

## Investigation 14 Best cup of tea

Ask the class what makes a good cup of tea – temperature, amount of milk, brand of tea etc. In this investigation they will test if temperature affects the taste of tea.

**YOU WILL NEED** Four tea pots • Four mugs • Tea bags (same brand) • Boiling water • Tea cosy • Tin foil • A brown paper bag • Four thermometers • A kettle • Graph paper • A pencil • A ruler •

- 1 Relocate the class to the kitchen or home economics room.
- 2 Divide the class into four groups.
- 3 Give each group a mug, teapot and two tea bags.
- 4 Give three of the groups one of the insulating materials (tea cosy, tin foil or brown paper bag). Leave the fourth group without any insulating material.
- 5 Boil the kettle and fill each group's teapot with two tea bags and boiling water.
- 6 Place the insulating materials – tin foil, brown paper bag and tea cosy over the teapots. One teapot should have no insulation.
- 7 All the pots should be left for 10-15 minutes.
- 8 Pour a mug of tea and record the temperature.
- 9 Get each group to taste its tea. Which group made the best cup?
- 10 Pour another cup of tea after 15 minutes and after 20 minutes. Record the temperature.
- 11 Plot your results on a graph.

### Consider this

Was there a difference in temperature between the different pots?

Which pot had the highest temperature and why?

Did the differences in temperature stay the same as time passed?

In this investigation the amount of water, brand of tea bag, and amount of milk used (if any) should remain the same for each teapot. Why is this important in an investigation?



### Tell Me More!

Some materials are better at retaining heat than others. Materials that are good at retaining heat are called insulators. Insulating hot water pipes and hot water tanks in your home can cut down on your electricity and heating bill. A lagging jacket is made from fibreglass material, a very good insulator. It is wrapped around your emersion or hot water tank, trapping the heat in a similar manner to a tea cosy. Insulating saves energy and prevents more CO<sub>2</sub> entering the atmosphere and adding to the greenhouse effect.