

Measurement Review **KEY**

Name _____

Hour _____

Define:

1. Area --OUTER SURFACE OR SKIN; 2 DIMENSIONAL
2. Linear --AN EDGE OR STRAIGHT LINE; 1 DIMENSIONAL
3. Pressure --PUSHING
4. Volume --SPACE AN OBJECT TAKES UP; 3 DIMENSIONAL
5. Density --HOW TIGHTLY PACKED MATTER IS
6. Mass-- HOW MUCH MATTER IS THERE
7. Weight—HOW HARD GRAVITY PULLS DOWN

What unit labels are used for:

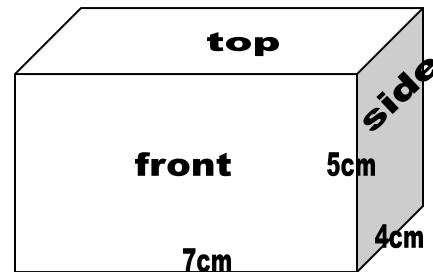
8. Area --**cm²**
9. Linear-- **cm**
10. Pressure --**N/cm²**
11. Solid Volume--**cm³**
12. Liquid Volume-- **mL**
13. Density-- **g/cm³**
14. Mass --**g**
15. **Weight - N**

Using the figure, answer the following questions:

Don't forget labels for your numbers!

16. Length **7cm**
17. Width **4 cm**
18. Height **5 cm**
19. Bottom surface area **28 cm²**
20. Back surface area **35 cm²**
21. Left side surface area **20 cm²**
22. TOTAL surface area **166 cm²**
23. Volume **140 cm³**
24. Mass **206 g**
25. Density **1.47 g/cm³**
26. Pressure **.075 N/cm²**
27. Would this block sink or float?

mass= 206 grams
weight=2.1 N

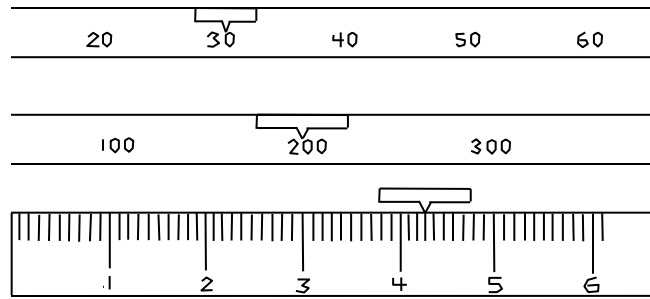


SINK

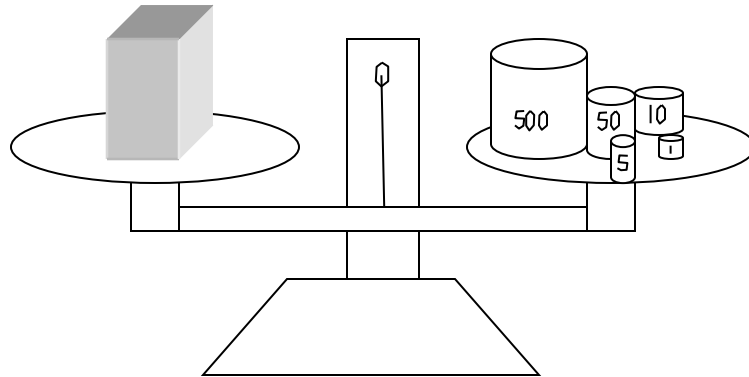
Write the metric prefixes in order (largest to smallest) with their definitions:

28. KILO—1000
29. HECTO—100
30. DEKA—10
31. BASE—1
32. deci--.1 or 1/10th
33. centi--.01 or 1/100th
34. milli--.001 or 1/1000th
35. .03 Km= 30 m
36. 440 L = 44000 cL
37. 3.6 mg = .36 cg

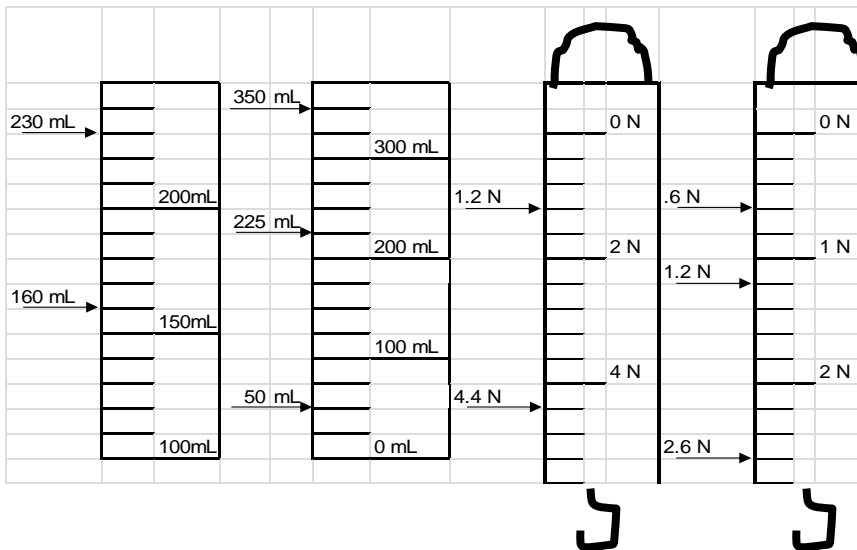
38. value? 234.3 grams



39. value? 566 grams



38-47 What is the value indicated by the arrow? LABEL



- 48. What is a sample size, and how does that help or hurt a scientific study?
THE AMOUNT OF ITEMS IN THE EXPERIMENT; THE MORE THE BETTER
- 49. What is an independent variable?
THE CAUSE; THE THING THE SCIENTIST IS MANIPULATING
- 50. What is a dependent variable?
THE EFFECT; THE THING THE SCIENTIST MEASURES WHEN IT'S DONE
- 51. What are controlled variables?
VARIABLES YOU KEEP THE SAME TO MAKE A FAIR TEST
- 52. What is a hypothesis?
YOUR BEST GUESS ABOUT WHAT WILL HAPPEN IN THE EXPERIMENT
- 53. What is a conclusion/argument?
WHAT YOU LEARNED / A STATEMENT YOU CAN MAKE AFTER THE EXPERIMENT
- 54. Why do scientists need evidence?
SO THEY CAN PROVE THEY ARE RIGHT

SCIENTIFIC METHOD REVIEW

NAME _____ HR _____

Two young scientists wondered if heating water allowed it to dissolve more sugar than normal. They followed this procedure -- First they got 3 cups of equal size. All cups had a cube of sugar put into it. All cups had the same amount of water. All cups had different temperatures of water added to the cup. The experimenters used a stopwatch to time how long it took for the sugar cube to dissolve completely. They were careful not to stir any of the cups (which might accidentally help out the dissolving process). The results are summarized in the table below:

	Sugar placed in cup	Temperature of water in Celsius	Time it took to dissolve
Cup 1	1 cube	49 Celsius (the hottest water out of the tap)	12 seconds
Cup 2	1 cube	21 Celsius (water at room temperature)	5 minutes, 2 seconds
Cup 3	1 cube	3 Celsius (water from the refrigerator)	30 minutes

1. What is the scientific question?

WHAT TYPE OF WATER DISSOLVES SUGAR THE FASTEST?

2. What is the independent variable?

WATER TEMPERATURE

3. What is the dependent variable?

TIME IT TOOK TO DISSOLVE

4. What are the controlled variables? (list at least 3)

***SAME CUPS**

***SAME AMOUNT OF SUGAR**

***SAME AMOUNT OF WATER**

5. How big was the sample size?

3 CUPS

6. What is the conclusion/argument? (be sure to back it up with evidence) (2pts)

THE HOTTER WATER IS, THE FASTER SUGAR DISSOLVES. MY EVIDENCE IS THAT THE HOTTEST WATER DISSOLVED THE SUGAR IN 12 SECONDS WHEREAS THE COLDEST TOOK OVER 30 MINUTES.

7. What might make this experiment better?

**MORE CUPS OF THE SAME TEMPERATURE (MAKE SURE YOU ARE CORRECT)
MORE CUPS OF DIFFERENT TEMPERATURES**