

# Density Lab: Paperclips

Name: \_\_\_\_\_

Block: \_\_\_\_\_

Date: \_\_\_\_\_

Procedure	Measurement
Measure and record the mass of 10 large-size paper clips.	<i>Be sure to include correct units.</i>
Get a 50 mL graduated cylinder. What is the calibration of this measuring device?	<i>Be sure to include correct units.</i>
To what decimal place will you record your answer using this graduated cylinder?	
Measure and record the volume of the same set of 10 large-size paper clips. Use water displacement method. Add tap water to graduated cylinder so that it is about half way up. Write down the initial volume:	<i>Be sure to include correct units.</i>
Add the 10 large paper clips to the water in the graduated cylinder. (Make sure they are completely submerged. Write down the new volume:	<i>Be sure to include correct units.</i>
What is the calculated volume of the 10 paper clips?	<i>Be sure to include correct units.</i>
Calculate the density of the paperclips.  $D = m/V$	<i>SHOW YOUR MATH SETUP.</i> <i>Be sure to include correct units.</i>
What is the density of distilled water?	<i>Be sure to include correct units.</i>
Will a paperclip float or sink in water?	
Your teacher will give you the <i>actual value</i> for the density. Write it down on the right.	<i>Be sure to include correct units.</i>
Calculate the % error.  $\% \text{ Error} = \frac{ \text{"actual value"} - \text{"what you got"} }{\text{"actual value"}} \times 100$  Note that the numerator in the equation above is the "absolute value".	<i>SHOW YOUR MATH SETUP.</i> <i>Remember, the units for error is a percentage!</i> <i>Round your answer to the closest <b>whole number</b>.</i>