THE STRIVING

MUSLIM ACADEMY

Islamic and Academic Education

SCIENCE PROJECTS FOR CHILDREN AND PARENTS

Kitchen Science Lab

Eight experiments with things from the kitchen cupboard

WHAT IS INSIDE

- Fizzing volcano
- Red cabbage colour changer
- Walking water rainbow
- Home lava lamp
- Grow salt crystals
- The bouncy egg
- Pepper and soap
- Muddy water filter

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Ages 6 to 12, done together with a grown-up

Written for a parent teaching at home. No training assumed, and nothing else to buy.

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KITCHEN SCIENCE LAB

KITCHEN SCIENCE LAB

For the grown-up

This book has 8 projects that use things from your kitchen, your cupboards and the supermarket. Each project lists what you need, how long it takes and how messy it is. Read the whole project together before you start, and gather everything onto a tray first.

Your child does the steps. You do the jobs marked for the adult: hot water from the kettle, cutting with sharp scissors, boiling an egg, and breaking the indigestion tablet. Those steps carry an adult label in the instructions and in the drawings.

Some projects need waiting: 20 minutes for the cabbage water to cool, a few hours for the walking water, 2 days or more for the egg, and a look every day for the salt crystals until they appear. Put a note on the fridge so nobody tidies the jar away.

Before each project, ask your child to guess what will happen and write the guess down. Afterwards, ask: What did you see? Was it what you guessed? Why do you think it happened? Then read the "Why it works" part together and compare it with their idea.

Several projects end with a fair test: change one thing, keep the other things the same, and measure the result. Where the record table has Try 1, Try 2 and Try 3, do the test three times and work out the average. If the three results are very different, talk about why that might be.

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Lab rules for every project

- Ask the adult before you start.
- Never taste or drink anything in a project, even if it is made from food.
- Keep vinegar, lemon juice, salt water and pepper away from your eyes. If any gets in, rinse with plenty of clean water.
- Only the adult uses the kettle, hot water, sharp scissors and knives.
- Work on a tray, and wipe up spills straight away.
- Wear old clothes or an apron.
- Wash your hands when you finish.
- Clean up and put everything back where it belongs.

The projects

1. Fizzing volcano
2. Red cabbage colour changer
3. Walking water rainbow
4. Home lava lamp
5. Grow salt crystals
6. The bouncy egg
7. Pepper and soap
8. Muddy water filter

Share your builds

Send us a photo of each finished build, showing the build only and no faces: by email to strivingmuslimacademy@gmail.com, through our website at strivingmuslimacademy.com/share.html, or with the WhatsApp code on the last page. We add them to our Achievement Wall, and your child can choose any one material from our shop at 50% off.

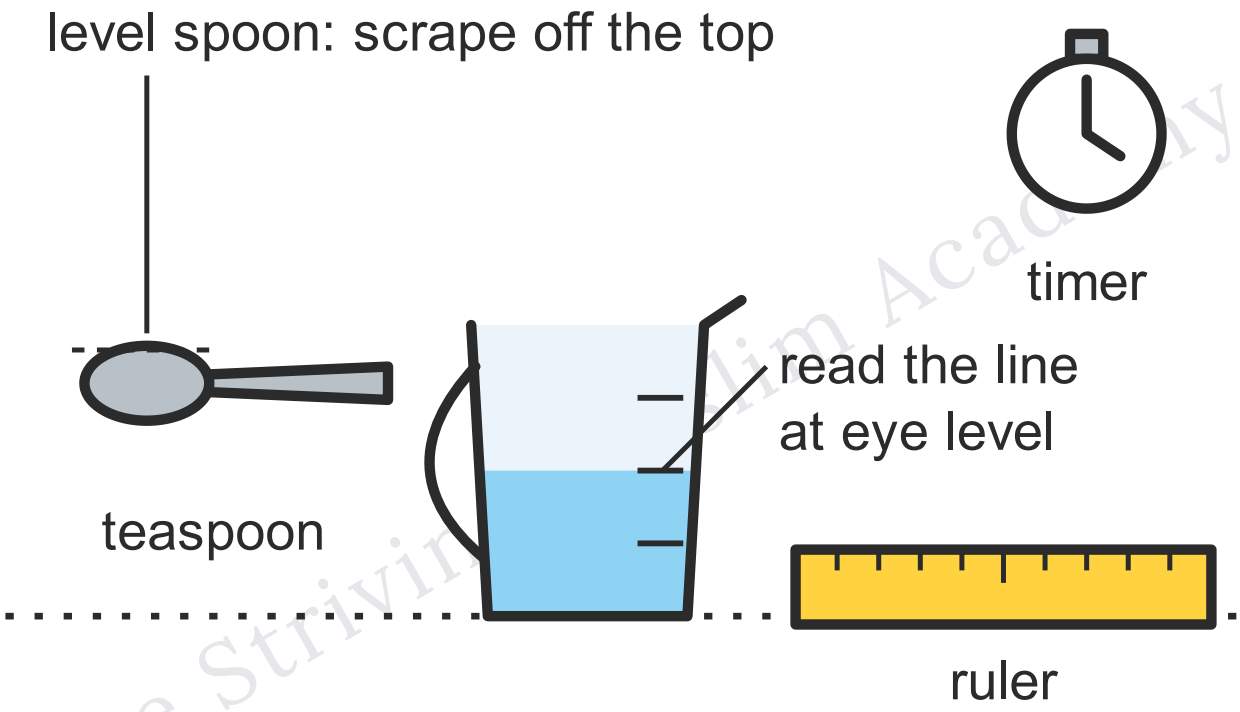
KITCHEN SCIENCE LAB

Being a careful scientist: measuring

Use the same spoon every time. A level spoonful means you scrape the top flat with the handle of another spoon or a piece of card. A heaped spoonful has a small mound on top.

To measure water, stand the jug on the table and bend down so your eyes are level with the line.

Use a timer for anything that takes time, and a ruler for anything you can measure in centimetres.



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Being a careful scientist: recording

Write down your guess before you start.

Draw what you see, and write the time or the day next to each drawing.

Put results in a table with a heading for each column. Always write the unit, such as seconds, cm or ml.

If a result looks odd, do the test again and write down both results.

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What I changed	Try 1	Try 2	Try 3
1 teaspoon	12 s	14 s	13 s

a record table, with units

Being a careful scientist: cleaning up

Pour used cooking oil into an old bag or pot and put it in the bin. Oil poured down the sink can block the pipes.

Food colouring can stain cloth and some surfaces, so wipe drops up straight away.

Wash cups, spoons and jars in hot soapy water before they go back with the family's dishes.

Put sand, soil and stones back outside or in the bin.

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Shopping list

Everything in this book, by where to find it. Most families already have the things listed under At home. The project each thing is for is in brackets.

At home

- Bicarbonate of soda (baking soda) (Fizzing volcano, Red cabbage colour changer)
- Clear cups (Muddy water filter, Red cabbage colour changer)
- Clear cups, all the same size (Walking water rainbow)
- Clear plastic bottle (about 1 litre), lid off (Home lava lamp)
- Dark-coloured plate or saucer (Grow salt crystals)
- Egg (white shell works best) (The bouncy egg)
- For the fair test: more washing-up liquid (Fizzing volcano)
- Glass jar (Red cabbage colour changer)
- Glass jar (heatproof if you have one) (Grow salt crystals)
- Glass jar, wide enough for the egg (The bouncy egg)
- Ground black pepper (Pepper and soap)
- Heatproof measuring jug (Grow salt crystals, Red cabbage colour changer)
- Kettle (Grow salt crystals, Red cabbage colour changer)
- Large clear plastic bottle (1.5 to 2 litres) (Muddy water filter)
- Lemon juice (Red cabbage colour changer)
- Measuring jug (Fizzing volcano, Muddy water filter)
- Paper towels (Walking water rainbow)
- Plate with a rim, or a shallow bowl (white is best) (Pepper and soap)
- Sieve (Red cabbage colour changer)
- Sieve (for rinsing the sand) (Muddy water filter)
- Small plastic bottle (about 500 ml) (Fizzing volcano)
- Small plate (for a loose lid and for bouncing) (The bouncy egg)
- Table salt (Grow salt crystals)
- Tablespoon (Grow salt crystals, Muddy water filter, The bouncy egg)
- Teaspoon (Fizzing volcano, Red cabbage colour changer)
- Teaspoon for stirring (Walking water rainbow)
- Tray (Home lava lamp, The bouncy egg, Walking water rainbow)
- Tray or baking tray (Fizzing volcano)
- Vegetable oil (Home lava lamp)
- Washing-up liquid (Fizzing volcano, Pepper and soap)
- White vinegar (Red cabbage colour changer, The bouncy egg)
- White vinegar (ordinary, about 5%, not cleaning vinegar) (Fizzing volcano)

Supermarket shop

- Cotton buds (Pepper and soap)
- Cotton wool (Muddy water filter)
- Fizzy indigestion tablet (an antacid tablet that fizzes in water) (Home lava lamp)
- Food colouring (Home lava lamp)
- Food colouring: red, yellow and blue (Walking water rainbow)
- For the fair test: more baking soda (Fizzing volcano)
- For the fair test: more indigestion tablets (Home lava lamp)
- For the fair test: more white vinegar (Fizzing volcano)
- Red cabbage (Red cabbage colour changer)
- Red food colouring (Fizzing volcano)

Pharmacy shop

- For the fair test: more cotton wool, sand and soil (Muddy water filter)

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