**Tiered Tasks**

A readiness-based approach designed to help all learners work with the same essential information, ideas, and skills, but at a degree of difficulty “just a little too hard” for that learner.

**Criteria for Effective Tiering**
- All tasks are focused on the same essential knowledge, understanding and skill
- All tasks at a high level of thinking
- All tasks equally engaging

**Many Approaches Can Be Tiered**
Activities, labs, centers, journal prompts, homework, products, tests/assessments, discussion questions . . .

* C. Tomlinson

---

**Developing a Tiered Activity**

1. Select the activity organizer
   - concept
   - generalization

2. Think about your students/use assessments
   - readiness range
   - interests
   - learning profile
   - talents

3. Create an activity that is
   - interesting
   - high level
   - causes students to use key skill(s) to understand a key idea

4. Chart the complexity of the activity
   - High skill/Complexity
   - Medium skill/Complexity
   - Low skill/Complexity

5. Clone the activity along the ladder as needed to ensure challenge and success for your students, in
   - materials – basic to advanced
   - form of expression – from familiar to unfamiliar
   - from personal experience to removed from personal experience
   - equalizer

6. Match task to student based on student profile and task requirements
1. **Foundational**  
Information, Ideas, Materials, Applications

2. **Concrete**  
Representations, Ideas, Applications, Materials

3. **Simple**  
Resources, Research, Issues, Problems, Skills, Goals

4. **Single Facet**  
Directions, Problems, Application, Solutions, Approaches, Disciplinary Connections

5. **Small Leap**  
Application, Insight, Transfer

6. **More Structured**  
Solutions, Decisions, Approaches

7. **Less Independence**  
Planning, Designing, Monitoring

8. **Slow**  
Pace of Study, Pace of Thought

---

**The Equalizer**

**1. Foundational**  
Information, Ideas, Materials, Applications

**Transformational**

**2. Concrete**  
Representations, Ideas, Applications, Materials

**Abstract**

**3. Simple**  
Resources, Research, Issues, Problems, Skills, Goals

**Complex**

**4. Single Facet**  
Directions, Problems, Application, Solutions, Approaches, Disciplinary Connections

**Multiple Facets**

**5. Small Leap**  
Application, Insight, Transfer

**Great Leap**

**6. More Structured**  
Solutions, Decisions, Approaches

**More Open**

**7. Less Independence**  
Planning, Designing, Monitoring

**Greater Independence**

**8. Slow**  
Pace of Study, Pace of Thought

**Quick**

---

**Thinking About The Equalizer**

1. **Foundational**  
Information, Ideas, Materials, Applications

**Transformational**

- close to text or experience  
- expert idea and skill to similar or familiar setting  
- use key idea or skill alone  
- fundamental skills and knowledge emphasized  
- fewer permutations of skills and ideas  

- removed from text or experience  
- export idea or skill to unexpected or unfamiliar setting  
- use key idea or skill with unrelated idea or skill  
- use but move beyond fundamental skills and knowledge  
- more permutations of skills and ideas

* **Foundational to Transformational.** When an idea is new to some students, or if it’s not in one of their stronger areas, they often need supporting information about the idea that is clear and plainly worded. Then they usually need time to practice applying the idea in a straightforward way. In these instances, the materials they use and the tasks they do should be foundational – that is, basic and presented in ways that help them build a solid foundation of understanding. At other times, when something is already clear to them or is in a strength area, they need to move along quickly. They need information that shows them intricacies about the idea. They need to stretch and bend the idea and see how it interacts with other ideas to create a new thought. Such conditions require materials and tasks that are more transformational.

For example, one child may benefit from a more basic task of classifying animals by body covering, which another may need the more transformational task of predicting how changes in environment would likely affect the body covering of several animals. In a math class, one young learner may be ready for a basic application of the concept of fractions by cutting fruit and placing it to reflect a given fraction. An appropriate challenge for another student may be the more transformational task of writing measures of music that represent certain fractions.
### 2. Concrete to Abstract

<table>
<thead>
<tr>
<th>Concrete</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold in hand or hands on</td>
<td>Hold in mind or minds on</td>
</tr>
<tr>
<td>Tangible</td>
<td>Intangible</td>
</tr>
<tr>
<td>Literal</td>
<td>Symbolic or metaphorical</td>
</tr>
<tr>
<td>Physical manipulation</td>
<td>Mental manipulation</td>
</tr>
<tr>
<td>Event based</td>
<td>Idea based</td>
</tr>
<tr>
<td>Event to principle</td>
<td>Principle without event</td>
</tr>
<tr>
<td>Demonstrated and explained</td>
<td>Not demonstrated or explained</td>
</tr>
</tbody>
</table>

*Concrete to Abstract.* Students usually need to become familiar with the key information or material about an area of study before they can successfully look at its implications, meanings, or interrelationships. However, once they have grasped the information in a concrete way, it’s important that they move on to meanings and implications. Working with concrete information should open a door for meaningful abstraction later on. For example, grasping the idea of plot (more concrete) typically has to precede investigations of theme (more abstract). But ultimately, all students need to delve into the meanings of stories, not just the events. The issue here is readiness or timing.

### 3. Simple to Complex

<table>
<thead>
<tr>
<th>Simple</th>
<th>Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use idea or skill being taught</td>
<td>Combine idea or skill being taught with those previous taught</td>
</tr>
<tr>
<td>Work with no one, or few abstractions</td>
<td>Work with multiple abstractions</td>
</tr>
<tr>
<td>Emphasizes appropriateness</td>
<td>Emphasizes elegance</td>
</tr>
<tr>
<td>Requires relatively less originality</td>
<td>Requires relatively more originality</td>
</tr>
<tr>
<td>More common vocabulary</td>
<td>More advanced vocabulary</td>
</tr>
<tr>
<td>More accessible readability</td>
<td>More advanced readability</td>
</tr>
</tbody>
</table>

*Simple to Complex.* Sometimes students need to see only the big picture of a topic or area of study, just its “skeleton,” without many details. Even adults often find it helpful to read a children’s book on black holes, for example, before they tackle the work of Stephen Hawking. When the big picture is needed, your students need resources, research, issues, problems, skills, and goals that help them achieve a framework of understanding with clarity. On the other hand, when the “skeleton” is clear to them, they’ll find it more stimulating to add “muscle, bone, and nerves,” moving from simple to complex. Some students may need to work more simply with one abstraction at a time; others may be able to handle the complexity of multiple abstractions.

For example, some students may be ready to work with the theme in a story (a single abstraction), while other students look at inter-relationships between themes and symbols (multiple abstractions, or complexity).
4. **Single Facet**

**Multiple Facets**

Disciplinary Connection, Direction, Stages of Development

- fewer parts
- fewer steps
- fewer stages

**Single Facet to Multiple Facets.** Sometimes students are at peak performance when working on problems, projects, or dilemmas that involve only a few steps or solutions to complete. It may be all that some students can handle to make a connection between what they studied in science today and what they studied last week. Those with greater understanding and facility in an area of study are ready for and more challenged by following complicated directions. They are more challenged by solving problems that are multifaceted or require great flexibility of approach, or by being asked to make connections between subjects that scarcely seemed related before.

5. **Small Leap**

**Great Leap**

Application, Insight, Transfer

- few unknowns
- relative comfort with most elements
- need to change familiar elements
- requires less flexible thought
- gaps in required knowledge
- more evolutionary

**Small Leap to Great Leap.** Note that this continuum does not provide the option of “no leap.” Students should always have to run ideas through their minds and figure out how to use them. Activities that call only for absorption and regurgitation are generally of little long-term use.

But for some students, learning about how to measure area and then applying that learning by estimating and verifying the area of the hamster house compared to the teacher’s desk may be enough of a leap of application and transfer — at least in the beginning. Other students may be able to move from estimating and verifying area to estimating materials needed to a building project and proportional cost implications of increasing the building area. In both cases, students make mental leaps from reading information on a page to using that information. The latter task calls for relatively greater leaps of application, insight, and transfer.

6. **More Structured**

**More Open**

Solutions, Decisions, Approaches

- more directions or more precise directions
- more modeling
- relatively less student choice

**Structured to Open-Ended.** Sometimes students need to complete tasks that are fairly well laid out for them, where they don’t have too many decisions to make. Novice drivers begin by managing the car on prescribed driving ranges or delineated routes. Being new to a computer or word processor often requires completing programmed and closed lessons that involve “right” answers to become knowledgeable — and comfortable — with basic operation and keyboarding before moving on to more advanced and open-ended tasks such as selecting varied uses of graphics to illustrate ideas in a formal presentation. Following a predetermined format for a writing assignment or a chemistry lab often makes more sense than improvisation.

At other times, however, students are ready to explore the computer, craft their own essays designed to address a communication need, or create a chemistry lab that demonstrates principles of their choosing. Modeling helps most of us become confident enough to eventually “wing it.” But when modeling has served its purpose, it’s time to branch out and get creative.

7. **Clearly Defined**

**Fuzzy Problems**

In process, In Research, In Products

- few unknowns
- narrow range of acceptable responses or approaches
- only relevant data provided
- problem specified

**Clearly Defined to Fuzzy Problems.** In problem solving, the greater the number of unknowns, the more likely it is that the problem is open-ended. In a society that is becoming increasingly interconnected, the ability to solve problems and make decisions that are definitive is quickly becoming a necessary skill. But the more the decisions are subject to change, the more likely it is that the situation is open-ended. The more the solution is subject to change, the more likely it is that the solution is fuzzy.
Planning, Designing, Monitoring

- more teacher or adult guidance and monitoring on:
  - problem identification
  - goal setting
  - establishing timelines
  - following timelines
  - securing resources
  - use of resources
  - criteria for success
  - formulation of a product
  - evaluation

- learning the skills of independence

Planning, Designing, Monitoring

- less teacher or adult guidance and monitoring on:
  - problem identification
  - goal setting
  - establishing timelines
  - following timelines
  - securing resources
  - use of resources
  - criteria for success
  - formulation of a product
  - evaluation

- demonstrating the skills of independence

**Dependent to Independent.** A goal for all learners is independent study, thought, and production. But just as some students gain height more quickly than others, some will be ready for greater independence earlier than others. Their needs in developing independence generally fall into one of these four stages:

1. **Skill building,** when students need to develop the ability to make simple choices, follow through with short-term tasks, and use directions appropriately.

2. **Structured independence,** when students make choices from teacher-generated options, follow prescribed time lines, and engage in self-evaluation according to preset criteria to complete longer-term and more complex tasks.

3. **Shared independence,** when students generate problems to be solved, design tasks, set time lines, and establish criteria for evaluation. The teacher helps “tighten” or focus the plans and monitors the production process.

4. **Self-guided independence,** when students plan, execute, and seek help or feedback only when needed. By guiding students across this continuum at individually appropriate speeds, you and your students are less likely to become frustrated by tasks that require greater independence.

---

**Tiered Lesson**

**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
Kindergarten Counting

Task 1: Find a way to count & show how many people are in our class today. How did you get your answer?

Task 2: Find a way to show how many people are in our class. How many are absent today? How many are here today? How do you know?

Task 3: Find a way to show how many boys are in our class today. How many boys are absent today? How many girls are here today? How many girls are absent today? Prove you are right.

Kindergarten: Scientists Classify by Patterns

- Task 1: Classify leaves
  - By size
  - By color
- Task 2: Classify leaves
  - By shape
  - Create a category
- Task 3: Find 3 ways each leaf could be classified (other than color)

Pre-made grid w/categories
Sample grid – students make own
Students decide how to show categories and contents
Character Map

Character Name

How the character looks

How the character thinks or acts

Most important thing to know about the character

Character Map

Character Name

Clues the author gives us about the character

Why the author gives THESE clues

The author’s bottom line about this character
Character Map

<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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2nd Grade Tiered Lesson *Pioneers*

Pioneer Group
(Work alone or in groups of 2,3,4)

Use books, pictures, and the CD-ROM to

a. Figure out what a trading post was for.
b. Make a list of things found in a trading post and how much they may have cost. Be sure to include some things we don’t have in our stores today.
c. Figure out who used trading posts.
d. Find out where goods for a trading post came from.

1. Build or draw a trading post and a modern convenience store.
2. Compare and contrast the trading post and convenience store on at least the four categories identified in questions 1a-1d.
3. Be ready to share with the class what a trading post and convenience store tell us about how we are like and different from the pioneers.
2nd Grade Tiered Lesson  

**Pioneers**

**Trailblazer Group**  
(Work alone or in groups of 2 or 3)

1. Read Going West (stop at the bookmark). Also use the encyclopedia, CD-ROM and books in the exploration center to
   a. Learn about the size of a covered wagon and figure out how many people and supplies it would hold.
   b. Find out how covered wagons were built and how they work.
   c. Figure out the positives and negatives of going west in a covered wagon.
   d. Figure out how much a covered wagon might cost and why it cost so much – for example, costs for materials, labor, and horses.
   e. Learn what pioneers took in the covered wagons, what they left behind, and why.
2. Build or draw a model of a covered ways used in pioneer days and station wagon or van used today.
3. Compare and contrast the two vehicles on at least the five categories identified in questions 1a-1e.
4. Be ready to share with the class what a covered wagon and a station wagon (or van) tell us about how we are like and different from the pioneers.

**Wagoneer Group**  
(Work alone or in groups of 2 or 3)

Use books and records in the exploration center, plus encyclopedias and the CD-ROM to learn about leisure and recreation during pioneer times. Select at least four categories from this list or add categories of your own (with teacher approval): songs, games, dances, literature, gatherings, contests, crafts. In each category you select, be ready to fully illustrate an example of “then” and a contrasting example from “now” to show the class how we are like and different from the pioneers in what we do for recreation (and why).
2nd Grade Tiered Lesson *Pioneers*

**Adventurer Group**
(Work alone or in pairs)

Use books in the exploration center, the article in the Medicine West folder, encyclopedias, and the CD-ROM to find out what the medical problems were during the westward movement and what the practice of medicine was like. Figure out important questions to ask and answer in order to compare and contrast health problems and the practice of medicine then and now. Get your categories and questions approved by the teacher. Figure out a way to help the class see how we are like and different from the pioneers in health issues and the practice of medicine.
January 12, 2001

Dear __________________ ,

Next week while reading your book, please think about one of the ideas listed below. Put an X next to the idea you choose and then write me a letter with your thoughts about it. Be ready to turn your personal best letter in to me by next Friday. I can't wait to hear what you're thinking! If you have any questions, please be sure to ask me. Happy reading!

Love,

____ 1. Pick one character that you think is interesting and tell me about this character.

____ 2. A good reader thinks about what he or she reads. What's something that you think is really important or interesting in your book? Tell me why you think so and give me some examples.

____ 3. Describe the setting (where we are, time, weather, who we're with) of your book and why you think it is important.

____ 4. A lot of good writing makes pictures in our minds. What pictures does your book put into your mind? It would be great if you'd like to draw a picture to go with your letter!

January 12, 2001

Dear __________________ ,

Next week while reading your book, please think about one of the ideas listed below. Put an X next to the idea you choose and then write me a letter with your thoughts about it. Be ready to turn your personal best letter in to me by next Friday. I can't wait to hear what you're thinking! If you have any questions, please be sure to ask me. Happy reading!

Love,

____ 1. Pick one character that you think is interesting. Write about how the character reminds you of someone you know. Write also about times when you've been most like this character.

____ 2. Your job as a skilled reader is to make "ahah" happen when you read. What connections can you make between your book and experiences you've had or to other books you've read?

____ 3. In our own lives, where we are and conditions such as weather, time, and whom we're with can really affect us. Tell me about how setting has affected you in the past and how it affects the characters and their actions in your book.

____ 4. Really good writing captures your attention. Tell me some examples where your book surprised you or looked you into reading. In your opinion, what is the quality of the writing in your book?
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.
Reading Response Journal

When you read your student’s choice books, remember to write in your journal at least 3 times a week. Use one or more of the questions/prompts below to direct your thinking:

1. Your job as a skilled reader is to make sense 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. Is what you see similar to or different from how “setting” affects your life?

3. What’s a big idea (for example: fear, competition, belonging, hero, villain, adversity/disenchantment, etc.) in the part of the book you’re reading now? Find examples of the same big idea in other places (music, TV shows, newspapers, magazine, films, other books, art). How does looking at the same ideas in more than one place affect your thinking and why?

4. 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.

5. Pick one character that interests you. Write about how the character resembles you or 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”?

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 clichéd,
   - 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 you 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 a novel/series or a similar source), song lyrics, a cartoon, or a real-world symbol that you think represents what the author wants you 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 to you to know. Create a T matrix for your list. Add to the list as you continue to read. See if you can figure out what makes the character tick.

**KNOW:**
- Part/whole
- Elements of a story
  - plot
  - setting
  - characters
  - conflict

**UNDERSTAND:**
Authors use tools to develop images and ideas.
Careful use of seemingly insignificant details add up to big ideas

**DO:**
Analyze a story to see how parts unite to make greater wholes
DIRECTIONS: Review the passage on page 75. Identify the characteristic written on each "arm" of the diagram. Write a quotation or action to illustrate that characteristic in each box.

CHARLOTTE'S WEB: CHARACTER ANALYSIS

- PERSONAL CHARACTER
- SIGNIFICANCE IN THE ACTION
- POSITIVE QUALITIES
- RELATIONSHIP TO OTHERS
- NEGATIVE QUALITIES
- IDEALS

DIRECTIONS: An author lets us understand a character by words, feelings, actions, and situations in a story. Identify the actions and comments which tell you what kind of person Fern is. To describe her, identify a characteristic and a quotation or action that shows that characteristic. Write one characteristic on each "arm" of the diagram and write an example of that characteristic in the box to produce a "picture" of Fern.

CHARLOTTE'S WEB: DESCRIBING A CHARACTER

- Caring
- CHARACTERISTIC
- CHARACTERISTIC
- CHARACTERISTIC
- CHARACTERISTIC
- CHARACTERISTIC
- CHARACTERISTIC
Varying Journal Prompting

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 book. 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 book. 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.

New World Explorers

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

UNDERSTAND
• Exploration involves
  – risk
  – costs and benefits
  – success and failure
New World Explorers

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

2. **Students 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.

---

**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.

Secondary Tiered Assignment

Concept: Responsibility
Generalizations:
- We are responsible for ourselves.
- We “write” our own lives.
- We have responsibility for those we “tame.”
- Our actions have a ripple effect.
- Responsibility may require sacrifice and may result in fulfillment.
- Our work bears our hallmark.

Skills:
- Argument and support
- Effective use of figurative language
- Editing skills
- Literary analysis

Key Vocabulary:
- Elements of literature
- Genre traits
- Voice

Sample Literature:
- The Little Prince
- Anne Frank by Miep Gies
- ‘Bloodstain’
- ‘I Will Create’
- ‘To Be’ Soliloquy
- News Articles

Samples of Differentiation

- Both teacher assigned and student selected reading.
- Both teacher assigned and student selected journal prompts.
- Use of literature circles to discuss books/readings assigned by readiness.
- Use of small group, teacher-led focus groups on student-choice readings/
- Optional review groups on key vocabulary and skills.
- In-common and “negotiated” criteria for key writing.
- Product options.
- Use of tape recordings, shared reading on complex pieces.
- Varied work groups.
- Tiered lesson.
Secondary Tiered Assignment

Task

• Students will analyze parallel pieces of writing to explore the premise that we are responsible for those we tame. Students 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 Bloodstain

• Complete an analysis matrix on the beliefs of the main character on the same topic.

• Select a newspaper article from the folder. Write a paragraph or two that compares beliefs of 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 child giving your advice.
  Write guidelines for adults who affect children’s lives.
  Draw and explain a blueprint for becoming a responsible person.

• Peer revise and then peer edit your work.

Group 2

Read pages from The Little Prince

• 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.

• Your selections must include at least 2 genre.

• Develop notes on 2 views of responsibility with reasons and illustrations from your 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, and our community.

Developed by Tomlinson, 98

Unit: Graphs of Polynomials
Lesson Topic: Polynomial Graph Behaviors
Concept: Behavior and Prediction

Introductory Discussion (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 don’t 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 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 students do not already know this term.) Each group will share their findings when finished in order for all to have a complete picture.

Groups are based on readiness: Tiered Activity
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 graphs in a graphing calculator, then copy the graphs and equations onto graph paper:

\[ \begin{align*}
Y_1 &= x^2 + 1 \quad (x - 2) \\
Y_2 &= (x - 3) \\
Y_3 &= 2x^2 + 5x + 6
\end{align*} 

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 with the following polynomials:

\[ \begin{align*}
Y_4 &= x^3 + 3(x + 2)(x - 1) \\
Y_5 &= (x + 2)(x - 1) \\
Y_6 &= x^3 + 2x^2 - 5
\end{align*} 

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?

What can you predict the multiplicity of each root based on the graph?

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.
Music Lesson

Standard: Analyze and compare the use of music element representing various genres and cultures emphasizing meter and rhythm.

Know: Elements of music, especially meter and rhythm
Understand: The elements of music are used across various music genres and cultures.
Music expresses the culture.
Do: Analyze music for elements
Show how the elements are used in various genres and cultures.

Music Lesson

The elements of music are presented in a mini lecture.
Students take notes using the split entry journal with either two or three columns.

Analyzing music for elements in small groups:
M – given a simple piece of recorded music, fill in a detailed outline identifying specific elements.
U – With a slightly more sophisticated piece of music, identify and describe any elements heard.
S – With a more complex piece of music, identify and describe the elements.
I – Given sheet music and an accompanying recording, analyze the elements.
C – From sheet music only, analyze and identify the elements. Hypothesize what was the intent of the composer.
Music Lesson

Show how the elements represent various genres and cultures. You may work alone, with a partner, or in a group of three. You may present your music and finding in any format of your choice.

- Choose two cultures and samples of their traditional music. Compare the elements of the two pieces. How do the pieces reflect the culture from which they come?
- Choose three pieces from different genres of music. Compare the elements of the pieces. How do the pieces reflect mood and emotion?
- Determine what style of music best represents you – your environment, history and mood. Explain how the elements of the music represent who you are as a person.
- Find music from the culture of one of your ancestors. Does the music still reflect who you are? Why or why not? How do the elements support your decision?

A High School Tiered Lesson

**PHYSICS**

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.

Great opportunity to make teams of theoretician/scholars and designer/builders.

**In the lab students make**

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

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

- **Pinwheels**
  - Forward Motion
  - Backward Motion
  - Upward Motion

**Colors**
- easiest
- hardest