

What's the best temperature for yeast to be active?

Name: _____ Date: _____

Aim

To find out what temperature yeast needs to be active and produce a gas.

Equipment

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| • role badges for director, manager and speaker | • 1 funnel |
| • each team member's science journal | • masking tape |
| • 1 copy of 'What's the best temperature for yeast to be active?' (Resource sheet 4) | • labelling pen |
| • 3 small plastic bottles with caps, all the same size | • 7g sachet of active dry yeast (½ tsp per bottle) |
| • 3 balloons | • 3 x ¼ cup sugar |
| • ½ tsp measure | • ½ cup hot water (< 100°C) |
| • ¼ cup measure | • ½ cup warm water (37°C) |
| • ½ cup measure | • ½ cup cold water |

Activity steps

- Make labels for the three bottles, showing your team members' names and the following information:
 - Bottle 1: Hot water
 - Bottle 2: Warm water
 - Bottle 3: Cold water
- Place the funnel in the mouth of each bottle and add the ½ teaspoon yeast and ¼ cup sugar. Mix the yeast and sugar together.
- The manager takes bottle 1 to the 'safety zone' where your teacher will carefully add ½ cup hot water to the bottle. Mix it gently.
- Put the opening of the balloon over the mouth of the bottle. 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.
- Repeat this process for the warm water and cold water.

NOTE: Your teacher will add the warm water to bottle 2.
- Carefully observe each bottle and balloon, and record their current appearance in your science journal. Write a prediction about what you think will happen to each bottle and balloon over the next hour.
- Put the bottles in a warm place and leave for one hour. After an hour, come back to your bottles.
- Carefully observe each bottle and balloon and record their appearance in your science journal.
- Discuss your findings with your team. Discuss the question: 'What's the best temperature for yeast to be active and produce a gas?' and record your ideas in your science journal.