






QUESTIONS

Measurable Word	Measures	Tool	Unit
coldest	temperature		° C
fastest	time		sec/min/hrs
heaviest	mass		g/Kg
biggest	volume		mL
longest	length		cm/m/Km

~~miles~~ ~~m~~ ~~lbs~~ ~~°F~~
 ↑ ↑ ↑ ↑
 Not Metric Not Metric Not Metric Not Metric

YES

- 1) If it IS quantitative, write how you would MEASURE your results.

NO

- 1) If it IS NOT quantitative, rewrite it so it is now testable.
- 2) Then, write how you would MEASURE your results.

1) QUESTION: What is the heaviest animal?

NO

YES

If NO, rewrite question here: _____

I would measure my results with a triple beam balance in g units.

HYPOTHESIS: I think because

2) **QUESTION:** What type of ice cream gets the coldest in the freezer?

YES

NO

If NO, rewrite question here: _____

I would measure my results with a thermometer in °C units.

HYPOTHESIS: I think...
because...

3) **QUESTION:** Who can throw the javelin the farthest?

YES

NO

If NO, rewrite question here: _____

I would measure my results with a meter stick in cm/m units.

HYPOTHESIS: I think...
because...

4) **QUESTION:** What type of oranges make the most juice when you squeeze them?

YES

NO

If NO, rewrite question here: _____

I would measure my results with a graduated cylinder in mL units.

HYPOTHESIS: _____

5) **QUESTION:** What type of cellphone battery lasts the longest?

YES

NO


If NO, rewrite question here: _____

I would measure my results with a timer in sec/min units.

HYPOTHESIS: _____

TEST

Rachel's Test for Bubble Gum Lab	Questions you have for her:	Your Rewrite:
Get a piece of gum.	Type of gum? Mass before? Tool? Unit? Keep wrapper on?	1) Get a piece of Double Bubble Gum 2) Find the mass before chewing (with the wrapper on), on a Triple Beam Balance in grams.
Chew it.	How long? Tool? Unit? Where put it after chewing?	3) Chew the gum for 2 minutes, using a timer. 4) After 2 minutes, spit gum back into wrapper.
See if the mass changes.	How measure? Tool? Unit? In wrapper?	5) Find the mass after chewing (in the wrapper) on a Triple Beam Balance in grams.

Justin's Test for Light & Color Lab	Questions you have for her:	Your Rewrite:
Put soil in a cup.	How much soil? What type of soil? Size of cup?	① Put 40 ml of soil into 250 mL ^{plastic} cup. 
Put it under the lamp.	What are you measuring? Tool? Unit? How long? How strong lamp? Temp. Before?	② Put temp. probe into soil and record temp. in °C before. ③ Then place under 60 watt desk lamp and time for 5 minutes.
Put water in a cup.	How much water? Size of cup?	④ Put 40 mL of water into 250 mL plastic cup.
Put it under a lamp.	What are you measuring? Tool? Unit? How long + temp before?	⑤ Put temp. probe into water and record temp. in °C before. ⑥ Then place under 60 watt desk lamp for 5 minutes on a timer.
See which one gets hotter.	Measure? Tool? Unit? Temp after?	⑦ At the end of 5 min, record the temp. in °C each for each soil and water.

Data
Table

RESULTS

Directions: Make a Bar Graph for the results below.

Results: After testing three vacuum cleaners, the Hoover vacuum picked up 200g of dirt, the Dirt Devil picked up 500 g of dirt, and the Swiffer picked up 150 g of dirt.

Vacuum Test	
Vacuum Cleaners	Amount of dirt (g)
Hoover	200
Dirt Devil	500
Swiffer	150

Results: After testing 3 different pairs of skis, the 1 meter skis completed the course in 42 seconds. The 1.2 meter skis completed the course in 40 seconds, and the 1.5 meter skis in 37 seconds.

Ski Experiment	
Skis	Time to complete course (s)
1 meter	42
1.2 meter	40
1.5 meter	37

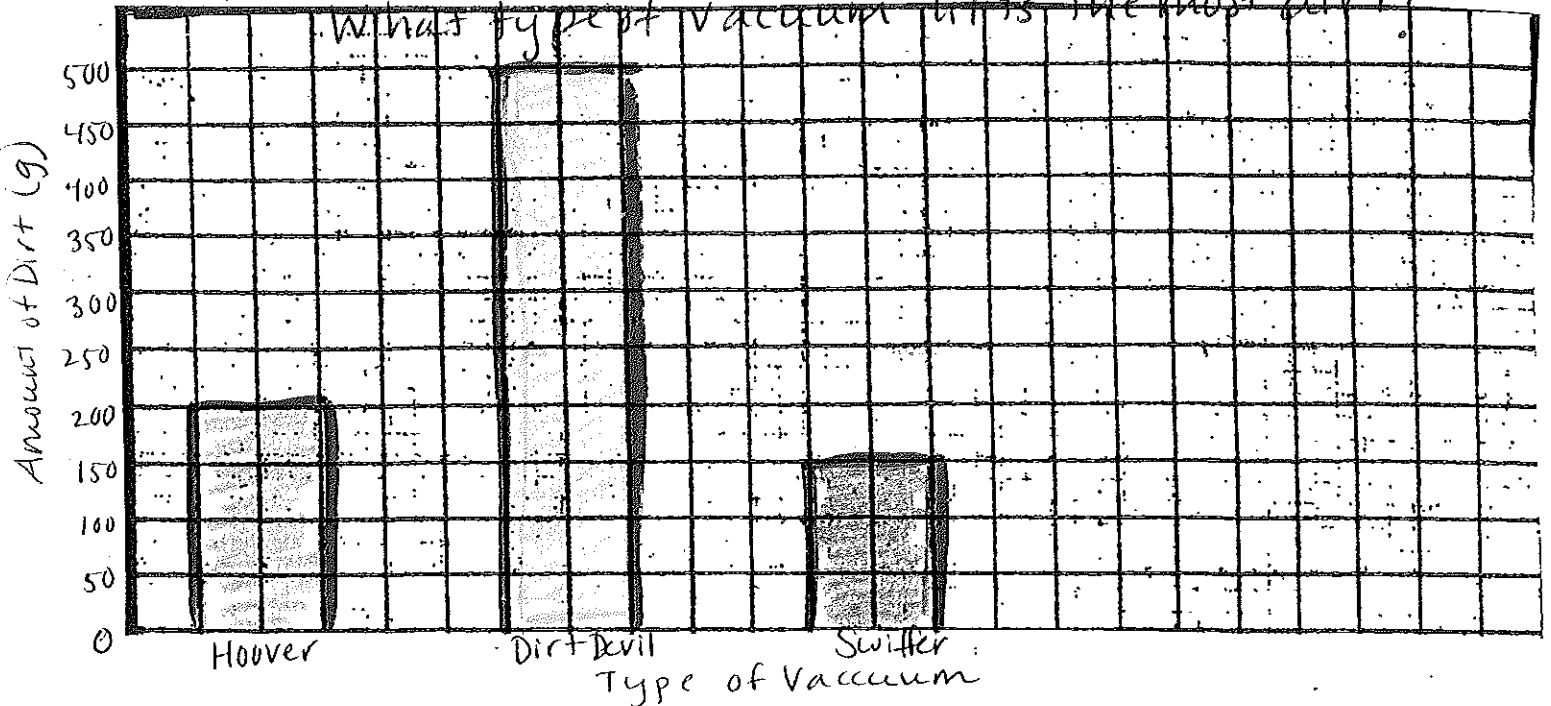
RESULTS

BAR
GRAPH

Directions: Make a ~~TABLE~~ for the results below.

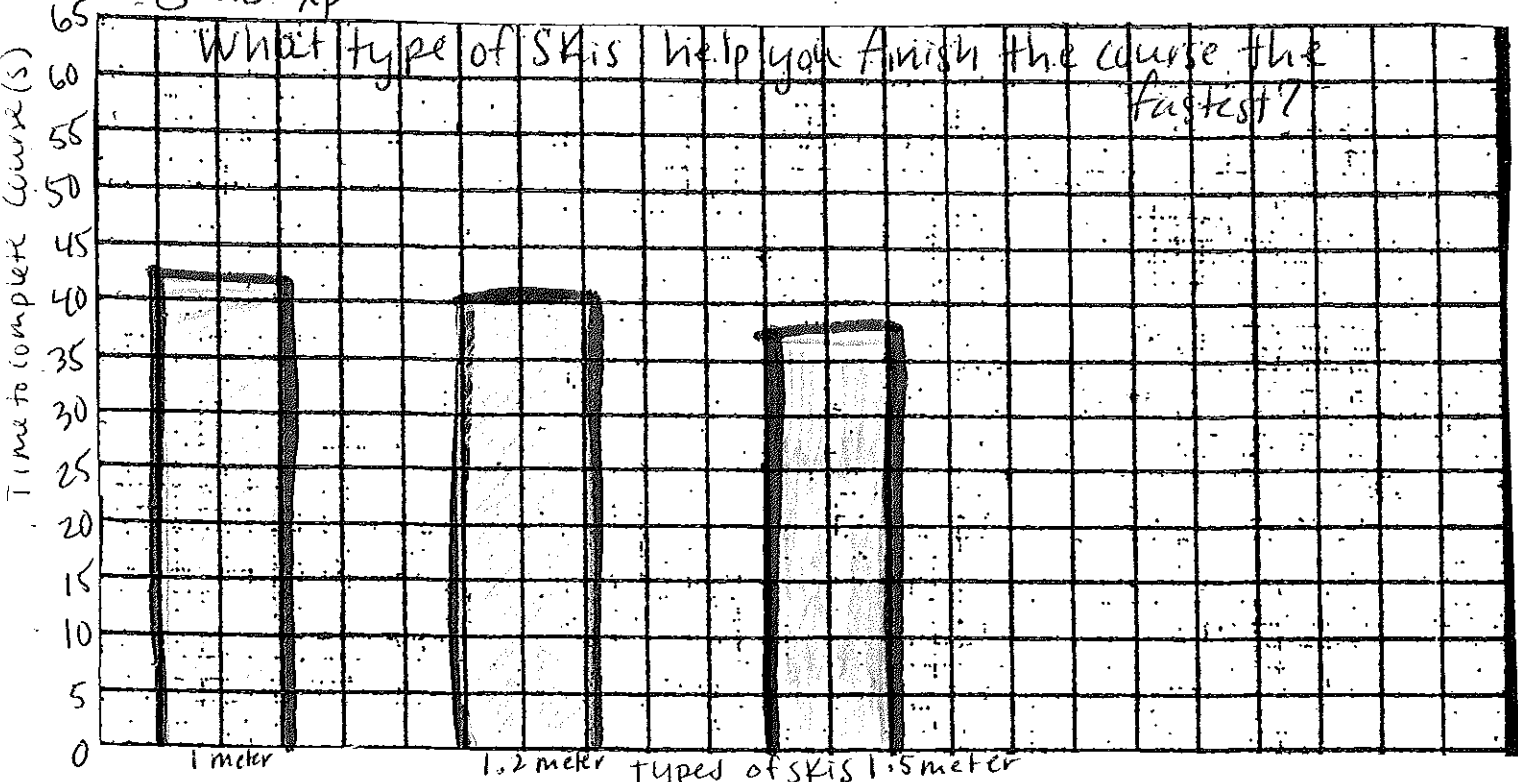
Results: After testing three vacuum cleaners, the Hoover vacuum picked up 200g of dirt, the Dirt Devil picked up 500g of dirt, and the Swiffer picked up 150g of dirt.

Vacuum Test
What type of vacuum lifts the most dirt?



Results: After testing 3 different pairs of skis, the 1 meter skis completed the course in 42 seconds. The 1.2 meter skis completed the course in 40 seconds, and the 1.5 meter skis in 37 seconds.

Skis Experiment
What type of skis help you finish the course the fastest?



3

Question: Will I get more blisters if I take my socks off in my soccer cleats?

Socks on

(control group)

+ $\frac{\text{take socks off}}{\text{(variable)}}$ =

Socks off

(experimental group)

Constants:

- 1) same cleats
- 2) same amount of running
- 3) same size feet

NOT: ~~same socks~~
~~same number of blisters~~

4

Question: Will a candle flame go out faster if I place a glass cup over it?

DIRECTIONS:

Identify the 6 parts of a controlled experiment:

- 1) Control Group
- 2) Experimental Group
- 3) Variable
- 4) 3 Constants

Cross out the choices you do not use!

<u>Constant</u>	size of candle
<u>E. G.</u>	candle flame with glass
<u>constant</u>	amount of wind
<u>C.G.</u>	candle flame without glass
<u>variable</u>	glass
	time it takes the candle to go out
<u>constant</u>	lighter you use to light the candle
	type of glass



1

WORD BANK:

Variable

Constants

Controlled Experiment

Control Group

Experimental Group

1. Control Group - Does not get the treatment
2. Controlled Experiment - AN experiment that compares 2 groups
3. Experimental Group - Gets the treatment
4. Constants - The things that stay the same
5. Variable (different) - The thing that CHANGES

2

Question: Does a water freeze faster with sugar added to it?



Constants:

- 1) Same amount of water
- 2) Same ice cube tray
- 3) Same freezer

NOT : - amount of sugar
 - time to freeze

