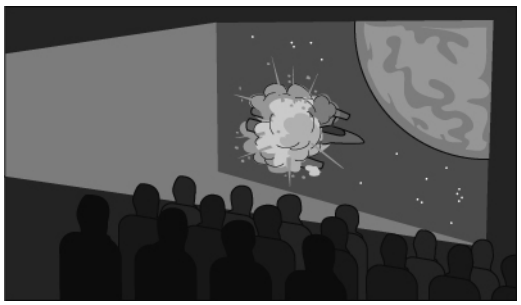
At the cinema 2



Allie and Jamil are watching a film in the cinema. A spaceship is being chased, and explodes in a ball of fire. Allie puts her fingers in her ears because the sound is so loud.

Jamil drops his sweets. He needs to use the torch on his phone to find them because it is very dark under the seats.

Someone walks down the aisle and sits in the empty seat next to Jamil.

1 **a** If you were really in space, you could see an explosion but you could not hear it. Why is this?

b You watch an explosion on Earth. Do you see the flames or hear the bang first? Explain your answer.

c Give *two* other differences between sound waves and light waves.

2 The cinema screen is made out of a special material. Explain which of these properties it should have: good at absorbing light, good at transmitting light, good at reflecting light.

3 Sketch a diagram to show how Allie can see the images of a spaceship. Your diagram should include the source of light.

4 The person that sits next to Jamil finds their seat without needing a torch. Explain how they can see to find the seat. Include a sketch with light rays on as part of your answer.

5 Explain why Jamil needs to use his torch to find his sweets.

6 The light travels from the projector to the screen in straight lines. Explain why people in the cinema can often see where the beam of light goes.

I can…

- describe the ways in which light can be affected by different materials
- explain why sounds cannot be heard in space
- compare light waves and sound waves
- use ray diagrams to explain how we see things.