

Differentiating Instruction through Structured Student Choice

In this course we will learn how to engage students with challenging material and make learning visible to efficiently structure student choice within the established curriculum. First, using Entry Points, based on Multiple Intelligences theory, we will explore the way varied means of entering a complex learning area can engage students and reveal their background knowledge. Second, by making the learning choices visible, teachers can provide both supports for learners who are struggling as well as extensions for early finishers in one efficient and effective assignment. We will explore many examples from K-12 classrooms that have been used with students in a variety of school settings. Participants will have time to begin the creation of structured student choice for their own classroom use.

"The greatest sign of success for a teacher... is to be able to say, "The children are now working as if I did not exist." Maria Montessori

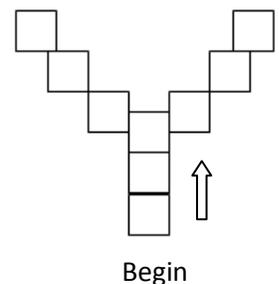
1. What is Structured Learning Choices?

Structured Learning Choices are visible paths to learning where students master curricular goals through a combination of tasks assigned by teachers and selected by students.

Structured Learning Choices are:

- **effective** because both the learning goals and the process for achieving the goals are visible to both teachers and students.
- **efficient** for differentiating instruction because supports and extensions are available to all students through the learning choices that lead to mastering a common curricular goal. The structure, or the way the tasks are arranged and assigned create the differentiated instruction.

For example, the figure the right might be a learning path to complete a project, each box represents one task or piece of the project. All students will complete a total of five tasks. To begin, all students would complete the first three tasks and then students could choose one task from each side. This assignment can easily be differentiated by organizing the tasks on the two branches by level of difficulty, for example develops required skill, applies required skill, and exceeds required skill. The teacher assigns each student one of the three choices from both branches and students select one task from each branch. All students have completed the same first three tasks, the fourth task was differentiated by teacher assignment, and the fifth was differentiated by student interest. Early finishers might select an additional task from either branch.



Structured learning choices foster student agency and intrinsic motivation because students are required to know the learning goals, make decisions in the learning process, and take part in monitoring progress.

Easy Management of Differentiated Instruction

Arrangement and directions for completion of the learning choices are keys to providing students with clear learning goals and supports and extensions.

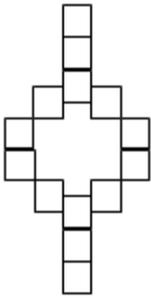


Figure 1

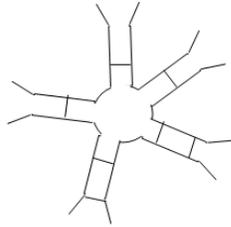


Figure 2

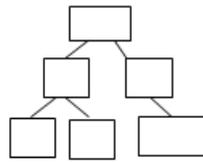


Figure 3

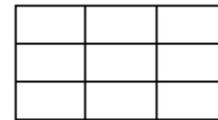


Figure 4

The five different arrangements of learning choices above clearly show a structure for differentiated instruction. In Figure 1 there are core concepts, skills, or tasks that everyone must complete. The students branch off for in depth learning, perhaps choosing a specific topic within a unit. Then students come back together, probably sharing their in depth learning and connecting ideas back to the core tasks from the beginning.

Structured Learning Choices show how differentiated instruction leads to a common learning goal. In Figure 2, we can see how five different paths lead to one common learning goal. In Figure 3 the initial tasks are broken down perhaps to offer skill development and practice or review of a needed concept. Figure 4 represents a typical Tic-Tac-Toe formation. The teacher may assign students complete a Tic-Tac-Toe that crosses the middle square, putting an essential assignment in the middle. The teacher might also assign the four corners, if there are four required tasks and then students can choose one other task to create a Tic-Tac-Toe.

Note: Differentiated Instruction enables diverse learners to master common learning goals. Remediation is different in that students have different learning goals. These examples refer to differentiated instruction where students share common learning goals.

Consider arranging the choices by:

- Form – type of finished product
- Purpose of task – to persuade, inform, or model
- Skills used
- Communication method used: drawing, writing, building, speaking or moving
- Vocabulary and background knowledge used or developed
- Audience

- Interaction with other people or resources to complete task
- Topic
- Size of project

Consider directions for completing choice board:

- Required choices (for example a tic-tac-toe must cross the center square)
- Free choice
- Number of choices and size of tasks in relation to available time and resources
- Some choices being giving or receiving feedback to peers as requirements
- Stops to check in with the teacher
- “Go Back” squares, that require students to return and reflect on a previous task.
- Arrows that demonstrate that learning is not always a forward moving linear process, so chances to go back and revise, practice, and connect previous ideas to new tasks.
- Rules to foster students making choices that extend their skills.

Structured learning choices **do not** require students to work in small groups or complete different assignments. Learning choices may include feedback from a peer or working in a small group to put completed tasks together to create a final product, but group work is not necessary.

2. Why is this important?

Intrinsic motivation leads to higher achievement. Structured Learning Choices are welcoming to students, they invite students to persist and pursue learning independently. The visual arrangement communicates with clarity the learning goals and process for achieving the goals and an expectation of both diversity and achievement for all students.

Opportunities for Learners

- Provides multiple opportunities to purposefully use knowledge to develop expertise.
- Deepens understanding and develop content knowledge and skills through self reflection and offering feedback to others.
- Encourages self-direction, focused on the relationship between effort and achievement.
- Enables students to bring diverse backgrounds and experiences meaningfully into the study of the established curriculum.
- Breaks down large tasks into smaller accomplishable steps.

Opportunities for Teachers

- Enables teachers to value learner diversity within the established curriculum.
- Provides a method to manage multiple and ongoing learning opportunities.
- Shares responsibility for learner growth with the learners.
- Offers challenge, support, and fun while learning.
- Gives a structure for encouraging exploration in depth of specific topics.
- Creates extension opportunities for learners that do not require additional planning for the teacher.

3. What does Structured Learning Choice look like?

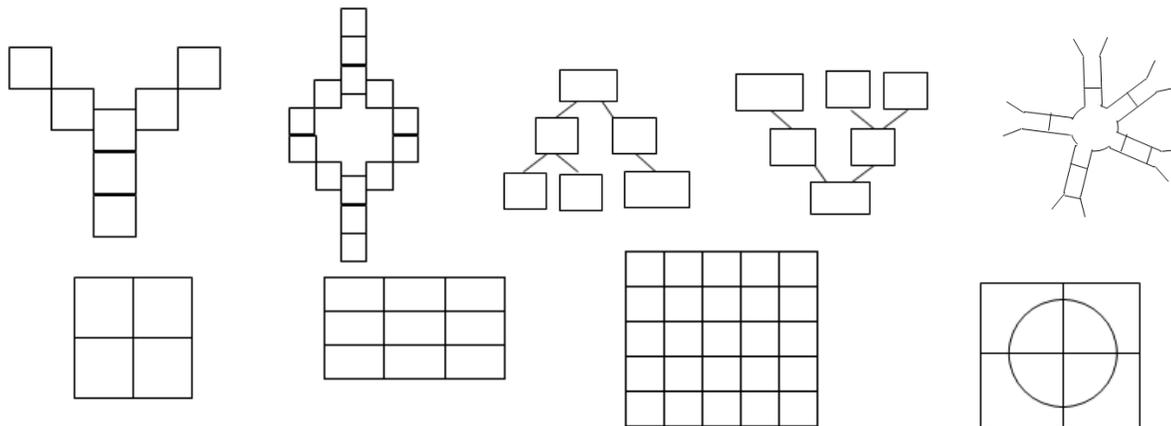
Structured Learning Choices may be useful at any time during a unit. For example:

- Ongoing homework assignments such as vocabulary development and spelling practice.
- Multiple projects on a single topic to deepen understanding (possible using different communication methods or focusing on different perspectives).
- Break down large projects into smaller tasks.
- Review problems or vocabulary for a unit
- Do Now or warm-up activities

Structured Learning Choice can be used in all subject areas. For example, a PE teacher uses *Structured Learning Choices* for students to determine what combination of exercises can be used to burn the calories of one of the foods that students eat during lunch for a warm-up activity. In this case, the *Learning Choice* Assignment was displayed on the wall as a bulletin board.

There are unlimited opportunities and ways to use structured learning choice to achieve curricular goals. Guiding Questions for choosing a place to begin include:

- Think about a familiar unit of study and examine the possible arrangements below. Can you think of a way that structured learning choice would lead to efficient and effective learning in the unit?
- What is the toughest unit for students? How could structured learning choice be used to support the hardest parts of a unit?
- What are the interests and talents of my students, how can structured learning choice make those interests and talents assets in learning the established curriculum?



Allow students to create the tasks for *Structured Learning Choice* Assignments. Once students understand the process and the variety of possible assignments, then students can create *Structured Learning Choice* Assignments to review units or to introduce new units as an extension activity or homework assignment. Students take great pleasure in watching their classmates complete the tasks that they designed.

4. What does supports, extensions, and remediation look like in the flow of teaching and learning?

“Great teachers believe in the growth and intellect and talent, and they are fascinated with the process of learning.”

Dweck, C. (2006). *Mindset: The New Psychology of Success*. New York: Ballantine Books. (194)

Structured Learning Choice sends a message to the students that the teacher believes all students will accomplish the learning goals and that there are necessary different routes to that success. The assignment has not been reduced to a simple version and an advanced version, but rather large tasks or concepts are broken down into specific skills that are visible along with an expected learning process. The teacher and students share the responsibility for structuring learning and monitoring progress. This shared responsibility fosters a culture of respect and collaboration as well as encouraging intrinsic motivation.

Structured Learning Choice assignments are typically differentiated to support and extend all learners in pursuit of a common learning goal. If remediation of concepts and skills are needed by students then usually a separate Structured Learning Choice board is created with learning goals related to remediation.

Differentiated Instruction is assigned by the teacher based on perceived instructional needs. *Structured Learning Choices* enable teachers to assign needed supports and extensions to learners and offer student choice at the same time. Learning Choices alone lead to engaging instruction for learners, but not differentiated instruction. *Structured Learning Choices* add the teacher's assignment to address specific instructional needs to learner choice creating both engagement and precise differentiated instruction.

On the following pages are many examples of how teachers have used structured student choice in New York City classrooms in different grades and subject areas to provide learning opportunities that are engaging as well as precise in terms of instructional goals. There are also a few pages with information and examples specific to the idea of “entry points” (informed by multiple intelligence theory).

“We are not all the same; we do not all have the same kinds of minds (that is, we are not all distinct points on a single bell curve); and education works most effectively if these differences are taken into account rather than denied or ignored.”

Gardner H. (1999) *Intelligence Reframed*. New York: Basic Books. (91)

Gardner's Entry Point Approach

Howard Gardner, in *The Unschooled Mind*, describes entry points as different ways a teacher can approach a topic so that students, regardless of their unique blends of intelligences, experiences, and interests, can find ways to become involved with content. He describes the topic of study as a room with several doorways through which to enter.

The **narrative** entry point allows access to a topic using a story or narrative related to the concept (e.g., the story of the light bulb's invention; the story of the how the speed of light was first measured).

The **quantitative** entry point employs numerical methods and considerations to understand the topic (e.g., measuring the brightness of light).

The **logical** entry point invites deductive reasoning, an if/then perspective (e.g., comparing the reflective indices of different materials).

The **foundational** entry point considers the philosophical aspects of the concept (e.g., considering questions such as "Does electric light improve people's lives? Why is light used as a symbol in so many religions? Could life exist without light?").

The **aesthetic** entry point emphasizes appreciation of the topic's properties through beauty, forms, and relationships (e.g., reflecting on ways different colored lighting affects how audiences respond to dramatic scenes; experimenting with polar filters to make a work of art).

The **experiential** entry point invites an approach to a concept through hands-on investigations (e.g., finding a method to bend light; separating the different wavelengths of light using a prism; examining the dilation of the pupil when light levels change).

The **social entry** point allows access to a topic through a social experience (e.g., working collaboratively to design and present a light demonstration; teaching others about light through demonstrations and posters)

Adapted from The Project Zero Classroom, (© 1999), President and Fellows of Harvard College (on behalf of Project Zero).

The Entry Point Approach is an approach to learning—a structure for designing curricula rather than a particular curricular vehicle. The notion of entry points was introduced by Howard Gardner in *The Unschooled Mind* (1991):

My own belief is that any rich, nourishing topic—any concept worth teaching—can be approached in at least five different ways that, roughly speaking, map onto the multiple intelligences. We might think of the topic as a room with at least five doors or entry points into it. Students vary as to which entry point is most appropriate for them and which routes are most comfortable to follow once they have gained initial access to the room. Awareness of these entry points can help the teacher introduce new materials in ways in which they can be easily grasped by a range of students; then, as students explore other entry points, they have the chance to develop those multiple perspectives that are the best antidote to stereotypical thinking (p. 245).

Sample Entry Point Reflection Questions

<p>1 What is the story of _____? (Narrative)</p>	<p>2 How can I measure or quantify the parts of this or the consequences of this? (Quantitative)</p>	<p>3 What does this remind me of? What other _____ is this like? Why is this important? Who would care about this from the past, today, and in the future? (Foundational)</p>
<p>4 Create something that shows what you know about this topic by drawing, speaking, moving, building, or writing. (Experiential)</p>	<p>5 If _____ changed then what might happen? How does this compare to _____? (Logical)</p>	<p>6 How is this put together? What are the parts and why are they arranged in this way? (Aesthetic)</p>
<p>7 Who could I talk with to learn more about this topic? (Collaborative)</p>		

By numbering the topics in the chart, students can easily be grouped together by the number of the question that they answered. Or students might be placed in groups that have at least one person who answered each question. These questions take very little preparation time for the teacher or students to create. A chart of questions creates so many different learning opportunities to group students by interest or by challenges. These questions will both activate prior knowledge and further thinking on the new topic in order to ignite curiosity intended to motivate the pursuit of learning.

Artist

What kinds of shapes, colors, and lines do you see?

Why did the artist choose these shapes, colors, and lines?

What is the artist telling us?

What is missing from this mural?

What might a mural look like today that expresses the same idea? Sketch the mural that you might paint.

In this painting, is progress good? What makes you say that?

Author

How is the story told through this mural similar to the song America the Beautiful, Greek myth, Achelous and Hercules, or the folktale, Paul Bunyan?

How are the stories different?

After comparing the story with the mural, what new things do you see in the mural?

What is missing from this mural?

In this painting, is progress good? What makes you say that?



Historian

How does this mural explain American's movement west (use these economic terms: production, consumption, supply, and demand in your response).

What perspective about expansion might this mural represent? What is missing from this mural?

What natural resources might be scarce in this mural? What might be the opportunity cost of using this resource?

In this painting is progress good? What makes you say that?

Scientist

List the different resources in the mural. How are the resources connected?

What needs might be met with these resources? What is missing from this mural?

How does the environment affect how people live?

In this painting, is progress good? What makes you say that?

Using the knowledge from different disciplines to interpret and find meaning in this mural offers students an opportunity to use an area of strength or interest to understand a new topic. The different disciplines also add perspectives and complexity turning a unit in history into a multidimensional topic with a very rich story to understand. Students come away from this exercise able to use their disciplinary knowledge to discuss their perspective on important ideas such as "progress" and the relationship between humans and nature.

Think You Know

Want to Learn

New Insights
and Questions

Choose the question that interests you.



Poet who was President

How is the Gettysburg Address like the poetry that Lincoln wrote?



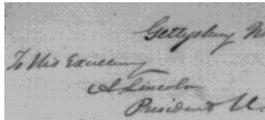
Just like being there

How does it feel to say and hear the Gettysburg Address?



It adds up

How can numbers help us understand the significance of the Gettysburg battle?



What's the story?

How do personal reactions to the Gettysburg Address complete the story of the event?



Connections over time

What common themes unite great documents?

What I think I know about Explorers

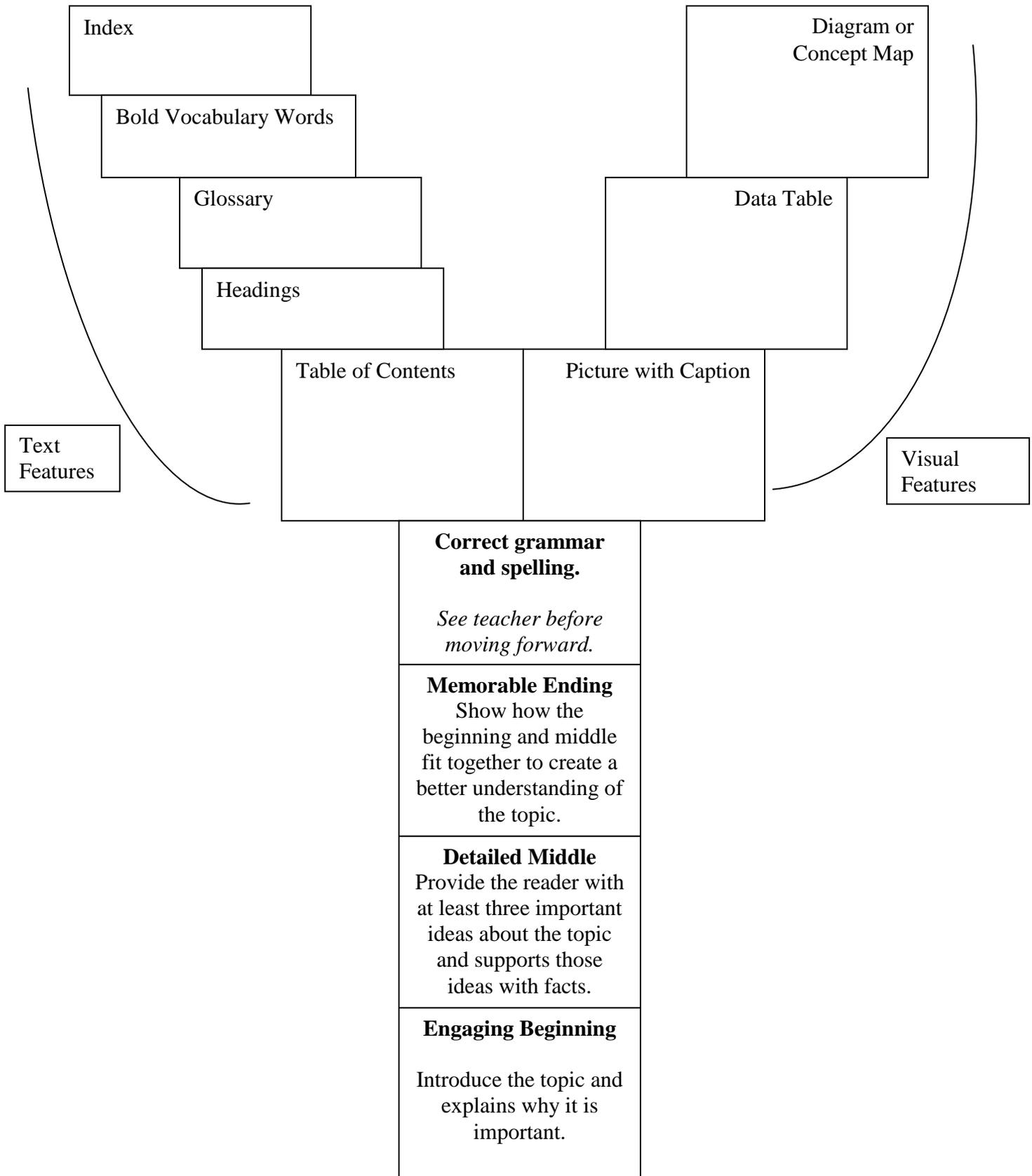
	Christopher Columbus	Juan Ponce de Leon	Jacques Cartier	Christopher Newport
Tell the story of exploration from the explorer's point of view.				
What number might represent your explorer? Explain why this number is significant for the explorer.				
Draw a shape that could represent the explorer. How does the shape express the explorer's story?				
What patterns in our world could the explorer's story fit into?				
Describe a time when you have explored something. How did your exploration lead or not lead to change?				

Poetry Revision Learning Choice Board

Choose at least two ways to revise your poem.
Your revisions will help your poem communicate
its message more effectively.

<input data-bbox="142 448 235 539" type="checkbox"/> <p>Alliteration</p> <p>Add alliteration to your poem. Hear the same letter or sound at the beginning of words close together.</p> <p>Example: Creative Class.</p>	<input data-bbox="774 448 867 539" type="checkbox"/> <p>Simile</p> <p>Add a simile to your poem. Compare one thing to another with the phrase "...like a ..." or "as ...as a ...".</p> <p>Example: as quick as a wink or hot like the sun</p>	<input data-bbox="1365 457 1457 548" type="checkbox"/> <p>Another Stanza</p> <p>Add another stanza to your poem.</p>
<input data-bbox="142 893 235 984" type="checkbox"/> <p>Adjective</p> <p>Add an adjective to describe a noun in your poem. Examples: huge, fast, prickly, and shiny</p>	<input data-bbox="758 902 850 993" type="checkbox"/> <p>Synonym</p> <p>Replace a plain word on your poem with a more interesting and precise synonym.</p> <p>Examples: change "fun" to "amusing", change "good" to "excellent" or change "big" to "gigantic".</p>	<input data-bbox="1373 902 1465 993" type="checkbox"/> <p>Rhyme</p> <p>Add a rhyme to your poem. Example: We delight in spring's colorful sight.</p>

Non-Fiction Book Project



Word Study/Vocabulary Learning Choices

Name _____

Words that I am studying _____

Complete two tic-tac-toes to learn your words.

<p>1. If your words were colors then what colors would they be and why?</p>	<p>2. Compare your each of your words to another word using this format. <u>(your word)</u> is like _____ because _____. Repeat this pattern for each word.</p>	<p>3. Find your words in a textbook. Make a list of your word, the page # where it can be found and copy the sentence where the word is used. If you can't find the word in your textbook then try other books, newspapers, magazines, and the Internet.</p>
<p>4. Draw an image or symbol that represents your word.</p>	<p>5. Write the definitions of each of your words.</p>	<p>6. Write a question that the answer would be one of your words. Create a question for each of your words.</p>
<p>7. Explain why this word is important to know. Offer examples of how people can use the word.</p>	<p>8. Find an image that represents each of your words.</p>	<p>9. Create a group of five words that one of your words would fit into. Give the group a title. Create a group of words with a title for each of your words.</p>

Science in the News Learning Choices

Find an interesting article at: New York Times Science

<http://www.nytimes.com/pages/science/>

Complete one assignment for each article that you read.

<p>Draw an image or symbol that represents the information in your article. Give your image a title and explain how the image relates to the information in the article in a short paragraph.</p>	<p>Find a graph, table, chart or diagram on the New York Times Science page. Translate the visual information into an article. In your article, include the information that is presented visually and draw attention for the reader to important information that is missing.</p>	<p>Translate the information from your article into a graphic form. Make a table, graph, chart, or diagram. Write a short paragraph explaining what your graphic represents.</p>
<p>Write five questions that this article could answer. Identify one quote from the article for each question that might be used to answer your questions.</p>	<p>Identify an assumption that this article makes. Design an experiment to test the validity of the assumption. Define a hypothesis and write the procedures for the experiment.</p>	<p>Compare facts from your article with facts from a topic that we have studied in class using a table of a Venn diagram. Write a short explanation of your comparison.</p>
<p>Write a letter to the editor explaining why this article is important for the people living in your community to read. Offer examples of how people (your family, friends, school community, and businesses) can use the information.</p>	<p>Rewrite this article for the Kids Page of the news paper. Make sure to capture the interest of a younger audience and present the information so that a 4th grader would be able to understand.</p>	<p>Name at least four different people who would find this article important and explain why they would care using information from the article to justify the opinion.</p>

Factors, Multiples and Prime Factorization Choice Board			
Answer	Word Problem	Find the Error	Create
# of days it takes for the moon to make a full revolution (28)	Davis and Luisa both work at Tommy's Pizzeria throughout the week. They earn the same amount of money per day. If Davis made \$252 and Luisa made \$224 this week, how much money do they make per day. Please use <u>prime factorization</u> to show your solution.	Hector is trying to find the prime factorization of 840. He writes the prime factorization of 840 as $2^*3^*5^*23$. Is Hector's answer correct or not? Explain what Hector could have done to check his work. Show the correction he needs to make.	a) Create a word problem with this answer that uses either division or prime factorization to get to the answer. b) Create a word problem that uses the answer in the prime factorization. Show the solution to the word problem.
# of days in a leap year (366)	On Sundays, The A train arrives at the 125 th Street station every 16 minutes. The D train arrives every 21 minutes. How many minutes will elapse before the trains arrive at train station at the same time? It is 12:30 pm now and both trains are at the station, at what time will the trains meet again?	There is a star with four orbiting planets. One planet makes a trip around the star in 7 Earth years, the second planets takes 6 Earth years, the third takes 16 Earth years, and the fourth takes 21 Earth years. How many years, will it take for the planets to return to this position? Deena states that it will take 14,112 years. Explain how Deena found her answer and how she can solve it correctly.	a) Create a word problem with this answer that uses multiplication and/or finding common multiples to get to the answer. Show the solution to the word problem.
# of days in a regular week (7)	Djali has 42 Snickers bars and 63 Three Musketeers bars. If she wants to make Halloween grab bags, what is the greatest amount of grab bags she can make if she must have exactly the same number of Snickers and exactly the same number of Musketeers in each bag? Please <u>diagram</u> your solution.	Neena has 21 smiley-face stickers, 54 glittery stickers and 84 heart stickers. Elaine states that Neena can only divide the stickers evenly among 3 friends. Create a diagram that shows how Elaine solved this problem and explain whether she is correct or not.	a) Create a word problem with this answer that uses division and/or finding common factors to get to the answer. Show the solution to the word problem.