SCIENCE

topic: unit one notes

date: september twenty-second, twenty twenty one

Independent+Dependent Variables:

- Things that are changing in an experiment are called variables.

Three types of variables:

- Independent Variables
- Dependent Variables
- Controlled Variables

independent

- changed by the scientist
- not affected by other variables

dependent

- what the scientist observes and measures
- there can be more than one dependent variable.

controlled

- things that you keep the same for the entire experiment
- Also known as 'constant variable'

GRAPHING notes

Data
Title
Axis
Intervals
Labels
Scales

MEASUREMENT notes

length:

- A measure of distance from end to end
- Meters, Centimeters, Millimeters
- Abbreviaton- m, cm, mm

temperature:

- A measure of how hot or cold something is
- celcius
- °C

mass:

- A measure of how much matter is present in an object
- Grams
- g

volume:

- A measure of how much space an object or liquid takes up
- millimeters
- mL

Volume

Q: how to we calculate the volume of regular shapes?

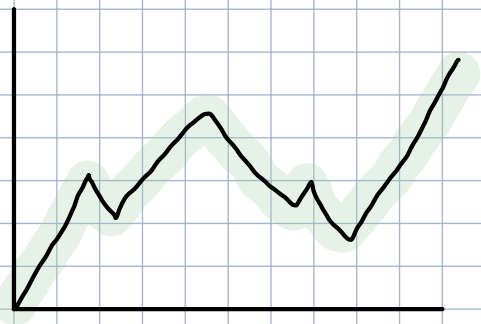
A: We use the formula:

length×width×height

GRAPHING notes

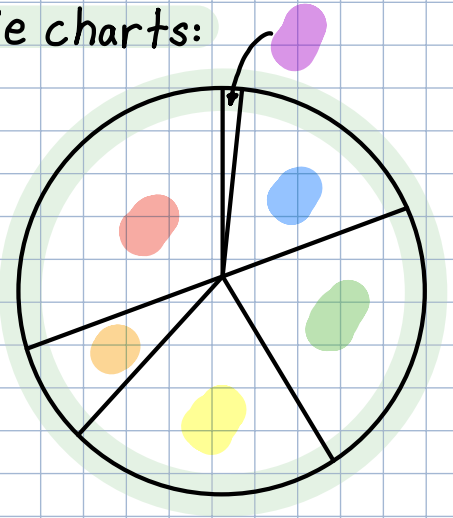
Types of graphs:

line graphs:



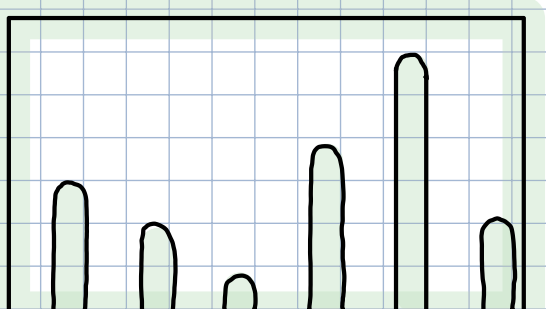
- line graphs are used to track changes over short and long periods of time.

pie charts:



- pie charts can be used to show percentages of a whole. Unlike other types of graphs, pie charts do not show changes over time.

bar graphs:



Q: how to we calculate the volume of irregular shapes?

A: We use water displacement

- bar graphs are used to compare things between different groups.

DENSITY notes

Density is a physical property of an object that combines the space that an object takes up and the amount of matter present in the object.

Why is density important?

It is important because it helps explain everday occurrences, such as why the ice in your drink floats.

What do we need to know to calculate density?

- Mass - The amount of matter present in an object.
- Measured in grams (g)
- Volume - The space an object or substance takes up.
- Measured in mL or cm^3

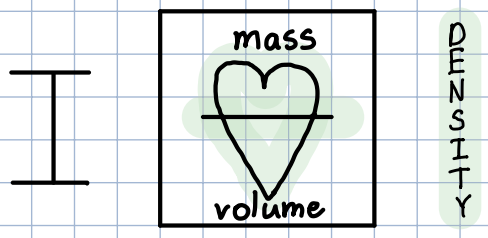
DENSITY notes

How do we calculate density?

We use the formula:

Mass ÷ Volume

Tip: Draw a heart and make line through it.



Water's Density:

Water has a density of 1 g/ml

Density less than 1:

FLOAT

Density greater than 1:

SINK

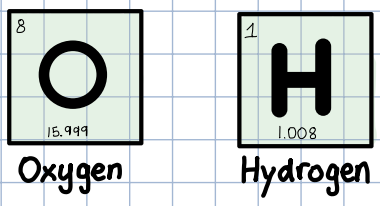
Elements + Compounds

What is an element?

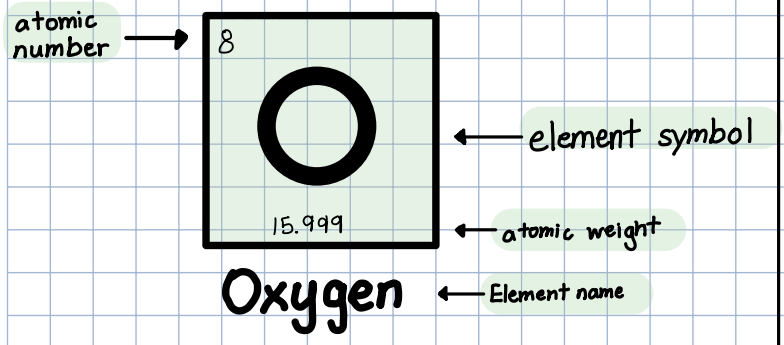
- An element is pure substance that made from a single type of atom.
- Elements are the building blocks for

all the rest of the matter in the world.

- Examples of elements include:

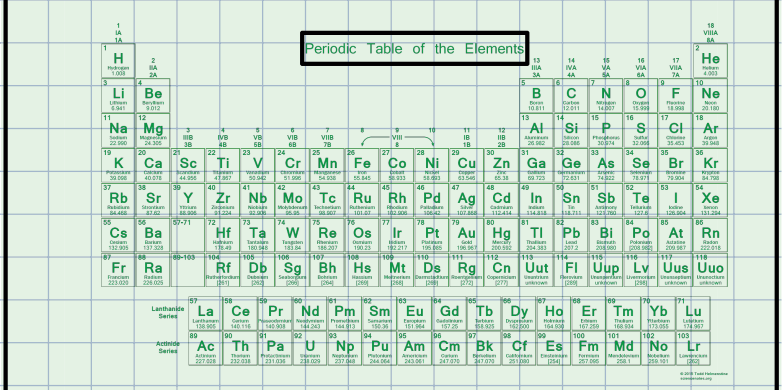


Q: what is on an element square?



ALL DONE!

good job :D



Let's get into

COMPOUNDS

What is a compound?

A compound is two or more elements chemically bonded together.

Compounds are not found on the periodic table.

H_2O

water.