

# Biological sciences

Project  
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## Guess which living thing

### TASK:

Design and create a 'Guess who?'-style game based on animals.

### CRITERIA:

- Use a piece of cardboard that measures 30 cm x 40 cm.
- The board should then be folded in half to make an A-frame that is 30 cm x 20 cm.
- The cardboard should be a double layer glued together around the edges, to allow for windows to be created.
- The windows should be cut and folded back. Both sides have the same array.
- Images should be found on the internet of different animals with easily recognisable features.

### SUGGESTED MATERIALS:

- cardboard
- printed images of living things



# Biological sciences

Project 1

## Guess which living thing

- Find out which features different animals have. Look at coverings, colours, parts and other easily recognised features. You will also need to find out about the game 'Guess who?®'.
- Draw a sketch of your game design, including the animals you will include and how you will arrange the windows.
- Collect the materials you will need, including cardboard and printed images from the internet.
- Create the game to look like your plan.
- Check that the game meets the criteria.
- Give a presentation of your game, outlining the features players can choose to ask a 'yes/no' question about.



### Chocolate welding

#### TASK:

Design and create a building using marshmallows and chocolate to hold it together.

#### CRITERIA:

- The building can only be made from marshmallows and chocolate.
- Safety procedures should be followed when heating or cooling chocolate.
- The building should be 30 cm high and be able to stay standing.

#### SUGGESTED MATERIALS:

- tray of warm water
- bowl
- chocolate pieces
- marshmallows



### Chocolate welding

- Find out about how a change in temperature causes chocolate to become a liquid or a solid.
- Plan and draw a design of the building and how the chocolate will be used to weld the marshmallows together.
- Collect the materials you will need, including chocolate, marshmallows, a bowl and a tray of warm water.
- Create the building to look like your plan.
- Check that the building meets the criteria.
- Give a presentation explaining how the chocolate was changed to join the marshmallow building together.



### Papier-mâché globe

#### TASK:

Design and create a globe of the world, with an axis it can spin on and a stand for it to be placed on.

#### CRITERIA:

- The globe must be round.
- The globe must have an axis that the globe can spin on.
- The globe should be placed on a stand.
- The globe needs to include printed internet images of the continents glued onto its surface in the correct position.

#### SUGGESTED MATERIALS:

- strips of newspaper
- round balloon
- $1\frac{1}{2}$  cups water
- 1 cup flour
- bucket
- printouts of internet images of the continents of the world
- dowelling





### Simple thermometer

#### TASK:

Design and create a simple thermometer using a glass bottle.

#### CRITERIA:

- The liquid inside the thermometer should be made by filling the bottle a quarter of the way with rubbing alcohol and a quarter more with water, plus a few drops of food colouring. The liquid should take up half the bottle.
- The straw needs to be inserted through the lid of the bottle and secured in place, making sure it does not touch the bottom.
- You must use a clear straw so you can see the liquid.
- You must make three marks on your bottle or straw when the liquid rises or falls, by moving the bottle to places that are different temperatures.

#### SUGGESTED MATERIALS:

- clear straw
- small glass bottle
- food colouring
- plastic modelling clay
- rubbing alcohol
- water



# Physical sciences

## Project 1

### Simple thermometer

- Find out how a thermometer works and what it is used to measure.
- Draw and label a diagram of what the thermometer will look like.
- Collect the materials you will need, including a clean straw, a small glass bottle, food colouring, plastic modelling clay, rubbing alcohol and water.
- Create the thermometer to look like your diagram.
- Check that the thermometer meets the criteria.
- Give a presentation to the class, explaining how the liquid in the straw moves according to the temperature, and showing the marks that were made and the locations where the bottle was placed.

