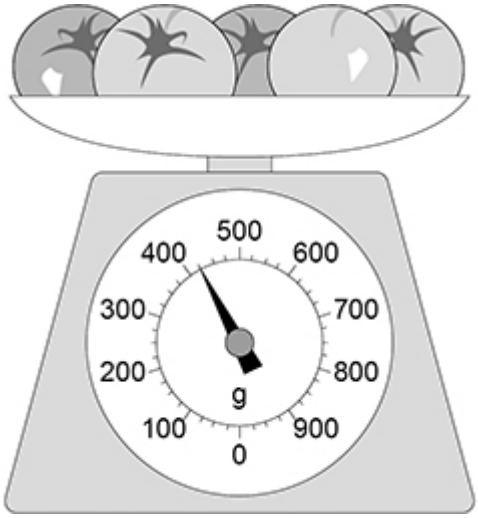
Questions are for both separate science and combined science students

Q1.

Figure 1 shows a balance used to measure the mass of five tomatoes.

Figure 1



(a) What is meant by 'centre of mass'?

_____

_____

(1)

(b) Calculate the mean weight of a tomato in **Figure 1**.

Use the Physics Equations Sheet.

gravitational field strength = 9.8 N/kg

_____

_____

_____

_____

_____

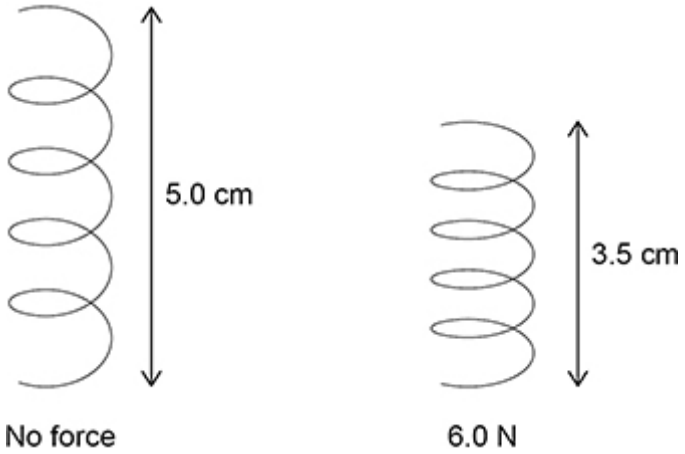
Weight = _____ N

(3)

(c) The balance in **Figure 1** contains a spring that compresses when the tomatoes are placed on the balance.

Figure 2 shows the spring with no force acting and with a 6.0 N force acting.

Figure 2



Determine the spring constant of the spring.

Use the Physics Equations Sheet.

Spring constant = _____ N/m

(3)

(d) Explain **one** property of the spring that makes it suitable for use in the balance.

(2)

(Total 9 marks)