

Fizzing investigation

Aim

To find out what happens when combinations of water, sodium bicarbonate and tartaric acid are mixed.

Equipment

- role badges for director, manager and speaker
- each team member's science journal
- 6 teaspoons of sodium bicarbonate
- 6 teaspoons of tartaric acid
- 3 cups of non-acidic water
- 1 cup measure
- 1 teaspoon
- 4 pieces of paper towel
- 4 transparent bottles of the same size (350–400mL approximately)
- 4 balloons
- 1 labelling pen
- 1 funnel
- masking tape

Activity steps

1 Label the 4 bottles with the following information:

- Bottle 1: bicarb + acid
- Bottle 2: bicarb + water
- Bottle 3: acid + water
- Bottle 4: bicarb + acid + water

Label the balloons 1, 2, 3 and 4.

2 Add 2 teaspoons of sodium bicarbonate to balloons 1, 2 and 4 by placing the funnel into the opening of each balloon.

3 Wipe funnel carefully with a piece of paper towel. Discard paper towel.

4 Add 2 teaspoons of tartaric acid to balloons 1, 3 and 4 by placing the funnel into the opening of each balloon.

5 Wipe funnel carefully with the second piece of paper towel. Discard paper towel.

6 Add 300mL of water to bottles 2, 3 and 4 by placing the funnel into the mouth of each bottle.

7 Have one team member carefully fit the opening of each balloon over the mouth of their corresponding bottle while another holds the balloon so that no powder falls in. Pull the stem part of the balloon down so that it will not come off easily. If it is loose, stick it down with a piece of masking tape to make it airtight.

8 Carefully upend Balloon 1 so that its contents fall into Bottle 1. Mix the contents gently. Observe the bottle carefully, and record your observations in your science journal.

9 Repeat step 8 for each of the bottles.

