



YOU ARE MY DENSITY

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PROBLEM: HOW DOES THE SIZE OF
THE PARTICLE AFFECT THE
AMOUNT OF SPACE IN A
CONTAINER?

Group	Small Steel Spheres		Large Steel Spheres	
	# Spheres	Drops Water	# Spheres	Drops Water
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Average				

1. WHAT FILLED THE SPACES BETWEEN THE
STEEL SPHERES?

2. WHICH CUP HELD THE MOST WATER?

3. HOW WOULD YOU DESCRIBE THE RELATIONSHIP BETWEEN THE SIZE OF THE STEEL SPHERES AND THE NUMBER OF SPHERES THAT FITS IN THE BOTTOM OF THE CUP?

4. HOW WOULD YOU DESCRIBE THE RELATIONSHIP BETWEEN THE SIZE OF THE STEEL SPHERES AND THE NUMBER OF SPHERES THAT FITS IN THE BOTTOM OF THE CUP?

PROBLEM: HOW DOES DENSITY
AFFECT AN OBJECT?

VOLUME OF A CUBE: $L \times W \times H$

VOLUME OF A
RECTANGULAR PRISM: $L \times W \times H$

VOLUME OF A
CYLINDER: $\pi \times R \times R \times H$

SINK or FLOAT DATA TABLE

Equation for Density:

Metal Type & Shape	Mass (g)	Volume (cm ³)	Density (g/cm ³)	Prediction	Results

Calculate the density of each shape.

1. WHAT SURPRISED YOU FROM THE RESULTS? EXPLAIN YOUR ANSWER.

2. EXPLAIN WHY SOMETHING WAS ABLE TO
FLOAT. TO SINK.

3. HOW DO YOU THINK THIS RELATES TO THE PREVIOUS ACTIVITY WITH THE STEEL SPHERES?

4. HOW CAN STUDENTS EXPLORE THE
CONCEPT OF DENSITY AT DIFFERENT GRADE
LEVELS? IN DIFFERENT DISCIPLINES?