terms raft, continued

As the teachers developed more items for this RAFT, they moved away from putting weather terms in the first two columns. They continued to try to offer format choices to appeal to students’ interests or learning preferences. Are they still causing every task to focus on the learning goal of reviewing weather terms? What might be added?

<table>
<thead>
<tr>
<th>role</th>
<th>audience</th>
<th>format</th>
<th>topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientist</td>
<td>5th grade students</td>
<td>scientific demonstration</td>
<td>Here’s how to understand this weather concept…</td>
</tr>
<tr>
<td>Wind (Mother Wind/Father Wind)</td>
<td>Baby Wind</td>
<td>Bedtime story using weather terms</td>
<td>Once upon a time</td>
</tr>
<tr>
<td>Mother Nature</td>
<td>Letterman’s Late Night audience</td>
<td>Top Ten List</td>
<td>Weather Indicators Never to Ignore</td>
</tr>
<tr>
<td>Storm chaser</td>
<td>newspaper article</td>
<td>set of illustrations</td>
<td>What I look for</td>
</tr>
<tr>
<td>Teacher</td>
<td>students</td>
<td>bulleted list or poster</td>
<td>Factors that determine our weather</td>
</tr>
</tbody>
</table>

4th Grade Math RAFT Assignment: Parts of a Whole

- As a result of their work, students should
  - Know
    - Definition of fraction, part, whole, decimal, and percent.
  - Understand
    - Parts of whole can be represented in different ways.
    - Fractions represent parts of a whole (Group A).
    - Equivalent fractions are equal but are represented by different numbers (Group B).
    - Fractions and decimals are related and represent parts of a whole (Group C).
    - Fractions, decimals, and percents are all ways to represent parts of a whole (Group D).
  - Be able to
    - Illustrate fractions as parts of a whole.
    - Find equivalent fractions.
    - Convert fractions to decimals.
    - Convert decimals to percents.
Background
- At the start of this math unit, I administered a pre-assessment of fraction skills and used the data from the pre-assessment to form groups on the basis of readiness levels. As the unit proceeds, students’ grouping assignments may be adjusted on the basis of their progress.
- In the lesson before the RAFT assignment, the students read *Among the Odds and Evens*, and, as a whole class, discussed relationships and the questions, What if numbers could communicate? Then the students worked in readiness-based groups.
  - Group A read Fraction Fun and discussed how fractions represent parts of whole.
  - Group B worked with fractions sticks to find equivalent fractions. They also used the mathematical formula for finding equivalents using both multiplication and division.
  - Group C converted a predetermined set of fractions to decimal form, then to percents, and discussed the procedures.
  - For this RAFT, students are assigned to a specific task. Students in Group A are assigned to the task in row 1, Group B to row 2, Group C to row 3, and Group D to row 4.

Directions
- Group A: Your goal is to communicate that fractions represent parts of whole.
  - You are write a children’s book similar to Fraction Fun using both text and illustrations. Brainstorm some ideas together. Do not use the same fraction over and over again, and keep in mind that each fraction is speaking to the whole it is a part of. You will be asked to share your books with the other groups.
    - Materials: paper, pencil, crayons, colored pencils
- Group B: Your goal is to communicate that equivalent fractions are equal and can be expressed by using different numerators and denominators.
  - You are to fill out the invitation, keeping in mind that you are a fraction inviting one or more of your equivalents to the ball. Brainstorm some possible fractions and their equivalents with your group. Try to be creative and use as many equivalents as possible when thinking about where and when the ball will be held. Use the fraction tiles if you need ideas. Your mask should be colored to represent the equivalent you are inviting, and no two invitations and masks should be exactly the same. Then write a letter about why certain fractions were invited and why others were not. You will be asked to share your final product with the other groups.
    - Materials: invitation template, mask, pencil, crayons, colored pencils, fraction tiles
Directions

Group C: Your goal is to communicate that fractions and decimals are related and represent parts of wholes. There is a decimal representation for each fraction.

- You will quickly convert several fractions into their decimal forms. You may use a calculator or your dry erase boards. Choose your fraction and fill out the wanted poster, keeping in mind that you are the fraction and your are describing your decimal number. Your illustration should show your fraction, but your writing should describe your decimal. You will be asked to share these with the other groups.
  - Materials: calculators, dry erase boards and markers, wanted poster template, pencil, crayons, colored pencils

Group D: Your goal is to communicate that fractions can be represented as a decimal and a percent.

- You will begin by converting several fractions to decimals and then to percents. Use a calculator or your dry erase board. Choose the fraction and dress your paper people as a visual representation of the conversions. Then write a short story on notebook paper about the changing wardrobe. You will be asked to share your work with the other groups. Materials: calculators, dry erase boards and markers wanted poster template, pencil, crayons, colored pencils
  - Materials: calculators, dry erase boards and markers, notebook paper, paper person templates, crayons, colored pencils

Developed by Michelle Krolikowski, 4th grade teacher, New Castle Elementary School, Virginia Beach, VA
AP Statistics RAFT
Characteristics of Discrete and Continuous Random Variables

Know:
Definitions of discrete and continuous random variables
What graphs of discrete and continuous random variables look like

Understand:
Discrete and continuous random variables have distinct, identifiable attributes.

Be Able to Do:
Look at a graph and identify whether it represents discrete or continuous random variables
Interpret a word problem to determine whether it involves discrete or continuous random variables
Draw a probability histogram of discrete and continuous random variables

Directions for the RAFT ACTIVITY

Students will pick one of four RAFT groups located in the four corners of the room, with the understanding that the groups must have equal numbers of participants.

Students will work with their groups for 30 minutes to develop their RAFT assignment. During the last 15 minutes of class, students will meet in groups of 4 that contain a representative of each of the RAFT strips to present their work and see the other formats (2-3 minutes each).

The teacher will move around the class and may select one example of each strip for presentation at the beginning of the next day’s class.
### The RAFT Activity

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiter for continuous random variables</td>
<td>Discrete random variables</td>
<td>Persuasive campaign to join continuous RV</td>
<td>Why it's worth your while to become a continuous RV</td>
</tr>
<tr>
<td>Recruiter for discrete random variables</td>
<td>Continuous random variables</td>
<td>Persuasive campaign to join discrete RV</td>
<td>Why it's worth your while to become a discrete RV</td>
</tr>
<tr>
<td>Bounty Hunter</td>
<td>Variable population</td>
<td>Wanted posters for discrete and continuous random variables</td>
<td>Here's what to look for</td>
</tr>
<tr>
<td>Designer</td>
<td>AP Stats Students</td>
<td>A design representing discrete and continuous random variables</td>
<td>Here's the plan</td>
</tr>
</tbody>
</table>

Kathie Emerson, Timberline High School, Boise, ID

### Angle Relationship RAFT

Can you determine what the learning goals are?

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>One vertical angle</td>
<td>Opposite vertical angle</td>
<td>Poem</td>
<td>It's like looking in a mirror</td>
</tr>
<tr>
<td>Interior (exterior) angle</td>
<td>Alternate interior (exterior) angle</td>
<td>Invitation to a family reunion</td>
<td>My separated twin</td>
</tr>
<tr>
<td>Acute angle</td>
<td>Missing angle</td>
<td>Wanted poster</td>
<td>Wanted: My complement</td>
</tr>
<tr>
<td>An angle less than 180°</td>
<td>Supplementary angle</td>
<td>Persuasive speech</td>
<td>Together, we’re a straight angle</td>
</tr>
<tr>
<td>**Angles</td>
<td>Humans</td>
<td>Video</td>
<td>See, we’re everywhere!</td>
</tr>
</tbody>
</table>
### RAFT ACTIVITY ON FRACTIONS

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraction</td>
<td>Whole Number</td>
<td>Petitions</td>
<td>To be considered Part of the Family</td>
</tr>
<tr>
<td>Improper Fraction</td>
<td>Mixed Numbers</td>
<td>Reconciliation Letter</td>
<td>Were More Alike than Different</td>
</tr>
<tr>
<td>A Simplified Fraction</td>
<td>A Non-Simplified Fraction</td>
<td>Public Service Announcement</td>
<td>A Case for Simplicity</td>
</tr>
<tr>
<td>Greatest Common Factor</td>
<td>Common Factor</td>
<td>Nursery Rhyme</td>
<td>I’m the Greatest!</td>
</tr>
<tr>
<td>Equivalent Fractions</td>
<td>Non Equivalent</td>
<td>Personal Ad</td>
<td>How to Find Your Soul Mate</td>
</tr>
<tr>
<td>Least Common Factor</td>
<td>Multiple Sets of Numbers</td>
<td>Recipe</td>
<td>The Smaller the Better</td>
</tr>
<tr>
<td>Like Denominators in an Additional Problem</td>
<td>Unlike Denominators in an Addition Problem</td>
<td>Application form</td>
<td>To Become A Like Denominator</td>
</tr>
<tr>
<td>A Mixed Number that Needs to be Renamed to Subtract</td>
<td>5th Grade Math Students</td>
<td>Riddle</td>
<td>What’s My New Name</td>
</tr>
<tr>
<td>Like Denominators in a Subtraction Problem</td>
<td>Unlike Denominators in a Subtraction Problem</td>
<td>Story Board</td>
<td>How to Become a Like Denominator</td>
</tr>
<tr>
<td>Fraction</td>
<td>Baker</td>
<td>Directions</td>
<td>To Double the Recipe</td>
</tr>
<tr>
<td>Estimated Sum</td>
<td>Fractions/Mixed Numbers</td>
<td>Advice Column</td>
<td>To Become Well Rounded</td>
</tr>
</tbody>
</table>

Jacksonian Democracy: **Tiered** Social Studies RAFT

**Learning goals are to review vocabulary, people, and essential questions related to the chapter. The teacher assigns choices based on readiness in analysis of text.**

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Andrew Jackson</td>
<td>supporters</td>
<td>conversatio n</td>
<td>Why I believe in the spoils system</td>
</tr>
<tr>
<td>Concrete Democratic Party</td>
<td>Frontier settlers &amp; farmers</td>
<td>TV commercial</td>
<td>Why Jackson is the man you want as president</td>
</tr>
<tr>
<td>Mod Martin van Buren</td>
<td>Voter</td>
<td>Q and A transcript</td>
<td>Questions about the economy and state’s rights</td>
</tr>
<tr>
<td>Mod Expansion of voting rights</td>
<td>National bank issue and economy</td>
<td>Venn diagram or graphic organizer</td>
<td>Which of us was most important in causing the Whig Party to form?</td>
</tr>
<tr>
<td>Hard John C. Calhoun</td>
<td>Future citizens</td>
<td>Prediction in a diary entry</td>
<td>How the nullification crisis foreshadowed issues that would divide the nation and lead to war.</td>
</tr>
<tr>
<td>Hard Southern citizens</td>
<td>Northern politicians</td>
<td>Argument or debate</td>
<td>Why these tariffs on manufactured goods are unfair to our region!</td>
</tr>
</tbody>
</table>
Grade 6
Social Studies RAFT

Students will
Know:
Names and roles of groups in the feudal class system.

Understand:
Roles in the feudal system were interdependent. A person's role in the feudal system will shape his/her perspective on events.

Be Able to Do:
Research
See events through varied perspectives
Share research & perspectives with peers

Feudal System Raft
cont'd

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>King</td>
<td>The Subjects</td>
<td>Proclamation</td>
<td>Read My Lips, New Taxes</td>
</tr>
<tr>
<td>Knight</td>
<td>Squire</td>
<td>Job Description</td>
<td>Chivalry, Is it for You?</td>
</tr>
<tr>
<td>Lord</td>
<td>King</td>
<td>Contract</td>
<td>Let's Make a Deal</td>
</tr>
<tr>
<td>Serf</td>
<td>Animals</td>
<td>Lament Poem</td>
<td>My So Called Life</td>
</tr>
<tr>
<td>Monk</td>
<td>Masses</td>
<td>Illuminated Manuscript</td>
<td>Do As I Say, Not As I Do</td>
</tr>
<tr>
<td>Lady</td>
<td>Pages</td>
<td>Song</td>
<td>ABC, 123</td>
</tr>
</tbody>
</table>

Following the RAFT activity, students will share their research and perspectives in mixed role groups of approximately five. Groups will have a “discussion agenda” to guide their conversation.

-Kathryn Seaman
This standards-based RAFT guides students in examining the impact of leaders' actions and decisions. Prior to implementation of RAFT, students will have read and discussed a number of primary and secondary documents on events surrounding the Cuban Missile Crisis. They will also have learned and discussed the ideologies of capitalism and communism. Primary Resource documents and other Cold War resources can be found at http://www.cnn.com/SPECIAL/cold.war

AS A RESULT OF THE LESSON, STUDENTS SHOULD:

**KNOW**
- President John Kennedy, Nikita Khrushchev, Fidel Castro, Cold War, ExComm, U2 plane, key events in the Cold War

**UNDERSTAND**
- Political leaders' actions and decisions can be driven by a desire to propagate national ideologies.
- Desire to propagate national ideologies can override reason and logic.

**BE ABLE TO:**
- Use information to write from a non-personal perspective.
- Analyze and account for differing perspectives.
- Discuss and reach consensus on important topics.

**For the Cuban Missile Crisis**

<table>
<thead>
<tr>
<th>Role</th>
<th>Setting</th>
<th>Audience</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>President Kennedy</td>
<td>His children</td>
<td>Journal entry</td>
<td>“I must confide my true thoughts about that fateful week in Oct.”</td>
</tr>
<tr>
<td>A fly on the wall at the ExComm meeting</td>
<td>The American Public Oct. 29th, 1962</td>
<td>Editorial</td>
<td>“The weight of the world was so heavy in the room that I could hardly fly.”</td>
</tr>
<tr>
<td>President Nikita Khrushchev</td>
<td>Leonid Brezhnev</td>
<td>Private Conservation Oct. 29th</td>
<td>“Did I break the back of my communist empire Leonid?”</td>
</tr>
<tr>
<td>Pilot U2 Plane</td>
<td>Head of Command</td>
<td>Radio Transmission</td>
<td>“That’s correct sir, nuclear warheads! What should I do?”</td>
</tr>
<tr>
<td>Historian</td>
<td>College Class</td>
<td>Lecture</td>
<td>“What if Maxwell Taylor’s Position won?”</td>
</tr>
<tr>
<td>Anita Dobrynin</td>
<td>Members of the Russian government</td>
<td>Debriefing</td>
<td>“How did the world come so close?”</td>
</tr>
<tr>
<td>Fidel Castro</td>
<td>To his people</td>
<td>Propaganda Speech Oct. 13th</td>
<td>“We will not be American Pawns!”</td>
</tr>
</tbody>
</table>
**RAFT High School History**

To ensure that all students work with the range of ideological perspectives, student will participate in the following activities after the RAFT.

**Two Stage Round Table:** Students will work in two groups. In the first, they will develop an argument for the actions of either a communist or capitalist nation during the Cold War. They will then move to a group in which ideologies are represented to hear and respond to both perspectives.

**Consensus Building:** the whole class will listen to a representative presentation on each ideology. The teacher will then lead the class in a consensus building activity to determine whether the conclusion to the missile crisis was an effective/appropriate conclusion.

**Advisory Letter to Heads of Nations:** For homework, students will individually develop a statement to the United Nations advising leaders on ways to handle potential conflicts based on ideological differences. The statements will be based on research and discussions.

Meegan Snyder, 2003

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**Forces**

- **Directions:** For this assignment, you are to explain and show me what you know about forces. You may use any life experiences, notes, lab sheets, or lab books as references.
- **Select an Assignment:** Your first job is to decide which RAFT assignment you want to do. When reading the chart, make sure to read it going across by rows.
  1. Look at the first column of roles. A role is the person who you are pretending to be. Select a role that interests you.
  2. Read the audience that goes along with that role. The audience is whom you are writing to or creating your work for.
  3. The format column tells you the way in which you will express your understanding of the topic.
  4. Format is the form in which your assignment should be presented.
- **Brainstorm Ideas:** After you select your assignment, you will meet with other students who have selected the same assignment. Your group will brainstorm ideas for 5-7 minutes, and these ideas will help you to complete the assignment.
- **Write:** After the brainstorming period, you will individually write, draw, or illustrate your answer for the assignment. When you have completed your draft copy, you can meet with a partner to review and revise your work. Later, you will also have the opportunity to share your product with students who selected other assignments.
- **Requirements**
  - Be sure to use the vocabulary words in your writing that relate to forces, such as force, elastic, stretch, compress, motion and Newton.
  - All sentences must be complete sentences.
  - Everyone must turn in his or her own RAFT assignment. Although you can brainstorm for ideas with classmates, you must complete the assignment independently.

Meegan Snyder, 2003
### Forces

Developed by Bryon Adams, 6th grade teacher, City View Community School, Minneapolis, MN

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bungee Cord</td>
<td>Person in line at a fair or amusement park</td>
<td>Storyboard, comic strip, or diagram with captions</td>
<td>How I give people a jump that never seems to end.</td>
</tr>
<tr>
<td>Sixth grader</td>
<td>Second grader</td>
<td>Science newsletter</td>
<td>Let me introduce you to forces all around you.</td>
</tr>
<tr>
<td>Teenager</td>
<td>Parents and Teachers</td>
<td>Journal entry</td>
<td>If you understood force, you’d understand my life.</td>
</tr>
<tr>
<td>Athlete</td>
<td>Spectators of Fans</td>
<td>Interview with a TV sportscaster</td>
<td>You may not know it, but sports are all about force.</td>
</tr>
<tr>
<td>Shoe Company</td>
<td>Consumer or Customer</td>
<td>Ad or commercial</td>
<td>Extreme Forces: The Magic in your sport shoes.</td>
</tr>
</tbody>
</table>

### Biology: Cell Structure and Function

Know: Parts of cell & functions of each part
Understand: Cells contain specialized structures necessary for life.
Do: Explain function of each structure and relate to the organism as a whole

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talk Show Host</td>
<td>TV Viewers</td>
<td>Interview of ___ (# cell parts)</td>
<td>So, what makes you tick?</td>
</tr>
<tr>
<td>Artist</td>
<td>Art Gallery Owner</td>
<td>Exhibit Poster (# cell parts)</td>
<td>What’s worth looking for in here?</td>
</tr>
<tr>
<td>Head Coach</td>
<td>Team Members (# cell parts)</td>
<td>Starting Lineup</td>
<td>Positions and their role in the game plan</td>
</tr>
<tr>
<td>Principal</td>
<td>Department Heads</td>
<td>List of Duties for # cell parts</td>
<td>This department is going to work!</td>
</tr>
<tr>
<td>Nucleus</td>
<td>Cell</td>
<td>Staff Meeting Top 10 List</td>
<td>What matters most</td>
</tr>
</tbody>
</table>
知：（见RAFT下方的术语）

理解：
植物和动物之间存在一种共生关系，与光合作用和呼吸作用有关。光合作用和呼吸作用对人类生活至关重要。

能够做到：
解释光合作用和呼吸作用在植物和人类中的关系
解释和连接光合作用和呼吸作用的方程式
解释人类对植物的依赖性

<table>
<thead>
<tr>
<th>角色</th>
<th>受众</th>
<th>格式</th>
<th>主题</th>
</tr>
</thead>
</table>
| 一只你选择的动物 | 你选择的一株植物 | 歌曲 | 我感激你
| 植物和树木的本地公园 | 房地产开发商 | 数字列表 | 我们的需求，你应该关心什么，以及你应该做什么来处理它们
| 运动员 | 教练 | 信（附草图，如你喜欢） | 好或不好：植物与我的表现今年
| 高中生物学学生 | 三年级学生 | 注释图 | 植物——植物的替代品：任务的无名英雄
| 科学家为火星任务做准备 | 金融支持者 | 演讲 | 我们是否威胁到自然平衡？！
| 一个孩子 | 妈妈 | 对话 | 生菜变黄了！我们是否在威胁自然的平衡？！

重要术语：光合作用，呼吸作用，二氧化碳，阳光，蓝光或绿光（或其他颜色），糖，水，线粒体，叶绿体，气孔（气孔），乳酸，有氧呼吸，无氧呼吸，自养，异养，晴天，阴天，凉爽，温暖，长日，短日，肺，光能，食物能

Annette Hanson, Timberline High School, Boise, Idaho
### Indicator Raft

<table>
<thead>
<tr>
<th>ROLE</th>
<th>AUDIENCE</th>
<th>FORMAT</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benedict's Solution</td>
<td>Simple Sugar</td>
<td>Song</td>
<td>I'm Blue Without You</td>
</tr>
<tr>
<td>Phenolphthalein</td>
<td>Base</td>
<td>E-mail</td>
<td>I'm tickled Pink</td>
</tr>
<tr>
<td>Indolphenol</td>
<td>An Orange</td>
<td>Dialogue</td>
<td>Now you “see” me, now you don’t</td>
</tr>
<tr>
<td>Litmus paper</td>
<td>MOMs (Milk of Magnesia)</td>
<td>Poem / Song</td>
<td>You make me blue</td>
</tr>
<tr>
<td>Bromthymol Blue</td>
<td>Bromthymol Yellow</td>
<td>Letter of concern</td>
<td>Youn make me green with envy</td>
</tr>
<tr>
<td>Phenol Red</td>
<td>Vinegar</td>
<td>Obituary</td>
<td>You left me Jaundiced</td>
</tr>
<tr>
<td>Lugol’s Solution</td>
<td>A Potato</td>
<td>Ramson Note</td>
<td>I’ll leave you black as night</td>
</tr>
</tbody>
</table>

Moreni Gordon, Joyce Kent and Karen Woodworth, 2004
New Rochelle High School

### Astronomy Rafts

For this assignment you and your partners will choose one of the following assignments. You will work with your partners to create a story that follows the topic and format. All topics can be found in your textbook but a minimum of two other sources is required. Choose your assignments wisely and be very creative. Students will also be responsible for presenting their assignments to the class in a 3 – 8 minute presentation.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supergiant Star</td>
<td>Younger star</td>
<td>Dialog</td>
<td>A look back at my life</td>
</tr>
<tr>
<td>Moon</td>
<td>Astronauts</td>
<td>Advice column</td>
<td>What to expect with your visit</td>
</tr>
<tr>
<td>A galaxy</td>
<td>neighboring galaxies</td>
<td>Letter of Concern</td>
<td>We are growing apart</td>
</tr>
<tr>
<td>A Planet</td>
<td>protoplanets</td>
<td>Motivational Speaker</td>
<td>You too can be a strong, independent Planet</td>
</tr>
<tr>
<td>Earth</td>
<td>Sun and other planets</td>
<td>Ricki Lake Show</td>
<td>No I am the Center</td>
</tr>
<tr>
<td>Sun Tour Guide</td>
<td>Sun Tourists</td>
<td>Tour guide dialog</td>
<td>Add some heat to your life</td>
</tr>
<tr>
<td>Galaxy</td>
<td>Other galaxies</td>
<td>Letter to the Editor</td>
<td>What is this redshift trying to prove</td>
</tr>
<tr>
<td>Pluto</td>
<td>other planets</td>
<td>Petition</td>
<td>Why should I be a planet or moon</td>
</tr>
</tbody>
</table>

**** Other ideas may be used also. Any other idea besides the listed topics must be approved by Miss Wall. Think creativity!
This RAFT is designed to be used by students in a French 1 Class as they are developing the basic structure of the language and basic vocabulary sets. Of particular interest here are present tense verbs and vocabulary centered around leisure activities.

**Students Should Know**
- Names of French speaking countries
- Basic geography features of those countries
- Conjugation of present tense verbs
- Vocabulary for leisure time activities

**Understand**
- A country’s geography affects how its people spend their leisure time

**Be Able To**
- Research a French speaking country to determine its basic geography
- Predict leisure activities
- Communicate information about leisure activities in French

**LEISURE ACTIVITIES RAFT DIRECTIONS:**

First select a French speaking country from the list on the boards.

Next, use research materials on the bookshelf, Internet, and in our textbook to find information on the geography of that country.

Get as much information about the country’s geography as you can find. For example: what is the temperature like in the various seasons, does it have lakes, are parts of it bordered by oceans, are there mountains, what resources are in the country that might affect leisure, is there something in the history of the country that shapes recreation (for example, a long-time love of music). Then select one of the following options to help you practice making French sentences that are present tense verbs and vocabulary related to leisure. When you finish your work, you’ll have a chance to go over your work with a classmate, to find ways to make it stronger. Then, you’ll share what you have done with students who researched French speaking countries other than the one you learned about.

**Role** | **Audience** | **Format** | **Topic**
--- | --- | --- | ---
Student | Self | Packing List with Notes | Here’s what I’ll need & why
Native of the Country | A visiting athlete | Map with symbols | Here’s what to do On your vacation
Tourist | Family at home | Series of Post Cards | Please send my . . . because
Native of the Country | Visitors on Vacation | List of Dos and Don’ts | When in Rome . . .
Hiker or Driver | Roads | Magazine Interview | Where are you taking me?
Bureau of Tourism | Potential Inhabitants | Travel Posters with Narration | You’ll enjoy our best features!
Radio Announcer | Listener | Announcer | Come share the wonder

*Fill in your choice here*  
*Check with the teacher for approval*

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Self Portrait RAFT
High School Art

Students will
Know:
- Characteristics of self portrait
- Appropriate use of artistic materials
- Principles of Design
- Definition of artistic expression

Understand:
- Each artist has a personal style
- Personal style reflects the individual’s culture, time, and personal experiences.
- Use of materials and style are related

Be Able to Do:
- Analyze an artist’s personal style and use of materials
- Create a facsimile of an artist’s personal style and use of materials

Self Portrait RAFT

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norman Rockwell</td>
<td>Masses</td>
<td>Illustration</td>
<td>What You See is What You Get</td>
</tr>
<tr>
<td>Van Gogh</td>
<td>Self</td>
<td>Oil Painting</td>
<td>Can I Find Myself In Here?</td>
</tr>
<tr>
<td>Andy Warhol</td>
<td>Someone you want to know the true you</td>
<td>Photograph</td>
<td>Now you see Me, Now you Don’t</td>
</tr>
<tr>
<td>Rueben</td>
<td>Self</td>
<td>Oil Painting</td>
<td>Props Make the Person</td>
</tr>
<tr>
<td>Goya</td>
<td>School</td>
<td>Charcoal</td>
<td>On the Side, but Central</td>
</tr>
</tbody>
</table>
Music History RAFT
This is a "writing across the curriculum" assignment. The music teacher wanted a written product from every student, and so the Format options are all written. The roles are all composers that students have studied within this quarter, and this activity serves as a review for an end of quarter test on music history.

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chopin</td>
<td>himself</td>
<td>Diary entry</td>
<td>Self-reflection that I may use as inspiration for my next music composition</td>
</tr>
<tr>
<td>Mozart</td>
<td>Party goers</td>
<td>Dramatic after-dinner speech</td>
<td>“Great Music from a Great Mind”</td>
</tr>
<tr>
<td>Rimsky-Korsakov</td>
<td>Citizens of Russia</td>
<td>Interior monologue</td>
<td>What I want to tell you through music about our country and our heritage</td>
</tr>
<tr>
<td>Beethoven</td>
<td>10th grader</td>
<td>Email</td>
<td>Why my music is relevant today</td>
</tr>
<tr>
<td>Bach</td>
<td>CD/Album designer</td>
<td>Explanatory paragraphs</td>
<td>The big ideas in my music that need to be represented on the cover of my album</td>
</tr>
<tr>
<td>Handel</td>
<td>FBI Profiler</td>
<td>Letter</td>
<td>How you would know me by the music that I write</td>
</tr>
</tbody>
</table>

Your Turn to try a RAFT

- Select a unit you’ll be teaching shortly.
- Determine the learning goals you want students to achieve.
- You could:
  - Concentrate on Role and Audience, and use RAFT to review people, dates or vocabulary. Then let format and topics be fun and based on interests.
  - Concentrate on a skill, and incorporate that skill in either the Format or the Topic. That allows the students to engage by varying the role and audience.
  - Concentrate on the big idea, the understanding, in the Topic.
- You can have some easier and some harder RAFTs and assign them to students to provide appropriate challenge levels.
- You could allow students to choose from a list of R’s, A’s, F’s and T’s to give them learning style and interest preferences.
- Develop one or two RAFT strips that would lead students to the understanding you selected.
How you might assign RAFTs

• Cut the “strips” apart and hand out to students; or
• Give only two choices per student, and make both choices have formats fit with that student’s learning modality
• Give only two choices per student, and make both choices fit skill/knowledge level of the student’s readiness; or
• Allow students to choose from a menu of possible roles, or possible formats

Possible Formats to use in RAFTs to Differentiate by Lrng Modality

<table>
<thead>
<tr>
<th>Written</th>
<th>Visual</th>
<th>Oral</th>
<th>Kinesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• diary entry&lt;br&gt; • bulleted list&lt;br&gt; • obituary&lt;br&gt; • invitation&lt;br&gt; • product guide&lt;br&gt; • game rules&lt;br&gt; • recipe&lt;br&gt; • movie critic&lt;br&gt; • FreqAskQues&lt;br&gt; • editorial&lt;br&gt; • character monologue&lt;br&gt; • job application&lt;br&gt; • gossip column&lt;br&gt; • mag. article</td>
<td>• cartoon/comic&lt;br&gt; • crossword puzzle&lt;br&gt; • map&lt;br&gt; • scale plan or drawing&lt;br&gt; • graphic org.&lt;br&gt; • concept web&lt;br&gt; • illustration&lt;br&gt; • print ad&lt;br&gt; • photograph&lt;br&gt; • powerpoint&lt;br&gt; • ‘how to’ diagram&lt;br&gt; • fashion design</td>
<td>• song&lt;br&gt; • set of discussion ?s&lt;br&gt; • conversation&lt;br&gt; • monologue&lt;br&gt; • sermon&lt;br&gt; • radiocast&lt;br&gt; • museum guide&lt;br&gt; • commercial&lt;br&gt; • reader’s theater&lt;br&gt; • interview&lt;br&gt; • tasting&lt;br&gt; • political speech&lt;br&gt; • puppet show&lt;br&gt; • storytell</td>
<td>• model&lt;br&gt; • cheer&lt;br&gt; • mime&lt;br&gt; • reenactment&lt;br&gt; • wax museum&lt;br&gt; • demonstration&lt;br&gt; • sales pitch with demo elements&lt;br&gt; • physical analogies&lt;br&gt; • taste tests&lt;br&gt; • ‘how to’ video&lt;br&gt; • game&lt;br&gt; • sew, cook, build&lt;br&gt; • design a ....</td>
</tr>
</tbody>
</table>
Ways to differentiate a RAFT by Readiness:
(teacher will assign a RAFT or choices of RAFTs based on students’ writing, reading, or performance levels)

- **Roles/Audience** –
  - Well-known people or characters to lesser-known
  - Basic essential items (vocabulary, inventions, elements, etc.) to more esoteric items
  - Easier to understand point-of-view to more intangible perspective

- **Formats** – (while offering choices to students)
  - Shorter to longer (in prep, in process, or in presentation)
  - More familiar to more unfamiliar formats
  - Single step to multiple steps

- **Topics** –
  - Easier to interpret to more sophisticated
  - Concrete & literal response to more abstract response
  - More structured to more open-ended
  - Small leap in insight & application to larger leap

---

Plan a RAFT

- Know: (facts, vocab)
- Understand: (statement)
- Do: (verb)

<table>
<thead>
<tr>
<th>Role</th>
<th>Audience</th>
<th>Format</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
Helpful Hints for Effective Questioning

1. Ask open-ended questions
2. Prepare your questions before the lesson
3. Phrase your questions clearly
4. Increase student talk; decrease teacher talk
5. Give students time to think
6. Do not repeat students’ answers
7. Listen to your students
8. Encourage students to ask questions
9. Follow up students’ responses

Other ways to develop and ask good questions

- Capture the “verbs” and skills from state and local curriculum and create questions that respond to those words
- Use a taxonomy or theorist’s set of question types and develop questions purposefully
- Use question prompt cards with students to encourage them to ask that type of question and to transfer that questioning skill to their own thinking and writing.
Developing Questions

<table>
<thead>
<tr>
<th>Level One: INPUT</th>
<th>Level Two: PROCESS</th>
<th>Level Three: OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Complete</td>
<td>• Compare</td>
<td>• Evaluate</td>
</tr>
<tr>
<td>• Count</td>
<td>• Contrast</td>
<td>• Generalize</td>
</tr>
<tr>
<td>• Define</td>
<td>• Classify</td>
<td>• Imagine</td>
</tr>
<tr>
<td>• Describe</td>
<td>• Sort</td>
<td>• Judge</td>
</tr>
<tr>
<td>• Identify</td>
<td>• Distinguish</td>
<td>• Predict</td>
</tr>
<tr>
<td>• List</td>
<td>• Explain why</td>
<td>• Speculate</td>
</tr>
<tr>
<td>• Match</td>
<td>• Infer</td>
<td>• If/then</td>
</tr>
<tr>
<td>• Name</td>
<td>• Sequence</td>
<td>• Apply a principle</td>
</tr>
<tr>
<td>• Observe</td>
<td>• Analyze</td>
<td>• Hypothesize</td>
</tr>
<tr>
<td>• Recite</td>
<td>• Synthesize</td>
<td>• Forecast</td>
</tr>
<tr>
<td>• Select</td>
<td>• Make analogies</td>
<td>• Idealize</td>
</tr>
<tr>
<td>• Scan</td>
<td>• Reason</td>
<td></td>
</tr>
</tbody>
</table>

Developing Questions
*Dimensions of Learning* by Robert Marzano, Debra Pickering, et.al. (Alexandria, ASCD 1992)

<table>
<thead>
<tr>
<th>Extending and Refining Knowledge</th>
<th>Using Knowledge Meaningfully</th>
<th>Habits of Mind</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Compare</td>
<td>• Investigate</td>
<td>• Seek clarity/be clear</td>
</tr>
<tr>
<td>• Classify</td>
<td>• Make decision</td>
<td>• Be open-minded</td>
</tr>
<tr>
<td>• Make inductions</td>
<td>• Experiment</td>
<td>• Restrain impulsivity</td>
</tr>
<tr>
<td>• Make deductions</td>
<td>• Inquire</td>
<td>• Be aware of your own thinking</td>
</tr>
<tr>
<td>• Analyze errors</td>
<td>• Problem-solve</td>
<td>• Evaluate effectiveness of actions</td>
</tr>
<tr>
<td>• Create and analyze support</td>
<td>• Invent</td>
<td>• Push the limits of your knowledge and skills</td>
</tr>
<tr>
<td>• Abstract</td>
<td></td>
<td>• Engage intensely in tasks even when answers or solutions are not immediately apparent</td>
</tr>
</tbody>
</table>
Developing Questions
Bloom’s Taxonomy as used by Judith Dodge in *Differentiation in Action* (Scholastic Teaching Resources, 1995)

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall the story, events</td>
<td>Paraphrase what you learned/read</td>
<td>Demonstrate or illustrate info</td>
<td>Sequence steps or events</td>
<td>Design/Invent</td>
<td>Judge importance</td>
</tr>
<tr>
<td>List the facts</td>
<td>Explain the procedure, event, concept</td>
<td>Give some examples</td>
<td>Organize info into a chart or graphic</td>
<td>Propose an alternate-solution/ending</td>
<td>Evaluate best/worst/most essential/least impnt.</td>
</tr>
<tr>
<td>Define the terms</td>
<td>Describe main understanding, the big idea</td>
<td>Solve ...</td>
<td>Group, sort, categorize info</td>
<td>Suggest what would happen if ...</td>
<td>Prioritize or rank</td>
</tr>
<tr>
<td>Label the parts</td>
<td>Use the rule, formula, principle</td>
<td>Compare and contrast</td>
<td>Combine ideas to create something new</td>
<td>Recommend</td>
<td></td>
</tr>
<tr>
<td>Name the locations, or types of ...</td>
<td>Construct a model to show understanding</td>
<td>Differentiate or distinguish</td>
<td>Compose new ...</td>
<td>Agree or disagree</td>
<td></td>
</tr>
</tbody>
</table>

Use Sternberg’s Triarchic Intelligence Preference to Develop Questions

**Creative**
- See from another point of view ...
- Use alternative materials or data to ...
- Make connections of this lesson to ...
- Use humor to show ...
- Find a new way to demonstrate ...
- Imagine ...
- Predict ...
- Suppose ...
- Discover ...
- Create ...

**Practical**
- Act as an expert would by ...
- Show how this is used in real life ...
- Apply to ...
- Show how to solve the problem of ...
- Develop a plan using knowledge of ...
- Show how this info and skills is like ...
- Simulate ...

**Analytical**
- Break into parts ...
- Explain why ...
- Diagram ...
- Present step-by-step ...
- Identify key parts ...
- Compare and contrast ...
- Strengths and weaknesses of ...
- Deconstruct ...
- Sequence ...
- Write a set of directions ...
- Outline ...
**Bloom’s Choice Board/Contract**

Choose one response from each level and fill in the 6-box graphic organizer. Use the Learning Goals as a guide to your responses.

**Knowledge Level**
- Recall the story/events
- List the facts
- Define the terms
- Label the parts
- Name the locations/types of

**Analysis Level**
- Sequence steps or events
- Organize the info into a chart or graphic
- Group, sort, categorize the information
- Compare and contrast
- Differentiate or distinguish

**Comprehension Level**
- Explain the procedure, event, concept
- Describe the main understanding, the big idea
- Paraphrase what you learned/read/heard

**Synthesis Level**
- Design/invent/compose something new
- Propose an alternate solution/ending
- Suggest what would happen if …
- Combine ideas to create something new

**Application Level**
- Demonstrate or illustrate this information
- Give some examples
- Solve …
- Use the rule, formula, principle
- Construct a model to show your understanding

**Evaluation Level**
- Judge the importance
- Evaluate which is the best/worst/most essential/least important
- Prioritize or rank in order
- Recommend
- Agree or disagree

---

As I pass out Question Stem Cards, consider/predict how this strategy might work in a classroom.

- Assumption
- Clarification
- Cause
- Effect/Prediction
- Divergent
- Perspective/Viewpoint
- Reflection
- Evidence and Reasoning

- Questions about the Question
- Action
Tiered Discussion Prompts: Science (after demonstration on how little drinkable water is available on Earth) by Andrea Trank

Below grade level readiness:

• What does this demonstration help you understand about the amount of water on the earth? What new questions does it raise in your mind?
• Make a list of ways in which humans need or use water. Who or what else depends on the earth’s water for survival?
• How could we increase the amount of the Earth’s water that is available for human consumption?

At grade-level:

• What were your initial reactions to this demonstration? What was new or surprising to you?
• In what ways do humans affect the amount of water available on the planet? What can we change about this? What should we change?
• What other analogy can you come up with to help people understand both the abundance and the scarcity of water on this planet?

Above grade-level:

• What were your initial reactions to this demonstration? What was new or surprising to you?
• Who does the earth’s water belong to? Explain your thinking. What changes in the availability of water could nature have in store for us? Humans?
• What if humans figured out a cheap way to desalinate large quantities of water? Should we do it? Why or why not?

COMMENTS FOR THOUGHTFUL READERS

Try using one of these sentence starters when writing about what you have read.

I like the way . . . I was surprised . . .
It reminds me of . . . I’m excited
I noticed . . . I didn’t expect . . .
I’m curious about . . . I think . . .
I’m not sure about . . . It makes me think . . .
If I were . . . It seems like . . .
I wonder . . . I can’t wait to . . .
I enjoy . . . It makes me . . .
I don’t understand . . .

Basic level prompts: readiness

Judy Rex - Scottsdale, AZ.
COMMENTS FOR THOUGHTFUL READERS
(Use one of the sentence starters when writing about what you read, Be sure you tell why you feel as you do.)

Three ways this story is better than

A place the author really grabbed my imagination was

I wondered what the author was thinking when

Something in the story that sounds like my life is

Something in the story that's absolutely not like my life is

The most creative thing in the story is . . . If I could change . . .

I understand how a character felt when . . .

I had trouble understanding a character when . . .

An object that most reminds me of this story is . . .

An idea I had whole reading the story is . . .

The most important things to remember about this story are . . .

I think the author . . .

If I could talk to . . . . . in the story, I'd ask.

Advanced journal prompts: readiness

Carol Tomlinson on Expression of Judy Rex

Tiered Journal Prompts for Readiness

Social Studies

A. You are a relatively wealthy white male in the month of the 1992 presidential election. Assuming you are ‘typical’ of that demographic, who will you vote for and why?
   - Relatively wealthy, Hispanic female, 45
   - Poor Hispanic male, 26
   - Poor white female, 30
   - Middle-class black male, 50
   - Middle-class white male, 80
   - Another individual of your choice

Now, assume you are a typical representative of each of the demographics above. Assuming the others in the group are the candidates, who will you vote for and why?

B. You are in a town meeting the month of the 1992 presidential election. The group of six people talking together comes from varied age groups, regions, ethnicities, jobs, and socioeconomic groups. Each is ‘typical’ of a category of voters. Create the group. In both written and graphic form, indicate who they will vote for and why, and how they are likely to feel about their choice four years later.
Journal Prompt appealing to Learning Profiles

Technology

A. You are writing for PowerPoint for Dummies. Write a simple, yet clear, explanation on how to import sound, graphics, and video into a PowerPoint presentation. You may not use graphics in your explanation.

B. You are designing a quick reference chart to help students remember how to import sound, graphics, and video into PowerPoint. Use as few words as you can and still get the information across.

Journal Prompts tiered for Readiness

Foreign Language

A. How can I get from school to your favorite restaurant? What advice would you like to give me about how to get there, the length of time it would take to get there, and what to order?

B. What does it take to make a good school great? What advice would you give a principal who was about to start a school from scratch?

C. What important responses would you give if someone asked you to give them advice about raising a child from birth to the time he leaves home so that the child has the greatest chance for happiness and success?
Journal Prompt tiered for Readiness

Science
A. A classmate had to leave the room today as we were beginning to conclude the lab experiment. Please write the student a note explaining what happened in the lab, why it happened, and what practical use there is for what the experiment shows us. You’re the student’s only hope for clarity! Be as much help as possible.
B. Select a key or critical element in the experiment today and change it in some way. What will happen in the experiment if that change is made? Why? What principle can you infer? Be sure you choose something useful, insightful, and intellectually or scientifically meaningful.

Journal prompt tiered for Readiness

English
A. Create a fortune lines visual with narration that shows the emotional state of the little prince at what you believe are the 8-10 most important points in *The Little Prince*. Explain why you selected these events.
B. Create a fortune lines visual with narration that shows the emotional state of the little prince at what you believe are the 8-10 most important points in *The Little Prince*. Be sure to arrange them in the order in which they happened rather than the order they are written about in the book. Defend your selection of events and your chronology.
Journal Prompt tiered for Readiness

Reading

- Why did Max go to visit the wild thing? Do you think that was a good or a bad idea? Why? Why did he decide to come home? Was that a good idea or a bad idea? Why?
- As if you were Max’s mom or dad, write about what you would have though when he went to his room, when he went where the wild things were, and when he came home.
- Max sometimes talks to himself. Tell us what he says when he goes to his room, goes through his visit to the wild things, decides to come home, and gets back to his room. What do he and his parents say the next morning?
- What does it really meant to go where the wild things are? Write a story about a time when that happened to you or someone you know. Tell enough so we can see how the two stories are alike and different.

Journal Prompt tiered by readiness

Architecture

A. In what ways are structure, function, and technology related in igloos?
B. In what ways are structure, function, and technology related in cathedrals?
C. In what ways are structure, function, and technology related in skyscrapers?
D. In what ways are structure, function, and technology related in a space capsule’s living quarters?

1. Come up with a rich, provocative question that will lead students to grapple with one or more big ideas of the lesson or unit, or that will provide you with information about their overall level of knowledge, understanding and skills.

2. Decide whether you want all students to answer the same question or if it would make sense to offer more than one prompt or format for answering. Design alternate versions of the prompt if you think that will help you get more useful information about individual student progress.
   - For some students, you may need to provide writing supports or alternative methods of expression. (Of course, if writing is a key goal then giving choice in this would not be appropriate.)
   - You may wish to incorporate interests into a journal prompt. For example,
     - Choose one of the characters in the story and tell how that character’s speech helps define who he or she is.
     - Show how what we did in class today could help meet your goals for the future.

3. Distribute or display the prompts and ask students to respond. If you have more than one prompt, you will need to decide whether you will give students a choice of prompts or if you will assign the prompt that you recognize is most appropriate.

Reading Response Journal

When you read your student choice book, remember to write in your journal at least 3 times a week. Use one or more of the questions or prompts below to guide your thinking.

1. A good reader thinks about what he or she reads. What’s something you think is especially important or interesting in your reading? Reflect on why these things stand out in your mind.

2. In our own lives, where we are and conditions (weather, time of day, who we’re with, where we are) can really affect us. Talk about how setting has affected you in the past -- and how it affects characters and actions in the book.

3. What can we learn from characters in the book and their experiences? For example: that sometimes we are victims of our circumstances, that getting to know someone helps us appreciate them more, that we should accept responsibility for our actions, etc.). In addition to saying what we can learn, explain how that could apply to your life or the life of someone you know.

4. Create a fortune line diagram of what has been going on in a character’s life. Annotate your fortune lines with events and an explanation of why you drew each segment as you did. Include at least 5 events.

5. Pick one character that interests you. Write about how the character reminds you of someone you know. Write also about times when you’ve been most like this character.
6. Assume the following are criteria of effective writing:
   • It captures your attention, hooks you.
   • It makes you think even after you stop reading.
   • It paints pictures in the reader’s mind.
   • It surprises the reader -- seems fresh, not predictable or cliched.
   • It helps you reflect on your own life or world.
   Using these criteria, evaluate the quality of the book you’re reading.
7. Use words or phrases, comparisons, figures of speech and other elements you select to help us see where you think the author is most effective in writing. Tell why you think your selection(s) work as they do.
8. Find quotations (in Bartlett’s or a similar source), song lyrics, a cartoon, or a real world symbol that you think represents what the author wants us to think about. Explain your choice and be sure to link it with the book.
9. What advice would you give a character at this point in the book. Defend why you think it’s good advice. Do you think the character would accept your advice? Why or why not?
10. Be a detective. Develop a profile of a character of your choice by giving details about the character and why you think each one is important for us to know. Create a T matrix for your lists. Add to the list as you continue to read. See if you can figure out what makes the character tick.

When you read your student choice book, remember to write in your journal at least 3 times a week. Use one or more of the questions or prompts below to guide your thinking.

1. Think about how the setting of the book actually influences what happens in the book. Explain how it works. In what ways is that similar to or different from how “setting” affects your life?
2. What’s a big idea (for example: fear, competition, belonging, hero, villain, misunderstanding, etc.) in the part of the book you’re reading now? Find examples of the same big idea in other places (music, T.V., newspapers, magazines, plays, other books, art). How does looking at the same idea in more than one place affect your thinking?
3. Sketch what’s going on in 2 characters’ heads at this point in your reading. Be sure to reflect their thinking about events and not just the events themselves. Label your drawings so they’re clear to others.
4. Pick one character that interests you. Write about how the character reminds you of someone you know. Write also about times when you’ve been most like this character. To what degree do you think the character is “universal?”

Reading Response Journal

When you read your student choice book, remember to write in your journal at least 3 times a week. Use one or more of the questions or prompts below to guide your thinking.

1. Your job as a skilled reader is to makeahas happen when you read. What’s an insight you had while reading today -- or what connection did you make between the book and your life (or life in general)?
2. Think about how the setting of the book actually influences what happens in the book. Explain how it works. In what ways is that similar to or different from how “setting” affects your life?
3. What’s a big idea (for example: fear, competition, belonging, hero, villain, misunderstanding, etc.) in the part of the book you’re reading now? Find examples of the same big idea in other places (music, T.V., newspapers, magazines, plays, other books, art). How does looking at the same idea in more than one place affect your thinking?
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6. Assume the following are criteria of effective writing:
   • It captures your attention, hooks you,
   • It makes you think even after you stop reading.
   • It paints pictures in the reader’s mind,
   • It surprises the reader - seems fresh, not predictable or cliched
   • It helps you reflect on your own life or world.

Using these criteria, evaluate the quality of the book you’re reading.

7. Think about places where you feel the author is particularly effective in his/her writing. Analyze why you feel that way! What literary devices (or other techniques) may contribute to the effect.

8. Write a poem or lyric that you think gets at what really matters in the book at this point.

9. The choices we make shape our lives for better or for worse. Remember that often “not to decide is to decide.” How does a major character in the book make choices? Could the character do better in that regard? Given a continuing pattern of choice making over time, what would you predict would be his/her quality of life?

10. To what degree if a character of our choice a representative of a particular culture. Write or make a bubble map to prove your conclusion. Be sure to address multiple elements related to culture (language, clothing, values, customs, geography, food, etc.)

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**Using Sternberg’s Intelligences (Plus 1) To Enhance Reading Success**

**C (Creative Questions)**
- Design
- Make a metaphor
- Make it better
- What it
- What’s it like
- New ways to express the ideas
- Show multiple ways to solve
- SCAMPER
- Connect to another idea
- How can it help in the future

**P (Practical Questions)**
- How do people use this
- How does this connect to things you do
- Make a plan to use this in school
- Devise a way to help a classmate understand
- Persuade us of your position
- How does this influence peoples’ lives
- Show how this changes (changed, could change) our lives

**A (Analytical Questions)**
- Compare/Contrast
- Explain
- Categorize
- Evaluate
- Use data to support
- Use data to demonstrate
- Show how a photo/diagram helps w/ understanding
- Show relationship between parts & whole
- Show most important words, ideas

**P (Personal Questions)**
- What stands out most to you
- What questions are you left with
- What would you like to argue with
- How is your perspective changing
- What new understandings do you have
- How does this make you feel
- What will you take away from this
- What else do you need to know/understand
- What would you like to learn more about
Differentiating by Readiness
Using Graphic Organizers
Sort your samples. Draw each sample in the correct column. Write a description that tells color, texture and other characteristics about the rock.

The class does the same activity, but more guidance is given for those who may need it.

Created by Meri-Lyn Stark
Elementary Science Coordinator
Park City School District

Compare and Contrast

Features of A

Features of A

Shared Features

Version 1: readiness
Compare and Contrast

Version 2: readiness

COMPARE AND CONTRAST

Version 3: readiness
Graphic Organizer differentiated by Readiness: Basic Level

Students given this level read and take notes from textbook or “leveled” texts, or they may do research from teacher designated websites.

- Traditions/Culture:
- Religious Influence
- Political Trends

Causes of Conflict leading to World War II

Graphic Organizer differentiated by Readiness: Advanced Level

Students given this level will need to read from supplemental texts or original documents, or they may do research from websites.

- Military Systems and Weaponry:
- Economic Decisions:
- Nationalism/Isolationism:

Causes of Conflict leading to World War II
Character Map 1

The teacher wants all students to write a short character study essay. This graphic organizer is tiered by readiness. Can you see the changes from Map 1 to Map 3 that make this fit students’ range of readiness in writing?

**Character Name**

**How the character looks**

**How the character thinks or acts**

**Most important thing to know about the character**

---

Created by Meri-Lyn Stark
Elementary Science Coordinator
Park City School District

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Soil Layers

I. Components

A. Organisms

B. Plants

C. Water

D. Rocks & Minerals

II. Layers of Soil

A. Topsoil

B. Subsoil

C. Soil

---

Most important thing to know about the character...

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Sandra W. Page  bookpage@nc.rr.com 2009
Character Map 2

Character Name

What the character says or does

What the character really MEANS to say or do

What the character would mostly like us to know about him or her

Character Map 3

Character Name

Clues the author gives us about the character

Why the author gives THESE clues

The author’s bottom line about this character
Episodic Notes

**Plot of a Daughter**

1. The girl was born, and her mother brought her home. She was happy and healthy. She was loved by her family.
2. The girl grew up and went to school. She made friends and learned new things.
3. The girl went to college and became a doctor. She helped many people.
4. The girl married and had children. She was a good mother.

**Plot of a Mother**

1. The mother was born and brought home. She was happy and healthy.
2. The mother went to school and learned new things.
3. The mother became a doctor and helped many people.
4. The mother had children and was a good mother.

**Plot of a Daughter's Mother**

1. The daughter was born and brought home. She was happy and healthy.
2. The daughter went to school and learned new things.
3. The daughter became a doctor and helped many people.
4. The daughter married and had children. She was a good mother.
In this “reading contract” the teacher provides for 2 levels. This first level allows student choice, but includes more “have-to’s” to check for understanding. It also continues to have students practice skills in which students still need practice.

This second level of the reading ticket also provides student choice, but with fewer “have-to’s,” more “once-a-weekers,” and no practice with personal information.
Evaluate Gardner’s Multiple Intelligences Lesson

• Choose 2-3 lessons with a partner or two.
• Read through the activities and discuss the structure and purpose of this learning style strategy.
• How well do these lessons fit with the principles of DI?
  – Are the learning goals clear and embedded in every task, every choice?
  – Are there pre-, on-going, and summative assessments that are used to adjust instruction?
  – Are groupings changing?
  – Do tasks feel respectful, meaningful?
  – Are students engaged, putting forth effort, and growing from what they already know and can do?
• With your partner(s), begin to create an original application of this strategy for one person’s learning goals and classroom activity
• Prepare to return to your home group to describe this strategy and any helpful critiques or hints you have.
Intelligence Preference Activity in Science: PLANETS

Know: Facts about planets
Understand: Planets in our solar system have many characteristics in common, but they also differ greatly from one another.
Do: Compare another planet to Earth.

Directions: We have been studying the solar system. Choose the planet that most interests you and design one of the following products to show what you have learned.

<table>
<thead>
<tr>
<th>Verbal-linguistic</th>
<th>Logical-math</th>
<th>Musical</th>
<th>Bodily-kinesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make up a story about your planet that shows the major ways in which it is similar to and differs from Earth.</td>
<td>Make a chart that compares your planet to Earth. Be sure the chart reveals both similarities and differences.</td>
<td>Make up a song about your planet that shows the major ways in which it is similar to and differs from Earth.</td>
<td>Make up or adapt a game that would help you classmates discover the similarities and differences between your planet and earth.</td>
</tr>
</tbody>
</table>

Cindy Strickland, Action Tool for Differentiated Instruction, ASCD, 2007

EIGHT STYLES OF LEARNING

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CHARACTERISTICS</th>
<th>LIKES TO</th>
<th>IS GOOD AT</th>
<th>LEARNS BEST BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINGUISTIC LEARNER</td>
<td>“The Word Player”</td>
<td>Leans through the manipulation of words. Loves to read and write in order to explain themselves. They also tend to enjoy talking</td>
<td>Read Write Tell stories</td>
<td>Memorizing names, places, dates and trivia</td>
</tr>
<tr>
<td>LOGICAL/Mathematical Learner</td>
<td>“The Questioner”</td>
<td>Looks for patterns when solving problems. Creates a set of standards and follows them when researching in a sequential manner.</td>
<td>Do experiments Figure things out Work with numbers Ask questions Explore patterns and relationships</td>
<td>Math Reasoning Logic Problem solving</td>
</tr>
<tr>
<td>SPATIAL LEARNER</td>
<td>“The Visualizer”</td>
<td>Leans through pictures, charts, graphs, diagrams, and art.</td>
<td>Draw, build, design and create things Daydream Look at pictures/slides Watch movies</td>
<td>Imagining things Sensing changes Mazes/puzzles Reading maps, charts</td>
</tr>
<tr>
<td>MUSICAL LEARNER</td>
<td>“The Music Lover”</td>
<td>Learning is often easier for these students when set to music or rhythm</td>
<td>Sing, hum tunes Listen to music Play an instrument Respond to music</td>
<td>Picking up sounds Remembering melodies Noticing pitches/ rhythms Keeping time</td>
</tr>
</tbody>
</table>
### EIGHT STYLES OF LEARNING, Cont’d

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CHARACTERISTICS</th>
<th>LIKES TO</th>
<th>IS GOOD AT</th>
<th>LEARNS BEST BY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BODILY/Kinesthetic Learner</strong> “The Mover”</td>
<td>Eager to solve problems physically. Often doesn’t read directions but just starts on a project</td>
<td>Move around, Touch and talk, Use body language</td>
<td>Physical activities (Sports/dance/acting) crafts</td>
<td>Touching, Moving, Interacting with space, Processing knowledge through bodily sensations</td>
</tr>
<tr>
<td><strong>INTERpersonal Learner</strong> “The Socializer”</td>
<td>Likes group work and working cooperatively to solve problems. Has an interest in their community.</td>
<td>Have lots of friends, Talk to people, Join groups</td>
<td>Understanding people, Leading others, Organizing, Communicating, Manipulating, Mediating conflicts</td>
<td>Sharing, Comparing, Relating, Cooperating, Interviewing</td>
</tr>
<tr>
<td><strong>INTRApersonal Learner</strong> “The Individual”</td>
<td>Enjoys the opportunity to reflect and work independently. Often quiet and would rather work on his/her own than in a group.</td>
<td>Work alone, Pursue own interests</td>
<td>Understanding self, Focusing inward on feelings/dreams, Pursuing interests/goals, Being original</td>
<td>Working along individualized projects, Having own space</td>
</tr>
<tr>
<td><strong>NATURALIST</strong> “The Nature Lover”</td>
<td>Enjoys relating things to their environment. Have a strong connection to nature.</td>
<td>Physically experience nature, Do observations, Responds to patterning nature</td>
<td>Exploring natural phenomenon, Seeing connections, Seeing patterns, Reflective Thinking</td>
<td>Doing observations, Recording events in Nature, Working in pairs, Doing long term projects</td>
</tr>
</tbody>
</table>

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### Gardner’s Multiple Intelligences Lesson: Soccer Skills

**Know:**
- techniques of passing; techniques of dribbling

**Understand:**
- Practice makes better!
- There is more than one way to improve a skill.

**Do:**
- Improve skills of dribbling & passing

**Directions:**
Visit at least 3 stations around the gym to help you improve your soccer skills. Begin with one that appeals to your preferred intelligence.

<table>
<thead>
<tr>
<th>Intell.</th>
<th>Activity Directions</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal/linguistic</td>
<td>Listen to or read directions for dribbling &amp; passing, and practice the skills. Discuss with others at this station how you think you could improve your overall performance.</td>
<td>Focuses on use of language to analyze practice and discuss skills.</td>
</tr>
<tr>
<td>Logical/mathematical</td>
<td>On your own or with a partner, figure out the individual parts that make up the skills of dribbling &amp; passing. Work on each part to help you improve, and discuss with others at this station how improving the parts of a skill can affect your overall performance.</td>
<td>Focuses on looking at individual parts within a whole &amp; systems thinking.</td>
</tr>
<tr>
<td>Spatial</td>
<td>Work with a partner to draw diagrams that show how to dribble &amp; pass. Visualize yourself performing each skill, &amp; then do them. Use your own observation skills to help a partner improve his or her performance.</td>
<td>Focuses on mental and physical visualization skills.</td>
</tr>
</tbody>
</table>
Continued Gardner MI activity: Soccer Skills

<table>
<thead>
<tr>
<th>Intell</th>
<th>Activity Directions</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musical</td>
<td>Dribble &amp; pass in time to music. When the music speed changes, change the speed of the drill, try to pass in a rhythmic pattern, or count out loud. Discuss with others at this station how the music helps or hinders your overall performance.</td>
<td>Uses student response to musical rhythms to enhance their performance.</td>
</tr>
<tr>
<td>Bodily-kinesthetic</td>
<td>Vary the amount of movement different parts of your body make as you practice the skills of dribbling &amp; passing. Discuss with others at this station how small variations in body position affect your performance on each skill.</td>
<td>Makes use of the extraordinary &amp; often subtle body awareness of people with this intelligence.</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Talk with a partner about the important aspects of dribbling &amp; passing. Take turns acting as a coach to teach, encourage, and debrief each other on each skill.</td>
<td>Emphasizes students’ preference to talk things out and work together to achieve a common goal.</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>Practice each skill on your own. Reflect on how the practice went and how it feels while you do each drill, &amp; write a brief memo to yourself that discusses what you need to improve on &amp; how you will go about doing so.</td>
<td>Focuses on students’ preference for thinking and reflecting on their own.</td>
</tr>
</tbody>
</table>


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1st grade MI ordinal numbers

- Circle time – Teacher asked children the difference between cardinal and ordinal numbers. They thought of examples together & practiced both kinds.
- Next – approx ½ went to tables to work on writing and math tasks (practiced before)
- Remaining students divided into 4 groups for application tasks with the teacher.
4 Stations based on MI

• **L/M** – divide a long strip of paper into sections. Draw and label what you do 1\textsuperscript{st}, 2\textsuperscript{nd}, 3\textsuperscript{rd}, 4\textsuperscript{th} when you get up in morning

• **VL** – solve an ordinal problem (Beth ran in a race with 4 people last week. She didn’t finish first or last. Bob finished 3\textsuperscript{rd}. In what place did Beth finish?

• **V/S** – use pattern blocks to make something that changes over time. Be ready to tell us what happens 1\textsuperscript{st}, 2\textsuperscript{nd}, etc in your even (larva, cocoon, butterfly)

• **B/K** - with teacher and arranged selves in order in a line at her direction with English and Spanish ordinals. Took turns giving directions.

Differentiation Using MI

1. **Skills Standards:**
   • Identify how the theme of a work represents a view or comment on life.
   • Express understanding of theme through a variety of products

2. **Concept:**
   • Heroism

3. **Generalizations:**
   • Individual values and community values are often in conflict
   • Heroes often reflect the values of a community
   • Heroes are born in conflict

*Hertberg '03*
Lesson Sequence: MI

• All students read
  “The Lottery” and “A&P”
• All students engage in Socratic Seminar:
  Students investigate the lesson generalizations through the stories:
  Do these generalizations hold up?
• Differentiated Activities according to intelligence preference (learning profile)

Differentiation With MI

• Verbal: Think about your definition of heroism. Create a short story in which the main character is forced into a heroic role for which he or she is not naturally suited. Use the tools of an author to reflect the tensions inherent in your story.

• Intrapersonal: Create a grid with your characteristics of a hero in one column. Then write your qualities in the corresponding rows. Are you, by your own definition, a hero? Explore your heroic qualities. In what facets of life might you be a hero? Create a verbal means of expressing your heroism, creating a plan for how you might apply your heroic qualities to help others.

Hertberg '03
Differentiated Activities: MI

• **Visual:** Create a visual representation of your concept of a hero. Make sure to consider all of the generalizations we have discussed. In a page, discuss what you created and how it reflects your definition of heroism. Be sure your visual representation conveys the impressions you want it to convey about the nature of heroism as you understand it.

• **Musical:** Relate the concept of heroism to the principles of harmony in music theory. Express the relationship in either the lyrics of a song, the music of a song, or both. In a page, discuss what you created and how it reflects your definition of heroism.

_Hertberg '03_
**Complex Instruction Differentiation**

**SCOPE OF THE MODEL**
This is an instructional model.

**DEFINITION**
Definition is defined as complex when a variety of grouping patterns and materials are in simultaneous use in the classroom.

**BACKGROUND AND PURPOSE**
This model is designed to deal with the sorts of academic ranges and status differences which exist in a classroom which is academically, culturally & linguistically heterogeneous.

*THE MODEL EMPHASIZES ESTABLISHING EQUITY IN THE CONTEXT OF INTELLECTUALLY CHALLENGING CURRICULUM MATERIALS AND USE OF SMALL PROBLEM-SOLVING GROUPS.*
It addresses difficulties encountered in heterogeneous settings such as:

-- traditional means of pitching instruction at high levels leaves struggling learners behind

-- pitching instruction at low levels is inadequate for all those who function at grade level and above

-- students who do not get content expected for their grade level fall further behind

-- tracking and traditional ability grouping, often used to address differences in student readiness, cause learning deficits for low groups

-- direct instruction, when used as a predominant mode of delivery, keeps learners from varied cultural and language groups from getting to know one another well

-- "drill and skill" approaches to instruction promote passive learning rather than active and pay more attention to teaching than to learning strategies

It addresses difficulties encountered in heterogeneous settings such as:

-- traditional competitive methods of evaluation and standardized tasks for all learners result in academic-status ranking of students by their peers, with low SES & minority students consistently ranking at the bottom of the status order

-- traditional cooperative learning results in similar status ranking as well as low involvement by struggling students
In Complex Instruction:

-- all students are given access to advanced instruction that involves higher order thinking

-- materials are in varied languages (enabling students to serve as language resources for one another)

-- tasks require a wide range of skills and abilities which allow all students to make an important contribution to the final product

Elements of the CI Model (p. 1)

-- Students work together in small groups (heterogeneous in nature) at learning centers on a task which calls upon the skills of all students in the group.

-- Groups change often so that all students in a class work with all others in a variety of contexts.

-- Multilingual groups must include a bilingual student to serve as a bridge. Students are encouraged to speak in their own languages in the groups.

-- Tasks must be open-ended.

-- Tasks must be intrinsically interesting to the students.

-- The tasks must be uncertain (fuzzy).

-- The tasks must be challenging.

-- Tasks must involve use of real objects.

-- Tasks must require many different talents in order to be completed adequately.
-- Materials and instructions must be in multiple languages so that all students have their language represented. Pictorial/visual representations are also helpful.

-- Reading and writing are integrated into the task in ways which make them a means to accomplish a fascinating end.

-- Multiple intelligences should be drawn upon in a real-world way.

-- Teachers move among groups, asking questions about student work and thought, probing decisions, and facilitating understanding.

-- Teachers methodically engage in “assignment of status” (looking for student strengths, especially in non-traditional areas, and pointing them out to the class with explanations of why the skills are important ones in the real world).

-- Teachers delegate authority for learning increasing over time as the support student in gaining skills needed to manage the authority well.

--- Designing Groupwork by Elizabeth G. Cohen

--- A Multiple Ability Task

-- Has more than one answer or more than one way to solve the problem

-- Is intrinsically interesting and rewarding

-- Allows different students to make different contributions.

-- Uses multimedia

-- Requires a variety of skills and behaviors

-- Also requires reading and writing

-- Is challenging

--- Designing Groupwork by Elizabeth G. Cohen
A Task Does Not Work Well For The Equal Exchange Model If It...

- has a single right answer
- can be done more quickly and efficiently by one person than by a group
- is too low level
- involves simple memorization of routine learning

Complex Instruction as a model is grounded in sociological and sociological theory and research (including organizational behavior).

Research indicates gains for Low SES and minority students equivalent to those of “more proficient” students on standardized tests (such as California Achievement Test) after a year of work in Complex Instruction classrooms.
Grade Six Study of the Middle Ages

Key Question: How do historians know about the Crusades?

Three Stage Complex Instruction Task:
1. Students analyze & build a castle (see task card illustration)
   Requires: mechanical ingenuity, careful planning, translating a two dimensional sketch into a three dimensional model
2. Students listen to medieval ballads, identify instruments, and describe the moods and messages of the songs
   Requires: hearing and creating melodies & rhythmic patterns, appreciating musical expressions, understanding how a song's melody & lyrics play off one another
3. Students analyze textual sources (e.g. Pope Urban's speech calling the masses to participate in the crusades & eyewitness accounts of the siege of Jerusalem) and translate the verbal messages into a variety of media (e.g. designing a mural of the siege from a Muslim point of view)
   Requires: understanding sophisticated texts, detecting sources of bias, being empathetic, relating a text passage to a larger set of events, translating verbal forms into non-verbal ones

From E. Cohen in Handbook of Cooperative Learning, Sharan & Sharan, pp. 91-93

Unit: Crusades
How Do Historians Know About the Crusades?

Activity 1: Crusader Castle, Crac des Chevaliers, Syria, 12 C

Activity Card

Historians often turn to art, architecture, and craftwork of the period they are studying for clues about how people lived and what they wanted to remember.

As a team, look carefully at the photographs of Crac des Chevaliers and discuss the questions below:
1. Why would the Crusaders build a castle?
2. What does the architecture of this castle (the floor plan and interior/exterior structures) tell you about how warfare was conducted in the medieval times?
3. If you lived inside this castle, how would you defend it against enemy attacks?
4. If you were an enemy invader, how would you plan your attack of this castle?
5. What do you think were the roles of men and women inside the castle? What were the roles of children?

Design and build a castle or a fortress to protect your group from adverse forces. Present your castle to the class.
Know

* Robert Frost
* “The Road Not Taken
* Metaphor
* Analysis

Understand

* Our lives become metaphors for who we are and what we believe.
* Writers’ works often are or contain metaphors that represent their experiences and beliefs.
* Effective writing helps us expand our thinking.

Be able to

* Read and interpret poetry
* Make connections between poetry and experience
* Interpret and use figurative language appropriately
* Work collaboratively
* Plan and implement plans effectively
* Support reasoning with examples and evidence

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Complex Instruction Activity (p. 2)

Task Card

We have been working with how writers’ lives (and our own lives) are like metaphors that they (or we) create through actions and deeds—including writing. Robert Frost wrote a poem called “The Road Not Taken.” Your task is to analyze the poem as a metaphor for Frost’s life and show us how the metaphor might extend beyond his life. To do that you should complete the following steps:

1. Find the poem, read it, interpret it, and reach a consensus about what’s going on in it and what it means.

2. Research Frost’s life, making a “stepping-stones” diagram of his life similar to the ones you made for your own lives earlier this month. Your goal is again to depict those experiences that were pivotal in making Frost who he was as a person—not to make a chronology of birth, moves, schooling, etc.

3. Develop a soundscape that takes listeners along Frost’s “journey in the woods,” using music, found sounds, and sound effects, and appropriate mime, body sculpture or narration to help your audience understand the feelings a “journeyer in the woods” might have in coming to straight places, landmarks, decision points, and so on.

4. Create a visual “overlay” of Frost’s life and the poem, using words and images in a way that illustrates possible metaphorical relationships between the two.
5. Transfer key ideas in the poem to the life and experience of a noted person about whom we are all likely to know something and about when we are likely to benefit from learning more. Your transfer must be shared in such a way that your classmates gain a clearer understanding of both the person and the poem. Be sure to also clarify how literature can help us understand our lives and the lives of others.

Be certain your final products demonstrate your understanding of metaphor, the relationship between varied art forms in communicating human meaning, careful thinking and planning, and accuracy in details about the people poem you’re studying.

Always, you should appoint a group leader and materials monitor. Much of your work will need to be collaborative, but you should appoint a group leader and materials monitor. Much of your work will need to be collaborative, but you should also determine specialty roles each individual will play in achieving quality work. Develop a written group work plan, including a time line and proposed conference times with me. In the end, be ready to share criteria (beyond the basic ones stated above) according to which your group’s work should be assessed. Everyone in your group should be prepared to present, explain, and defend each of the five components of the assignment, as well as your work plans and results.

Daily entries in your individual process logs should reflect your own evolving thinking about the ideas you are forming and the group’s work process.

You will have up to 30 minutes to present your work to another group--plus a 10 minute exchange with those who view your work. You will also need to turn in all components of your work in a way that makes clear your thinking and conclusions.
VIRGINIA HISTORY AND GEOGRAPHY

Key Principles:
• Locations of places can be described using terms that show relationships.
• Locations of places can be described using reference systems on maps.
• Reasons can be identified for locations of places.
• Relationships within places include how people depend upon the environment.
• Places may be represented and described in many different ways.

Key Skills:
• reading maps (d)
• using and making symbols (d)
• inference/drawing conclusions (r)
• research to achieve understanding (b)
• planning (t)
• writing (b)
• collaboration (s)

Key Facts:
• Essential vocabulary (legend, latitude, longitude, Mid-Atlantic region, Atlantic Ocean)
• Geographic regions of Virginia (e.g. Tidewater, Piedmont, etc.)
• Key features of each Virginia region

Getting Acquainted With Virginia (p. 1)

A Complex Instruction Task for 4th Graders

You’ll soon be on your way learning more about Virginia than most adults know. Here’s a way to start becoming experts. This task is designed to draw on the strengths of everyone in your group. Six task cards will help you know what you need to do.

Task Card No. 1
Give as many ways as you can to locate Virginia (where is it in relation to bodies of water, continents, other states, in the U.S.) Find an interesting and useful way to show us what you figure out about Virginia.

Task Card No. 2
Use reference systems (like numbered grids, latitude, longitude, parallels and meridians) to locate Virginia precisely on globes and maps. Create a set of instructions we can use to locate Virginia as you did. Assume we know nothing about using maps and globes.
Getting Acquainted With Virginia

Task Card No. 3

Draw or sketch places in Virginia with large populations. Create symbols for a map that helps us figure out why so many people live there and post them on a blank map. Make a legend to help us interpret the symbols. Do the same with great Virginia places for recreation (sketches, symbols/legend).

Task Card No. 4

Find 4 cities or towns in Virginia where important or famous people lived. Have each of the people talk to us about that place, what it was like to be there, how they influenced the place and how the place influenced them.

Task Card No. 5

Select one of the people in #4 and complete a "Now and Then" chart to show what these things like in that person’s town when they were there and what they would be like now: transportation, recreation, population size, major ways of making money, important resources, life span, ways of communicating. It's fine to draw and/or write on the chart.

Ask Card No. 6

Interview someone that has lived in our town a very long time. Find out what has changed, what has stayed the same, what seems better, what seems worse, interesting things the person has done while they’ve lived here, and other things you think are interesting. Get the person to tell you a story about something that happened here. Find a way to help us get to know this person --and this town through the eyes of this person.
Getting Acquainted With Virginia (p. 4)

This complex instruction task draws on the following intellectual skills - - -

1. Fluency (generating many ideas)
2. Spatial interpretation (figuring out codes)
3. Translation of print ideas into oral/visual form (creativity)
4. Reading and research
5. Dramatic ability
6. Questioning/interviewing
7. Planning/evaluating plans