**Worksheet 2.5 Optical Storage**

1. Compare the diameter and thickness of a CD and DVD/Blu-ray disc. Describe how their physical dimensions compare.

2. Which of the discs can store the most information? Which stores the least?

3. Considering your answer to Question 1, explain how you think the discs can store different amounts of information.

4. Clamp the laser in place with a retort stand and angle it so that the light reflects from the ‘shiny’ surface of the CD, as in the diagram.

Laser

CD

Screen

In the space below, draw a sketch what you observe on the screen.

5. Why do you think there is more than one laser spot on the screen?

6. Replace the CD with a DVD, but keep the laser fixed in place. Draw a sketch of what you now observe on the screen.

7. Is there a difference between the CD and DVD in terms of what you observe on the screen? If so, what do you think causes this difference?

8. Now, take the laser and pass it through the narrow slit.

Laser

Slit

Screen

9. What do you observe on the screen as the width of the slit is reduced?

10. Based on your answers to questions 7 and 9, why do you think a DVD can store more information than a CD?