



Credit: Getty Images

# Cool hats

The purpose of this activity is to design a hat that provides protection from the Sun's damaging rays while at the same time keeping the wearer cool. Construction skills and an investigation of the properties of materials will also be required in this activity.

## You will need

- A variety of materials, including cotton, fun fur, card, straw, art straws, paper, etc.
- A couple of examples of hats, such as a straw hat, a cap, and a woolly hat

- Paper
- Pens
- Pencils
- Scissors
- Glue and string
- Strip thermometers (or any small thermometer)

## Steps

1

Create and draw a design for a hat, explaining what materials you have chosen and why.

2

Pick the resources you would like and start to put your hat together.

3

Test just how well the hat shields the wearer from sunlight – if the hat casts a shadow and covers the head then it works.

4

To test the 'keeping cool' part of the experiment you will need thermometers. The hats should be put in the same place, with thermometers under them.

5

Check the temperatures after 5 and then 10 minutes and record them. If you can test the hats in direct sunlight they may show different results.

## Analysis/ discussion

**The hat with the temperature that has increased the least is the most successful cool design. But how might the design be improved?**

**Which materials were the best conductors, or allowed the heat to escape most easily?**

**Make an interactive display called 'Sorting clothes we wear in hot and cold weather' that describes the materials and why they are used in different climates.**