WonderHere

HAZMAT(h)
Post Primary Math Project

HAZMAT(h) Primary Team Orders

Cleaning up the environment, one math problem at a time!

Post Primary Math Benchmarks Covered
- Comparing Numbers
- Perform basic mathematic operations using natural numbers
- Practice basic addition and subtraction skills and algorithms (0-100)
- Learn 0-10 multiplication tables
- Practice multiplication and division with natural numbers
- Solve equations by reasoning and experimentation
- Build, draw, examine, classify objects and figures
- Classify objects into cylinders, cones, etc.
- Recognize rectangular prisms, round cylinders, circular cones, pyramids
- Classify plane figures into polygons and other figures
- Learn more about triangles, quadrangles, circles
- Practice measuring accurately and with estimation
- Understand concepts of area and perimeter
- Solve word problems using dollars and cents
- Make change using dollars and cents

Scenario
It was a beautiful day in sunny Central Florida, when suddenly a loud crash was heard from around the corner! Smoke is filling the city sky. What could have happened?! On the news it is now being reported that someone accidentally ran their car right into Mr. Bucket's Gas Station and the gas station is now on fire! First Responders are now on the scene!

What will YOU do to get the situation under control, before things turn into a REAL DISASTER?! It is time for your HAZMAT(h) team to suit up!

Job 1: Secure the Situation

Your first job upon arrival to the scene, is to secure the situation. Work fast and smart to get the situation under control! You need to assess the situation, identify the immediate dangers, and establish a wide perimeter to keep the community and civilians safe. Let's GET TO WORK!

Take a close look at the dangerous situation Image 1. What is going on? Circle what is wrong with the picture and what needs to be handled.

Think about what you observe in Image 1. When you get to the scene, what are questions you would ask to help you better understand the situation and know how to help. Write 3 thoughtful questions you are thinking when you look at Image 1.

1. _____

2. _____

3. _____

What do you think can be done to solve the problems you see in Image 1?

_____

_____

_____

_____

_____

_____

_____

Take a look at Image 2. When entering a dangerous area, it is essential to immediately get control of the situation, by establishing a safe border around the hazardous area and securing a wide perimeter. To do this, draw a rectangle (directly on Image 2 using a yellow marker) around the gas station that is 10 centimeters long and 8 centimeters wide.

Legend:

- Lake
- Dog Park
- Hospital
- University
- School
- Stop sign
- House
- Park
- Tree
- Gas Station
- Parking
- Playground

1 cm : 10 ft

PERIMETER

Perimeter is the distance around an object; area is the amount of total space the object takes up. Perimeter can be calculated by adding up the lengths of each side of a figure. Area can be solved by multiplying the length times the width of a figure. Using your measurements from above, calculate both the perimeter and area for the area you secured.

Perimeter =_____

Area = _____

Work Space

Using a centimeter ruler, measure the sides of the gas station in centimeters. Next, calculate the area and perimeter of the gas station.
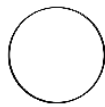
Perimeter =_____
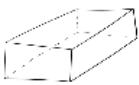
Area = _____

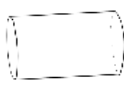Work Space

WHAT ARE 2 DIMENSIONAL (2-D) SHAPES?
In geometry, a two-dimensional shape is any flat
plane figure that has two dimensions – length and width. These shapes do NOT have any
thickness and can be measured in only two faces. (A face is a flat surface, like the top of a box.
An edge is a line along which two faces meet.) Use the chart below to identify common 2-D
Shapes.
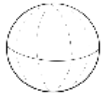
2D SHAPES	
⬤	CIRCLE
◻	SQUARE
△	TRIANGLE
▭	RECTANGLE

WHAT ARE 3 DIMENSIONAL (3-D) SHAPES?
In geometry, a three-dimensional shape is a shape that has three dimensions- length, width, AND
height. These shapes DO have thickness and can be measured in three faces or more.

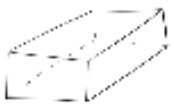Use the chart below to identify common 3-D Shapes and their identifying attributes

3D SHAPES	
sphere	SPHERE
cube	CUBE
rectangular prism	RECTANGULAR PRISM
cone	CONE
cylinder	CYLINDAR
pyramid	PYRAMID

Follow the directions below, to practice labeling the different 2-D shapes that you can find on Image 2.

1. Color all triangles blue
2. Place an X on each square
3. Draw a dotted line around each rectangle
4. Color all circles red

A polygon is a special kind of flat shape defined as: a flat, closed figure with at least three sides which do not intersect. Which 2-dimensional shape from above would not be classified as a polygon?

Complete the following chart to tell how many 3-D shapes you can find on Image 2

3D SHAPES		How many can you find ?
	SPHERE	
	CUBE	
	RECTANGULAR PRISM	
	CONE	
	CYLINDAR	
	PYRAMID	

You have successfully secured the situation, now you need to clean up the mess! It is important to move swiftly and smartly, being sure to limit the disruption of business and transit in the surrounding areas.

Below are the barrels you can use to fill with the gas you collect from the spill site. Each barrel can hold 10 gallons. Skip count by 10s to see how many gallons you can hold in all.

Write a multiplication equation to represent your skip counting.

_____

The barrels are full, but there is still gasoline on the ground. Use the small barrels to clean up the rest. These barrels can hold 5 gallons each. Skip count by 5s to see how many gallons these can hold.

5 gal   _____   _____   20 gal   25 gal   _____   _____

Write a multiplication equation to represent your skip counting.

_____

Use the sand bags below to soak up the gasoline.

Each sand bag weighs three pounds. You begin by using three sand bags. How many pounds of sand have you used so far?

_____

Your teammate pitches in to help with the spill. She uses 6 bags of sand. How many pounds of sand did she use?

_____

How many pounds of sand have you used altogether?

_____

Each sand bag costs $2.75. How much money did you have to spend on sand bags altogether?

_____

Work Space

the sand bags with a fifty dollar bill. How much change will you receive back?

_____

Work Space

Wrap Up: Final Report & Interview

Hip- hip hoorah! You have completed your job, the site has been secured, decontaminated, and everyone is safe! Now it is time for you to take an interview and file your final report.

You are being interviewed by the local news station about everything that occurred and the important role you played in keeping your community safe! Write or record your interview report to share everything that happened and the fast thinking that you did to keep the situation from turning from bad to worse!

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

When you first arrived on the scene, what did you see and what did you think about what had happened?

_____

_____

How did you help resolve the situation?

_____

_____

How did math help you resolve the situation quickly?

_____

_____

What did you do that was hard?

_____

_____