

Name:.....

Mark:

Class:.....

CHEMISTRY

Scientific method

GRADE 9 General

Identify the common steps of scientific methods.

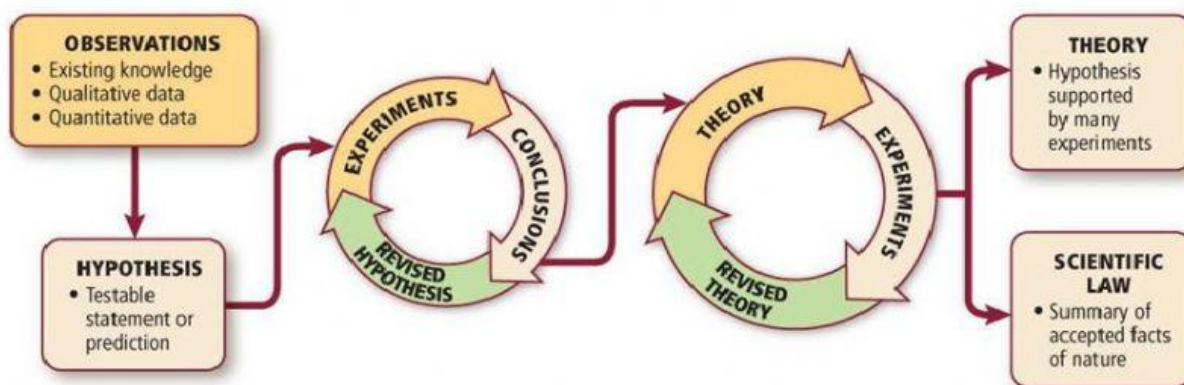
New Vocabulary

scientific method

Scientific law

Conclusion

Definition: The **scientific method** is a systematic approach to problem solving



Task Analyze the above diagram and arrange the following steps of scientific methods in **correct order**

- ☐ Ask a question or identify a problem(eg. Jelly is solid or liquid)
- ☐ Experiment and observe (eg. Squeeze the jelly and observe the shape change/ Add the jelly into water and observe the change)
- ☐ Form a hypothesis (eg. Jelly is solid because it has a fixed shape or Jelly liquid because it is soft and can change shape)
- ☐ Background research (eg. Observe the appearance and do research on their properties)

Choose the correct answer from the followings.

1. A series of steps used by scientists to solve a problem or answer a question.

scientific method recipe data collection metric system

2. This step of the scientific method is an educated guess or a prediction.

Hypothesis Research Observation Conclusion

3. The summary at the end of an experiment that explains the results.

Conclusion procedures materials responding variable

4. Why is it important for people to understand scientific principles and to think scientifically?

It allows people to make informed decisions.

It helps people estimate costs of products

It helps people choose where to live

It allows people to explain sports like an expert

Compare and contrast types of data.

New Vocabulary

qualitative data

quantitative data

Qualitative data is obtained through observations that describe color, smell, shape, or some other physical characteristic that is related to the five senses.

Quantitative data is obtained from numerical observations that describe how much, how little, how big or how fast.

Task

Group the following as Qualitative or Quantitative data

A leaf is green. The car weighs 1.2 tons The flower has seven petals A leaf is dark green.
A leaf is bumpy. A leaf has veins. The leaf has 34 veins.
A leaf has a lot of veins. A chair is hard. The dog blinked 37 times in one minute.
A flower smells good. The chicken took 34 seconds to cross the road.
A flower is stinky

<u>Qualitative data</u>	<u>Quantitative data</u>