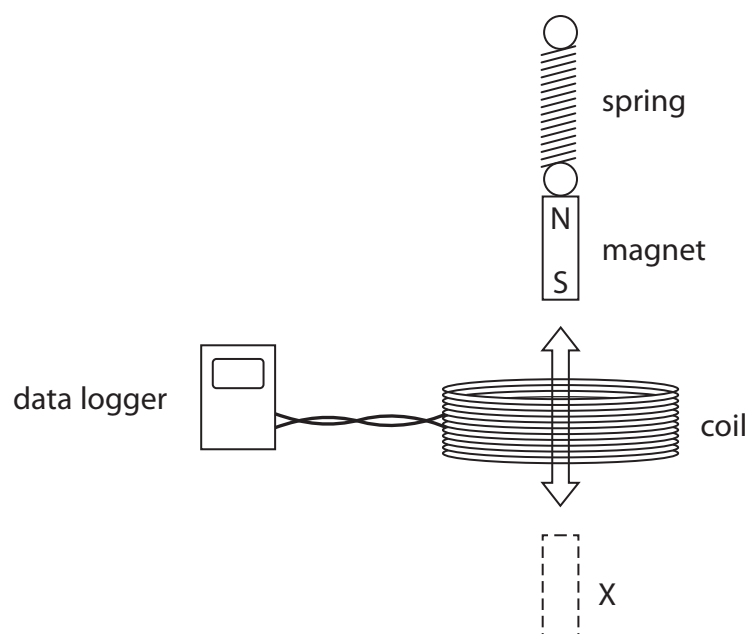


14 A student investigates how to produce a voltage.

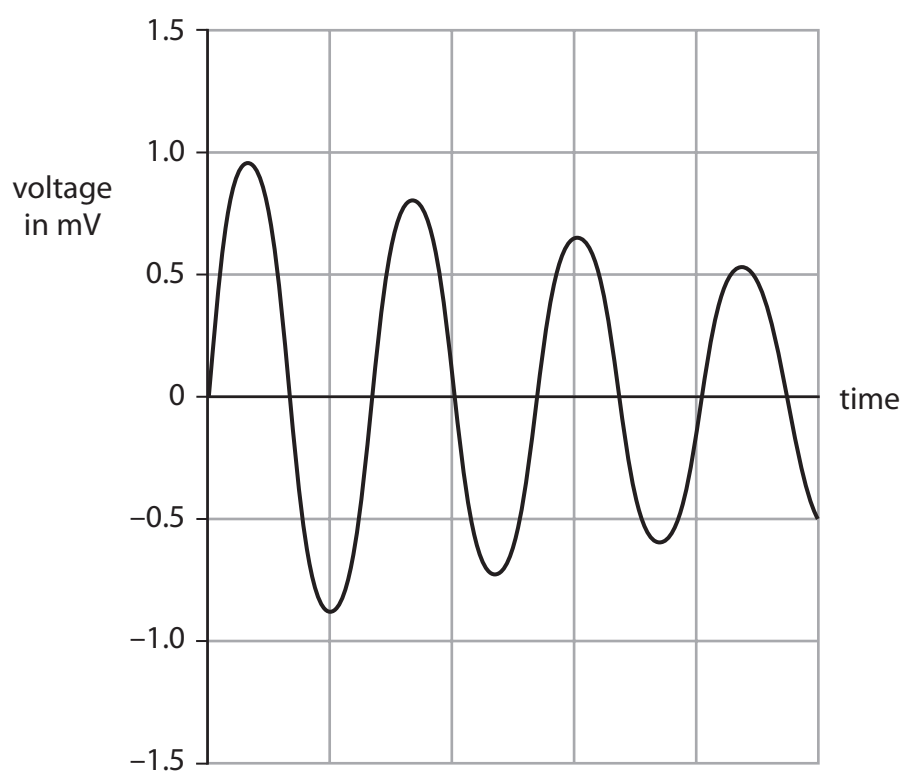
He hangs a magnet from a spring, above a coil that is connected to a data logger.



(a) The student pulls the magnet through the coil to X and then releases it.

The magnet moves up and down through the coil.

The data logger produces this graph of voltage against time.



(i) Explain why the data logger records a varying voltage.

(2)

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(ii) Which feature of the graph shows that the voltage is alternating?

(1)

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(iii) Suggest why the voltage changes as shown by the graph.

(2)

.....

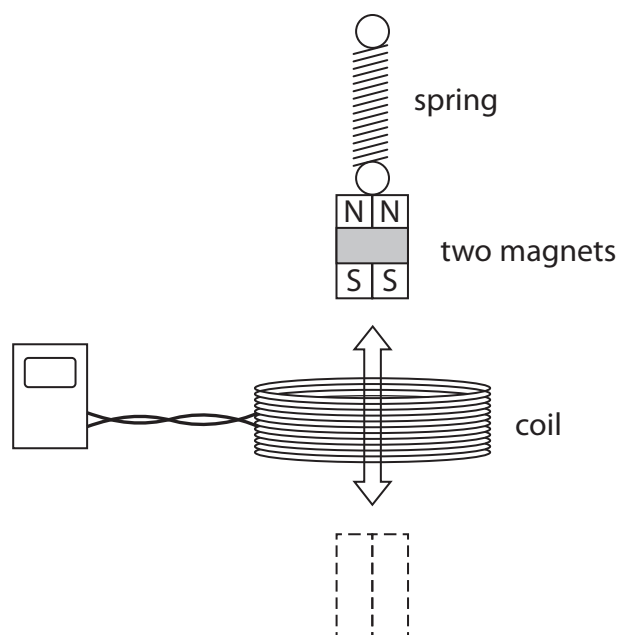
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(b) The student repeats the experiment using two magnets taped together.

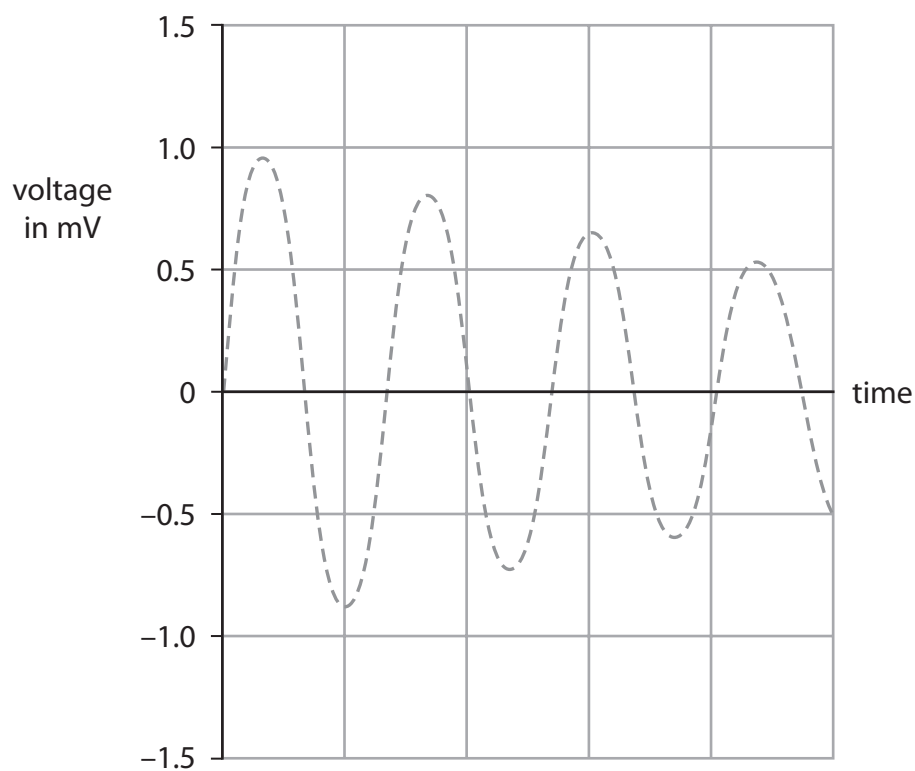


Compared to one magnet, these two magnets take a longer time to move up and down.

The dotted line on the grid shows the original graph for one magnet.

On the same grid, sketch the graph that would be produced using two magnets.

(3)



(Total for Question 14 = 8 marks)

