

- 4 A squash ball is made of rubber and used to play a game called squash.



(Source: © mexrix/Shutterstock)

A student observes that the squash ball bounces higher after its temperature increases.

The student designs an investigation to see how the temperature of the ball affects the maximum height after it bounces.

- (a) State the independent and dependent variables in the student's investigation.

(2)

independent variable

dependent variable

- (b) The diagram shows the ball at its maximum height after it bounces.

Determine the distance the ball moves from the floor to its maximum height.

Assume the ball does not change shape when it bounces.

[1 cm on diagram = 4 cm in laboratory]

(2)



squash ball

floor

distance = ..... cm



- (c) Design a method that the student could use to investigate how the temperature of the ball affects the maximum height after it bounces.

Your answer should include details of

- apparatus needed
- measurements required
- control variables

You may draw a diagram to support your answer.

(6)

(Total for Question 4 = 10 marks)

