2 Diagram 1 shows the magnetic field between the poles of two strong bar magnets.

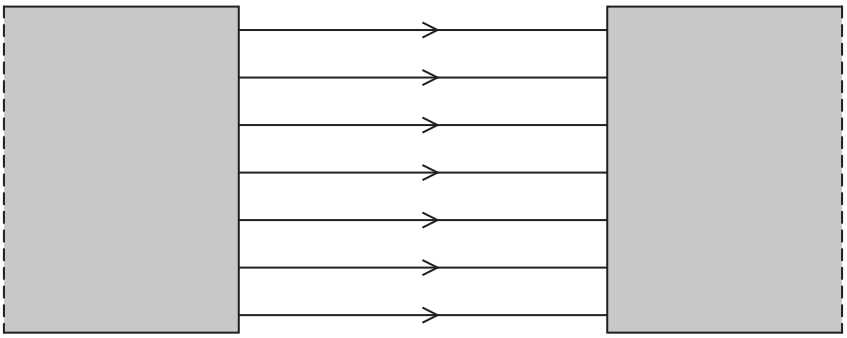

Diagram 1

(a) Add labels to diagram 1 to show the poles of the bar magnets.

(1)

(b) The bar magnets are made from steel.

Give one reason why steel is a good material for making bar magnets.

(1)

.....

.....

(c) Explain how diagram 1 shows a uniform magnetic field.

(2)

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(d) Diagram 2 shows a metal wire being moved downwards through the uniform field between the poles of the same bar magnets. The orientation of the magnets has not been changed.

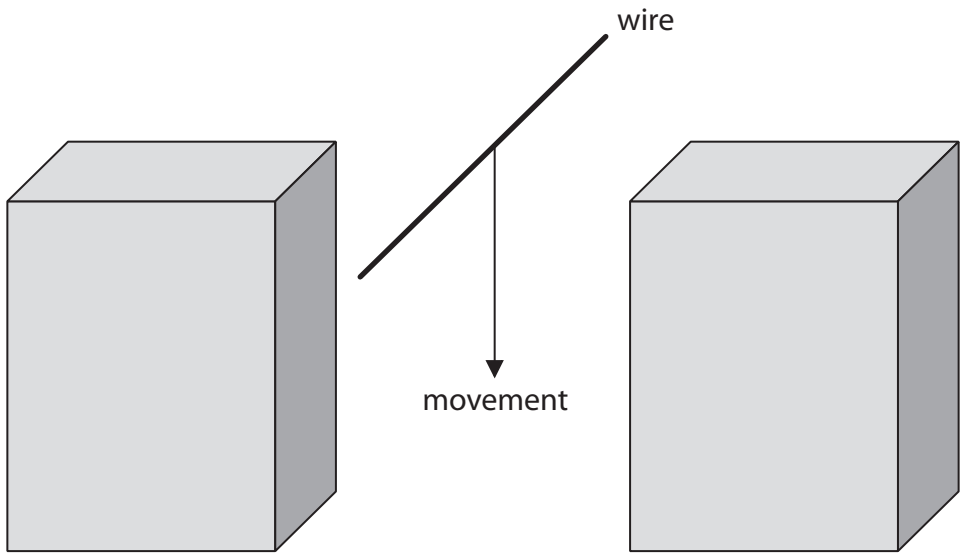

Diagram 2

(i) Give a reason why a voltage is induced between the ends of the metal wire as it moves between the poles of the bar magnets.

(1)

.....

.....

(ii) State two changes that could be made to this arrangement that would increase the magnitude of the induced voltage.

(2)

1 .....

2 .....

(Total for Question 2 = 7 marks)