Objective

By the end of this lesson, you will be able to apply arithmetic skills to set up an aquarium, including calculating the volume of water needed, determining the number of fish that can be accommodated, and understanding the cost of maintaining the aquarium.

Materials and Prep

- Aquarium tank
- Aquarium filter
- Aquarium heater
- Aquarium decorations
- Aquarium gravel
- Aquarium water conditioner
- Aquarium fish food
- Aquarium test kits
- Calculator
- Pen and paper
- Prior knowledge of basic arithmetic operations

Activities

1. Calculate the volume of water needed for the aquarium:
    - Measure the length, width, and height of the aquarium in centimeters.
    - Multiply the three dimensions to find the volume in cubic centimeters.
    - Convert the volume to liters by dividing by 1000.
2. Determine the number of fish that can be accommodated:
    - Research the adult size of the fish species you want to keep.
    - Calculate the space required per fish by dividing the aquarium volume by the recommended space per fish.
    - Round down the result to the nearest whole number to determine the maximum number of fish.
3. Understand the cost of maintaining the aquarium:
    - Research the average cost of aquarium supplies and maintenance per month.
    - Calculate the total cost for a year by multiplying the monthly cost by 12.
    - Discuss the financial aspects of maintaining an aquarium and budgeting for it.

Ninth Grade Talking Points

- "Arithmetic is a fundamental branch of mathematics that deals with numbers and their operations."
- "In this lesson, we will apply arithmetic skills to set up an aquarium, which involves calculating volume, space requirements, and cost."
- "To calculate the volume of water needed for the aquarium, we'll use the formula length x width x height."
- "We will convert the volume from cubic centimeters to liters by dividing by 1000."
- "Determining the number of fish that can be accommodated requires calculating the space required per fish and dividing the aquarium volume by it."
- "To find the maximum number of fish, we'll round down the result to the nearest whole

number."
- "Finally, we will discuss the cost of maintaining an aquarium and the importance of budgeting for it."