Section A:

1. What is the rule called which predicts the way the wire will move when a current passes through it and it is in a magnetic field?

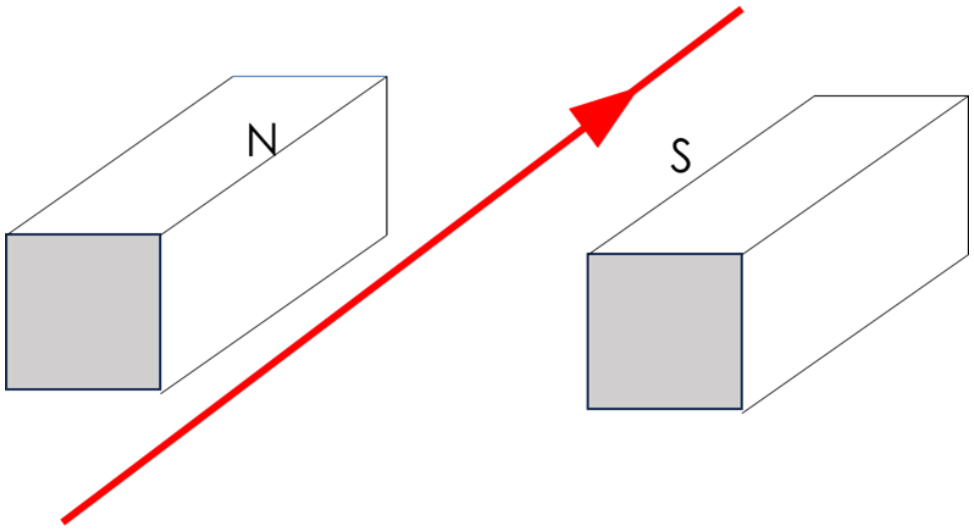
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2. Match the digit with the direction it represents

Thumb
First finger
Second finger

Current
Force
Magnetic field

3. What direction will the wire move in the diagram below? Tick one box



a) upwards ☐

b) downwards ☐

c) to the left ☐

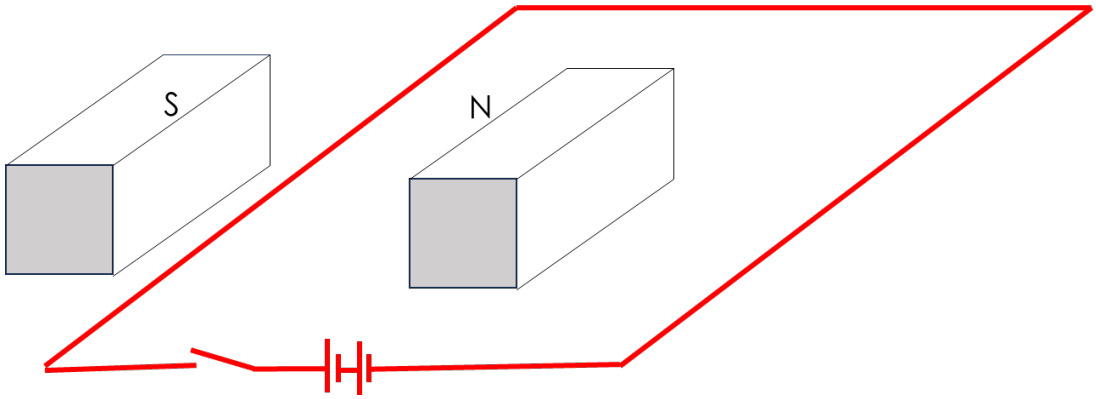
4. What force will a 0.5m of wire carrying 5A experience in a 0.2 Tesla magnetic field experience?

_____

_____

Section B:

5. The diagram below shows a wire through a magnetic field.



a. What happens when the switch is pressed in the diagram above, completing the circuit?

b. Which way do we consider the current to flow in the circuit above?

c. In which direction does the current actually flow?

d. In which direction will the wire move?

e. Why does the wire experience a force?

f. How can the force on the wire be increased?

_____

_____

g. What is the equation that links the force with these factors?

_____

_____

h. What is the unit of magnetic flux density?

_____

i. A 5cm length of wire is carrying a current of 3A in a magnetic field of strength 0.01T. What is the force on the wire?

_____

_____

j. An 8cm length of wire is carrying a current of 5A through a magnetic field and experiences a force of 0.8N. What is the strength of the magnetic field?

_____

_____

Section C

6. A wire carrying current through a magnetic field experiences a force.
   a. What factors affect the resistance of a wire?
   b. When resistance increases, what happens to the current?
   c. When current increases, what happens to the magnetic field?
   d. Describe a method to investigate how the length of the wire affects resistance.