

Enhancement Activities/Strategies for Gifted/High Ability Learners: Sample Mathematics Learning Plan

Big Idea/ Topic

- Build Fluency with Addition and Subtraction

Standard Alignment

- **MGSE3.NBT.1** Use place value understanding to round whole numbers to the nearest 10 or 100.
- **MGSE3.NBT.2** Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- **MGSE3.MD.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Advanced Research

Plan a family trip to visit a city along each of the major rivers (Mississippi, Ohio, Rio Grande, Colorado, Hudson, and St. Lawrence). You must visit at least 1 state or [national park](#) or historical location in or near each of the cities you visit. Create an itinerary showing what you will do in each city and how long you will visit each location. Use a travel planning website ([Google Maps](#), [Apple Maps](#), etc.) or an atlas to calculate the distance between cities in miles. You may add additional stops along your route to visit family, friends, or other locations. Compile your plan and share it with your family and your teacher. (This is a collaborative project that can also be used to support Social Studies Standard **SS3G1**). Locate major topographical features on a physical map of the United States. a. Locate major rivers of the United States of America: Mississippi, Ohio, Rio Grande, Colorado, Hudson, and St. Lawrence. (*Planning Guide on Page 4*)

Communication

[Breakout EDU](#) (You can sign up for a free game if you don't have an account) [Cari's Closet](#). Digital Breakout games are an easy way to challenge students to collaborate, use critical thinking, and communication to “breakout” (like an escape room concept, but everything is digital). This game requires children to **create and interpret bar graphs and pictographs with multiple categories**. If this is your students' first experience with a Breakout Challenge, you may need to be prepared to give hints to help guide students. I find the best hints are questions to make them think more. Allow the students time to struggle before providing a hint. I encourage students to use the back of their recording sheet to write down solutions they try. Oftentimes, they will figure out the answer by working through what does not work. (*Handout on p. 3*)

Critical Thinking and Critical Problem-Solving Skills

Show students how to solve a [KenKen Puzzle](#) (FREE). You can have them select a puzzle to focus on just multiplication; or combine multiplication with division or all operations. Sign up for a free [KenKen Classroom Account](#). Once students understand the puzzles, you can host a [KenKen Puzzle Tournament](#).

Creative Thinking and Creative Problem-Solving Skills

Use the “[Multiplication Challenge Puzzle](#)” as a practice page. Students will cut apart the pieces and solve the multiplication expressions. If students struggle offer this hint: “The four corner pieces are all quadrilaterals.” Once students have had success solving the puzzle, give them the opportunity to create their own puzzle (smaller grid with just 9 pieces).

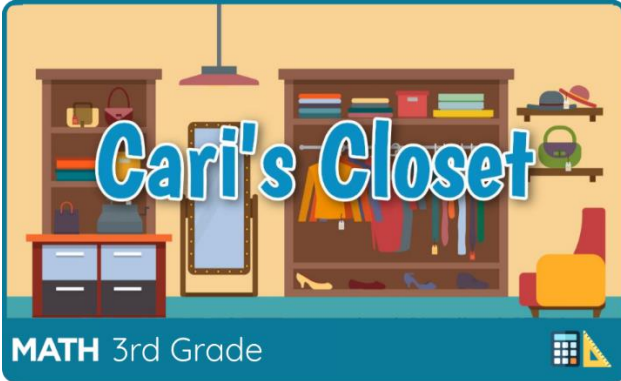
Awareness of Self—Student's Well-being

Encourage students to strengthen math fluency using the free online game, [Kakooma](#). Introduce it as a time-filler while students are in transition or waiting for a class change or lunch break. Start by playing in whole group with the teacher leading. Then allow students to take the lead. Once most students are comfortable with the game, have students play independently. There are six levels of addition with 19 puzzles in each level. The basic premise is students must add two numbers and click the sum. It is challenging because the number of possible addends increases and only two numbers in each set can be added to determine the sum (another number in the set). The size of the sets and the value of the addends increases with each level. Have students keep a record of their score and set goals to improve. Encourage students to determine what steps will help them reach their goal.

Digital Breakout EDU Challenge Recording Sheet: Cari's Closet





My Name _____

Names of the Students in My Group: _____



Susan just started her new job at Cari's Closet, a new clothing store in town. Her boss has asked her to go through the store reports and see where they can work on boosting sales. The only problem is, Susan can't remember much about **graphing!** She needs your help to interpret the data and help Cari's Closet increase their sales!

Record the Correct Lock Combination for Each Lock

Lock	Correct Combination				
 Color Lock					
 Word Lock					
 Number Lock					
 Shape Lock					

Can you think of a time in real life a bar graph or pictograph would be useful?

Where do we see graphs in our school?

What happens when we change the key on a pictograph?



Name _____

Family Road Trip

Plan a family trip to visit a city along each of the major rivers (Mississippi, Ohio, Rio Grande, Colorado, Hudson, and St. Lawrence). You must visit at least 1 state or [national park](#) or historical location in or near each of the cities you visit. Create an itinerary showing what you will do in each city and how long you will visit each location. Use a travel planning website ([Google Maps](#), Apple Maps, etc.) or an atlas to calculate the distance between cities in miles. You may add additional stops along your route to visit family, friends, or other locations. Compile your plan and share it with your family and your teacher.

Miles to Get to this Location	Day	City	River	Activities or Places to Visit	Total Miles Traveled
Number of miles from your home city to first location					

Miles to Get to this Location	Day	City	River	Activities or Places to Visit	Total Miles Traveled

Total Number of Miles Traveled _____