

Catalysts

KS3 Chemistry · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

What is a catalyst?

Step 1 · What it does

Speeds up a chemical reaction.

Step 2 · What happens to it

It is not used up: it is chemically the same at the end and can be used again.

Answer: A substance that speeds up a reaction without being used up

Check: Catalysts are not written or products.

2. Now try one with the steps

How would you show that manganese(IV) oxide is not used up when it catalyses hydrogen peroxide?

Step 1 · Before

Step 2 · After

Step 3 · Result

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. What does a catalyst do to the speed of a reaction? [1]

2. Is a catalyst used up in a reaction? [1]

3. What are biological catalysts called? [1]

4. Name the catalyst used to speed up the decomposition of hydrogen peroxide in school. [1]
- _____
- _____
5. Name the gas produced when hydrogen peroxide decomposes. [1]
- _____
- _____
6. What is the test for oxygen? [1]
- _____
- _____
7. Name a device in cars that contains catalysts. [1]
- _____
- _____
8. 0.40 g of catalyst is added to a reaction. What mass of catalyst is left at the end, in g? [1]
- _____
- _____
9. Does a catalyst increase the amount of product made? [1]
- _____
- _____
10. Give ONE reason catalysts help the environment. [1]
- _____
- _____
11. Name ONE enzyme in your body and the reaction it speeds up. [2]
- _____
- _____
12. With a catalyst, 50 cm³ of gas was collected in 25 s. What was the mean rate in cm³ per second? [2]
- _____
- _____
13. Without the catalyst, 50 cm³ took 250 s. How many times faster was the catalysed reaction? [1]
- _____
- _____
14. Why is a catalyst usually used powder or a fine mesh rather than single lump? [2]
- _____
- _____

4. Before you hand it in

Writing the catalyst reactant in the word equation.

Write the catalyst above the arrow, or leave it out.

"A catalyst makes more product."

Same amount of product, made faster.

"Catalysts don't take part in the reaction at all."

Say they are not USED UP (chemically unchanged at the end).

Using a lit splint to test for oxygen.

Oxygen relights a GLOWING splint.