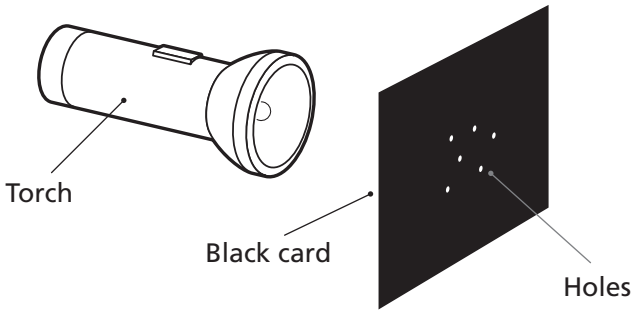
7

**Name:** ..... **Form:** .....

Based on **pages 16 and 17** of *Earth and beyond*

# Star brightness




**Try this…**

**1.** Take a piece of black card and put some pin holes in it.

**2.** Put the card in front of a torch in a dark room and look at the light shining though the holes. The holes appear like stars.

**3.** Walk carefully backwards until you can no longer see the individual 'stars'. Measure the distance between you and the card.

**4.** Now make the holes 2 millimetres (mm) across. Predict how far back you would have to go before you could no longer see them, then walk backwards to find out the answer.

**5.** Repeat task 4 with holes 3mm across.

**6.** Repeat task 4 with holes 4mm across.

**7.** Repeat task 4 with holes 5mm across.

**8.** Use this table for your results.

| Hole size (mm) | Prediction (m) | Actual distance (m) |
|---|---|---|
| Pin prick | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

**Looking at the results.**

**9.** How good were your predictions?

✎ .....

**10.** What is the relationship between the brightness of a star and the distance at which it is visible?

✎ .....

✎ .....