



# Tomato sauce

## ★ What do I do?



1. Read the ACTIVITY CARD to familiarise yourself with the activity.
2. Check the Resources list including making the basic 'tomato sauce' recipe – see overleaf.
3. Set the scene by discussing the news story and show the children some tomato sauce bottles.
4. Give out a small amount of tomato sauce and let the children talk about the questions on the card.
5. Get some quick feedback or go straight on to planning the investigation.
6. Give children some time to talk about how they might test different samples. There are ideas on the card that they can choose from.
7. Check that they have thought about keeping notes but don't spend a lot of time recording results. You could prepare blank grids for them if it would help.

8. Remind them about safety.
9. Give out the real and/or fake sauce. Remind them that they need to test different thickness of sauce. Let the children make the different thicknesses themselves.
10. Encourage them to try whichever tests they think are appropriate.
11. Give them time to talk about what they have found out and to demonstrate what they think is the best thickness for the sauce.
12. They could write a story about being a scientist testing tomato sauce in the Startown Sensational Sauces laboratory. Alternatively they could interview each other as if they were scientists at the factory.
13. There are extra challenges on the ACTIVITY CARD. These can be used if there is spare time or if children want to try out more ideas at home and earn a bonus sticker.

## ★ Handy hints

### Science background

- ★ How well tomato sauce flows (viscosity) can be tested in a machine called a Bostwick Consistometer. One regulation states that to get a high grade, the sauce must flow no more than 10 cm in 30 seconds along the flat surface of the Consistometer. This is tested at 20 °C.
- ★ Tomato sauce contains many different ingredients: cooked and strained tomatoes, vinegar, sugar or another sweetener, salt, onion or garlic flavours, spices such as cinnamon, cloves, mace, allspice, nutmeg, ginger and pepper.
- ★ Scientists work hard to make sure that the mix of ingredients and colour is right, to make high quality tomato sauce.
- ★ Tomato sauce is also known as tomato ketchup, red sauce and catsup.

### Resources

- ★ Real tomato sauces
- ★ Fake tomato sauce (alternative to real sauce for testing) - very thick wallpaper paste without fungicide with red food dye added – **follow mixing instructions carefully**
- ★ Disposable cups for sauce samples
- ★ Rulers, timers
- ★ Plastic teaspoons and/or pipettes
- ★ Funnels with different sized spouts or plastic bottles cut in half
- ★ Plastic aprons and disposable gloves

### Things to look out for

- ★ You can use real tomato sauce, but 'fake sauce' is a useful alternative (or use both). Encourage children to add a little water at a time to their 'sauce' to make a range of thicknesses. It needs to be mixed in well to get an even mixture.
- ★ Restrict the amount of sauce that is used. If you give out a lot they will use a lot!

### Safety

- ★ If using fake sauce, children should be warned that it is **NOT** edible. They must be warned not to taste or eat it.
- ★ Clean up any mess on the table or floor quickly with a damp cloth to avoid any accidents.

