

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

Big Idea/ Topic

Develop an understanding and fluency with multi-digit multiplication, and develop an understanding of dividing to find quotients involving multi-digit dividends, generalize place value understanding to multi-digit whole numbers

Standard Alignment

MGSE4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

MGSE4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Advanced Research

- Plan a vacation for your family to go to an amusement park. You will need to research admission price, hotels, and airfare.
- Learn about a Japanese Multiplication strategy using lines. Try to solve a few problems using this strategy. Do you think it is easier or harder than how we have learned to multiply? Why?

Communication

Create an escape room using division (You may find some variations online). This game requires children to apply their understanding of **division**. If this is your students' first experience with an escape room, 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.

Critical Thinking and Critical Problem-Solving Skills

- Use the information that you found when you researched this information: Plan a vacation for your family to go to an amusement park. You will need to research admission price, hotels, and airfare. Now have the students create five math word problems using this information. Make sure that they create multiplication and division problems. Share with others and solve the problems.

Creative Thinking and Creative Problem-Solving Skills

Brainstorm some of your favorite games. Now think of how you could create a game that would be fun for kids in your class and allow them to practice multiplication and division. Make a list of materials you will need. Try to utilize free or recycled materials. Think about the rules for the game. You might review game rules for some of your favorite games to be sure you are thorough with your directions. Be sure you can show your teacher how this game will help students practice the multiplication and division skills we have been learning.

Awareness of Self—Student's Well-being

Provide students with a list of learning targets for multiplication and division in the order you will be teaching them. Many gifted learners will have already begun exploring multi-digit multiplication and division. When the standards ask students to explore and understand different strategies, it can be difficult for advanced students to see the point of learning them. Providing students with a ladder showing the progression may help students understand the importance. Encourage students to set goals.

Family Vacation to an Amusement Park

Name _____

Directions: Plan a family vacation to an amusement park in another state (or country).

Here are some possible destinations (You can choose a different amusement park):

- Disney World's Magic Kingdom (Orlando, Florida)
- Disney Tokyo (Tokyo, Japan)
- Cedar Point (near Cleveland, Ohio)
- LEGOLAND California (near San Diego, California)
- Bush Gardens Williamsburg (near Richmond, Virginia)
- Disneyland Paris (near Paris, France)
- Tivoli Gardens (Copenhagen, Denmark)
- Six Flags Great America (near Chicago, Illinois)



Destination: _____

Dates (Will you be going for Spring Break, summer vacation, or another time? _____)

How many family members will be going on the trip? _____ List them here: _____

Park Admission: What is the cost of admission for each person? Pay close attention to ticket prices for different ages. Senior citizens (grandparents) are usually discounted. Do you think your family will spend more than one day at the park? Sometimes there are options for 2- or 3-day tickets.

Flight Cost: Using Google Flights, determine the cost of the flight. Multiply the cost by the number of people going. Children under age 2 can ride in someone's lap and do not need a ticket.)

Airline _____ Cost per person _____

Total Cost for Airline Tickets _____

Hotel Cost: Find a hotel near the park. Be sure to figure out how many rooms you will need to fit your family. You pay for a hotel room for each night you are in the city.

Hotel Name _____ Number of Rooms _____

Cost per night _____ Total Cost for Hotel _____

Determine the total cost for the vacation including admission tickets, airline flights, and hotel.

***An actual family vacation budget would also need to consider the cost of meals, transportation to and from the airport, transportation from the hotel to and from the park, souvenirs, taxes, and gratuity.**

Progression of Multiplication Skills in Fourth Grade

MGSE4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Multiply 2-digit by 2-digit
Multiply 1-digit by 4-digit
Multiply 1-digit by 3-digit
Multiply 1-digit by 2-digit
Multiply using area model or rectangular prism
Multiply a whole number by multiple of 10 or 100
Multiplication Fluency up to 12×12
Multiplication Fluency up to 10×10
Properties of Multiplication
Multiplication Fluency 0, 1, 2, 5, 10
Arrays
Repeated addition

Personal Goal: