Chapter 8: Gravity

Skills Lab 8.1: Calculate weights in the solar system

Experiment worksheet answers (pages 144–145 and 210)

Discussion

4 How would gravity affect your lifestyle on Mercury compared with Jupiter? What everyday tasks would be easier or harder? Explain.

Student answers will vary. Answers should reflect the higher gravity on Jupiter compared to that of Mercury.

Challenge 8.2: Modelling gravity in the solar system

Experiment worksheet answers (pages 146–147 and 211)

Questions

1 In your model, how was gravity represented?

by the dint made in the plastic sheet

2 Which had the strongest ‘gravitational pull’: the play dough ball or the Styrofoam ball? What evidence do you have to support your answer?

The play dough ball has a stronger pull, as the movement of the marble was affected more by the play dough ball than the Styrofoam ball.

3 What type of object in the solar system could the Styrofoam ball have represented? (Hint: Think about large and low densities.)

gas planets

4 Black holes are space objects with such a strong gravitational field that nothing can escape them. Why are they called *black* holes?

Light is attracted into the black hole and cannot escape it. This makes the black hole look black.