



CLASS 7 SCIENCE · 2026-27

Acids, bases and salts

Acids, bases and salts

32

QUESTIONS

25

MINUTES

3

EXERCISES

This belongs to _____

Date _____

WHAT YOU'LL GET GOOD AT

- Predicts what each indicator does in an acid and in a base
- Explains what neutralisation is and what it produces
- Applies neutralisation to everyday situations and gives the reason
- Reads an indicator result backwards to identify an unknown substance

Take your time, and have a go at every one. If you get stuck, look at the orange box — Ollie has already done one for you.

Acids, bases and salts

Acids, bases and salts · 32 questions · tick each box as you finish

Exercise 1 of 3 · 12 questions What happens? Give the colour or the observation.



WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

Blue litmus in lemon juice -> red, because lemon juice is acidic. The pattern worth fixing: acids turn blue litmus red, bases turn red litmus blue, and a neutral substance changes neither. Everything else in this chapter is a second indicator layered on top of that one rule.

1) Blue litmus paper dipped in lemon juice

2) Red litmus paper dipped in soap solution

3) Turmeric paper touched with soap solution

4) Blue litmus paper dipped in distilled water

5) China rose indicator added to a dilute acid

6) China rose indicator added to a dilute base

7) Turmeric paper dipped in lemon juice

8) Red litmus paper dipped in vinegar

9) Blue litmus paper dipped in lime water

10) China rose indicator added to distilled water

11) Red litmus paper dipped in a solution of washing soda

12) Blue litmus paper dipped in a solution of common salt

Exercise 2 of 3 · 12 questions Acidic, basic or neutral? Say how you know.

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

Curd is acidic, and the second half is the mark: it contains lactic acid and turns blue litmus red. 'Acidic' by itself is a guess as far as the examiner can tell. Saying which acid, or which indicator test proves it, is what turns a guess into an answer.

1) Curd

2) Baking soda solution

3) Common salt solution

4) Lime water

5) Vinegar

6) A solution that turns turmeric paper red

7) Lemon juice

8) Milk of magnesia

9) Distilled water

10) Tamarind water

11) A solution that leaves both litmus papers unchanged

12) Ammonia solution

Exercise 3 of 3 · 8 questions Explain in two or three sentences. Name the substance used and say why it works. ☐

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

The antacid: the stomach makes hydrochloric acid, an excess of it causes pain, and an antacid is a mild base that neutralises it. Every question in this exercise is the same shape - name the acid or base involved, name what is added, and say that one neutralises the other. Once your child sees that all five are one question, the chapter stops being memory work.

1) Why does taking an antacid relieve indigestion?

2) An ant sting causes burning. What helps, and why?

3) A farmer's field is too acidic for a crop. What should be added, and why?

4) Factory waste is often treated before it is released into a river. Why?

5) Why does a turmeric stain on a white shirt turn red when soap is rubbed on it?

6) Why is a bee sting treated differently from a wasp sting?

7) Why does adding too much base to an acid not simply make it neutral?

8) Why is neutralisation described as giving out heat?



All done? How did that feel?

Colour in a star. Three stars means you could teach it to someone else.



Tricky · Getting there · Easy now



Answer key

For grown-ups

Acids, bases and salts · keep this page back until your child has finished.

1. What happens? Give the colour or the observation.

- 1) It turns red, because lemon juice is acidic.
- 2) It turns blue, because soap solution is basic.
- 3) It turns red, which is why a turmeric stain turns red when soap is rubbed on it.
- 4) No change. Distilled water is neutral, so neither litmus paper changes colour.
- 5) It turns dark pink or magenta.
- 6) It turns green.
- 7) No change. Turmeric stays yellow in an acid and only turns red in a base.
- 8) No change. Red litmus stays red in an acid.
- 9) No change. It stays blue, because lime water is basic and blue litmus only turns red in an acid.
- 10) No change from its own pink colour, because distilled water is neutral.
- 11) It turns blue, because washing soda solution is basic.
- 12) No change. Salt solution is neutral, so neither litmus paper changes.

2. Acidic, basic or neutral? Say how you know.

- 1) Acidic. It contains lactic acid and turns blue litmus red.
- 2) Basic. It turns red litmus blue and is used to relieve the acidity of an ant sting.
- 3) Neutral. It changes neither litmus paper, because it is the salt formed from a strong acid and a strong base.
- 4) Basic. It turns red litmus blue, and is calcium hydroxide dissolved in water.
- 5) Acidic. It contains acetic acid and turns blue litmus red.
- 6) Basic. Turmeric turns red only in a base, which is why soap does it and lemon juice does not.
- 7) Acidic. It contains citric acid and turns blue litmus red.
- 8) Basic. It is magnesium hydroxide, turns red litmus blue, and is used as an antacid.
- 9) Neutral. It changes neither litmus paper.
- 10) Acidic. It contains tartaric acid and turns blue litmus red.
- 11) Neutral. Only an acid or a base changes litmus, so a substance that changes neither is neutral.
- 12) Basic. It turns red litmus blue and is used in cleaning products.

3. Explain in two or three sentences. Name the substance used and say why it works.

- 1) The stomach produces hydrochloric acid to digest food, and too much of it causes pain. An antacid such as milk of magnesia is a mild base, so it neutralises the excess acid and the pain stops.
- 2) The sting injects formic acid, which is what burns. Rubbing on baking soda, a mild base, neutralises the acid and relieves the burning.
- 3) Quicklime or slaked lime, both of which are basic. They neutralise the excess acid in the soil and bring it back to a level the crop can grow in.
- 4) Because the waste is often acidic and would harm the fish and plants in the river. It is neutralised with a base first, so that what is released is no longer acidic.
- 5) Because soap is basic, and turmeric acts as an indicator that turns red in a base. Rinsing the shirt with plenty of water removes the soap and the red colour goes.
- 6) A bee sting injects an acid, so a mild base such as baking soda relieves it. A wasp sting is alkaline, so a mild acid such as vinegar is used instead - the wrong one would make it worse.
- 7) Because once the acid is used up, any extra base is left over. The solution then becomes basic rather than neutral, so the amounts have to match.
- 8) Because the reaction between an acid and a base releases energy as heat. That is why the container feels warm during a neutralisation.

WHILE YOUR CHILD WORKS

- Ask 'which acid?' or 'which base?' after every answer. Naming the substance is usually where the mark sits.
- The neutralisation questions are all the same question in five costumes. Point that out once and the chapter gets much smaller.
- Turmeric and soap is a two-minute kitchen experiment and children remember it for years. Worth doing before the sheet rather than after.

**Spotted a gap while marking?**

A free assessment is one live class with a matched teacher - no card, nothing to cancel. Afterwards you get an honest note on what they noticed.

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