

Grade 1 Advanced / Gifted and Talented (GT) Mathematics
Oh, the Places You'll Go: A Unit in Operations and Algebraic Thinking
Lesson Seed 8. *Problem Choice Board*

Domain: Operations and Algebraic Thinking—Grade 2

Purpose/Big Idea:

Students are to select at least three of the choices according to their interests and create an authentic product or solve the problems they select. Students will use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.

Materials:

- Resource Sheet: Problem-Based Learning Choice Board
- You may opt to develop a web quest if you want to create a computer center where students can work on their products at a computer.
- Chart Paper, markers, dry erase markers, white boards and/or Math Journals for students to choose from for recording work.
- Hundred charts, number lines, base-ten materials, or other manipulatives for students to use as needed.

Activity:

- Explain the directions for the “Oh, there is fun to be done” Problem Based Learning Choice Board and read the choices to the students.
- As a culmination, students can host a Gallery Day to present their products to the class, and receive feedback from others.

Check for Understanding:

- Take anecdotal notes while students are discussing problem solutions and strategies, note reasoning.
- Student accuracy and reasoning can be evaluated by assessing their progress during individual, pair, and/or group conferences.
- Students demonstrate proficiency by using addition and subtraction strategies to solve word problems, explaining and justifying their solution and extending from something known to something not yet known.
- Students can demonstrate their understanding by sharing their product, which will require them to apply their understanding to solve a problem and/or create a resource that is connected to the standards being taught in the unit.

Extension:

- Visit <http://visitmaryland.org/Western/Pages/Destinations.aspx> or another student-friendly website that incorporates reading across content areas. Have students read to find some number facts about places they can visit in Maryland. Challenge students to write story problems using information they find, and/or create their own choice board using information or topics they find about places to visit around Maryland. This authentic product can be done using partner or as a small group activity with the teacher’s guidance.



Guiding Questions:

- What do we notice about the situation?
- What questions do you have about the situation?
- Which game is the best value? Why?
- Is it helpful to start with the largest number, etc?
- How many different combinations could we find?
- How do we know if we have found all the possible combinations?
- Is it helpful to create a table, organized list, etc?
- What happens when we play the same game more than once?
- Can I play four games and spend all my money? Why or why not?
- How can we solve the problem?
- What is another way to represent the problem?

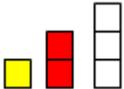
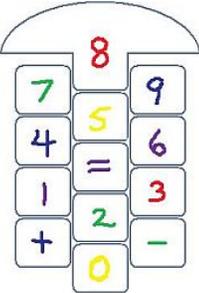
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Resource Sheet

Problem-Based Learning Choice Board

WHAT'S	YOUR	CHOICE?
<p style="text-align: center;">Model Maker!</p> <p>Lucy hiked 5 fewer miles than Evelyn. Evelyn hiked 9 miles. How many miles did Lucy hike?</p> <p>Design a 3-Dimensional model to show the distance each girl hiked. You may use any materials available. Be sure to label each girl's hike.</p> <p>Write an equation to show the comparison.</p> <p>How many miles did both girls hike combined?</p>	<p style="text-align: center;">Crack the Code!</p> <p>Read the following article about Codes: http://nrich.maths.org/2197</p> <p>Use Caesar's code (adding 3 to every letter) to write your name. Can you write a sentence in this secret code and share it with a friend to see if they can crack the code?</p> <p>Create a code of your own that uses addition or subtraction to represent letters of the alphabet!</p>	<p style="text-align: center;">Illustrate!</p> <p>The farm had some horses and 18 cows in the large pasture. There were 27 animals in all. The farmer moved 4 horses to the pasture from the stable. How many horses are in the pasture now?</p> <p>Create a drawing of the pasture showing the total number of horses and cows. Write an equation to show the change in the number of animals.</p>



WHAT'S	YOUR	CHOICE?
<p style="text-align: center;">Video Production!</p> <p>Use snap cubes to make 3 consecutive numbers (1, 2, 3 or 4, 5, 6 etc.).</p> <p>Draw a model of the three numbers. Use the cubes to find the sum of the three numbers.</p> <p>Create a video to demonstrate what you discover. Be sure to share your findings about the sum of consecutive numbers. What patterns did you find? Can you make a generalization about your findings?</p> <p>Can you rearrange the cubes to find 3 other numbers that have the same sum? Try it with as many consecutive trios as you can. What do you notice?</p> 	<p style="text-align: center;">Play Hopscotch Math!</p> <p>Design your own hopscotch board either in the classroom using bulletin board paper or tape lines or use chalk outside. You must have an addition, a subtraction and an equal sign, and you can add digits 0-12. Throw a marker on one number and then jump on squares to create an equation that has the same value.</p> 	<p style="text-align: center;">Sing a Song</p> <p style="text-align: center;">Listen Here: Subtraction Song</p> <p>Learn this or another subtraction song and perform it for the class or write an original song that teaches the subtraction facts.</p> <p>You can sing, play music, or use a song that you already know and change the words. If you dare, write your own subtraction song and create a music video for your class!</p>