GRADE 8

Chemistry

Module 2

Observing change

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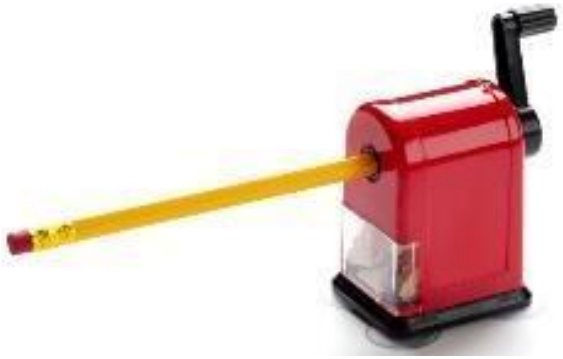
Physical change



These are physical changes where there is no change in particles, just their arrangement and their energy.

Chemical change

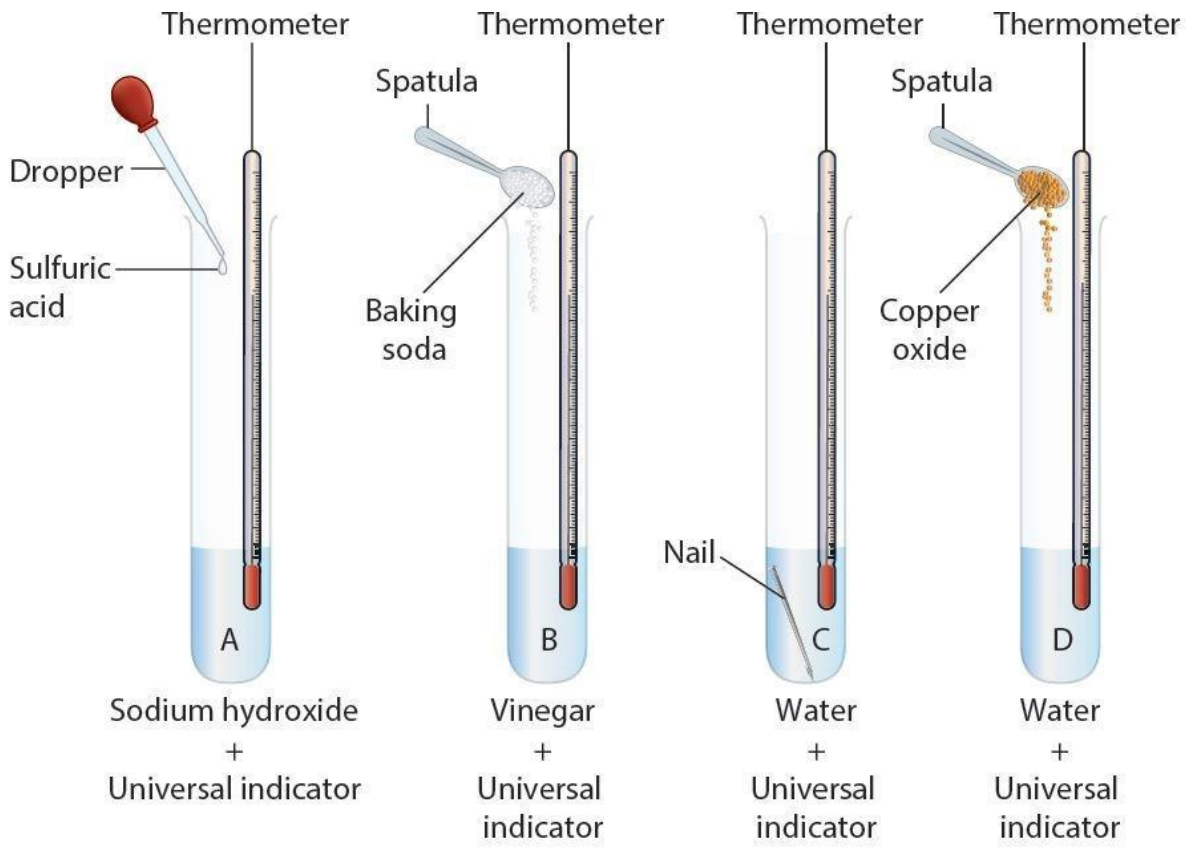
These are examples of chemical changes where a chemical reaction takes place and a new substance is formed. During a chemical change energy may be released or absorbed.

Chemical reactions

During chemical reactions the atoms (particles) rearrange to form a new substance. The signs that indicate that this has occurred are:

- colour change
- light is emitted
- change in temperature
- bubbles of gas are produced.

Activity 2.1: What changes are taking place in chemical reactions?



Results are on the next slide.

Activity 2.1

Results:

	Test tube			
Change	A	B	C	D
Temperature	✓	✓	×	×
Colour	✓	✓	×	×
Odour	×	×	×	×
Bubbles	×	✓	×	×
	Chemical change	Chemical change	Physical change	Physical change

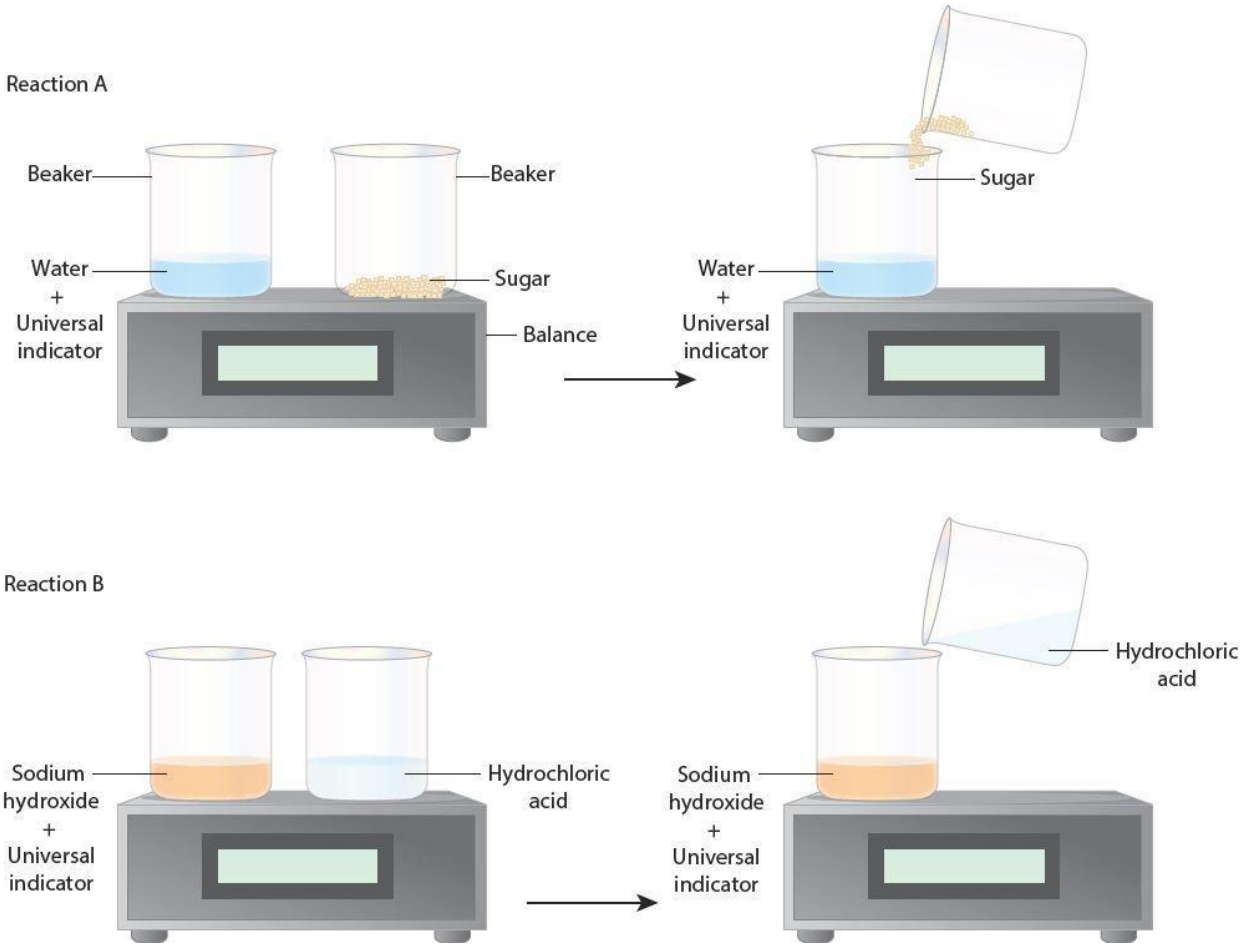
Test tube A and B = Chemical Change (change in temperature and bubbles)

Test tube C and D = Physical Change

Activity 2.2: Conservation of Mass

Results:
There is no change in mass in Solution A or Solution B.

Conclusion:
There is no change in Mass during a Physical or Chemical Change.

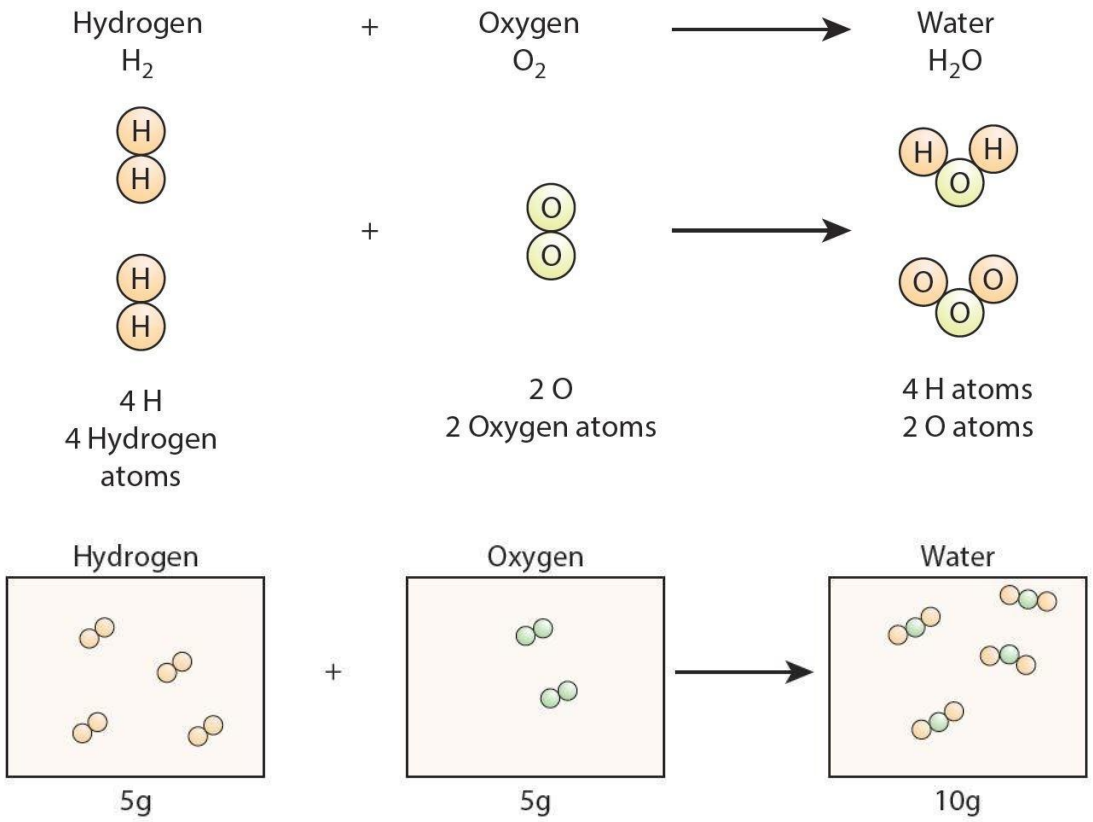


Law of Conservation of Mass

Antoine Lavoisier discovered that the mass of a substance cannot be created or destroyed, so during a physical and chemical change there is no change in the overall mass.

Particle Model Diagrams

These diagrams show how particles (atoms) rearrange to form a new substance.



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Particle Model Diagrams

Draw a particle model diagram for below:

Copper + Oxygen → Copper oxide

Particle Model Diagrams

Answer: