

6. Chemical reactions

Starter Quiz · 课前小测

IGCSE Chemistry

Name: _____ Score: _____

1. A physical change:

- ☐ makes no new substance and is usually reversible
- ☐ always makes a new substance
- ☐ cannot be reversed
- ☐ always gives off a gas

2. For a reaction to happen, particles must:

- ☐ collide with enough energy
- ☐ be the same size
- ☐ be at low temperature
- ☐ be far apart

3. A catalyst speeds up a reaction by:

- ☐ lowering the activation energy
- ☐ raising the activation energy
- ☐ being used up
- ☐ cooling the reaction

4. A reversible reaction is shown by the symbol:

- ☐ $\rightleftharpoons$
- ☐ $\rightarrow$
- ☐ $=$
- ☐ $+$

5. The Haber process makes:

- ☐ ammonia from nitrogen and hydrogen
- ☐ sulfuric acid
- ☐ oxygen
- ☐ sodium chloride

6. Which increase the rate of reaction? (Select all that apply.)

- ☐ higher temperature
- ☐ higher concentration

☐ larger surface area (smaller pieces)

☐ lower temperature

Tick every correct option.

7. Which can be signs of a chemical change? (Select all that apply.)

- ☐ a colour change
- ☐ a gas given off
- ☐ a precipitate forming
- ☐ a change of shape only

Tick every correct option.

8. Melting is a physical change because the substance stays the same.

☐ True ☐ False

9. On a graph of product against time, a steeper line means a faster reaction.

☐ True ☐ False

10. A steeper gradient on a rate graph means a faster reaction.

☐ True ☐ False

IGCSE Chemistry1. **makes no new substance and is usually reversible**

Physical changes keep the same substance.

2. **collide with enough energy**

Collisions need at least the activation energy.

3. **lowering the activation energy**

A lower E_a means more successful collisions.

4. $\rightleftharpoons$

The $\rightleftharpoons$ sign shows a reversible reaction.

5. **ammonia from nitrogen and hydrogen**

$N_2 + 3H_2 \rightleftharpoons 2NH_3$ in the Haber process.

6. **higher temperature; higher concentration; larger surface area (smaller pieces)**

Lower temperature slows the rate.

7. **a colour change; a gas given off; a precipitate forming**

A shape change alone is physical.

8. **True**

Melted ice is still water — reversible.

9. **True**

Steeper = more product per unit time = faster.

10. **True**

Gradient measures rate.