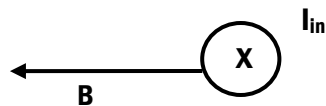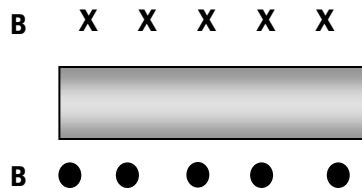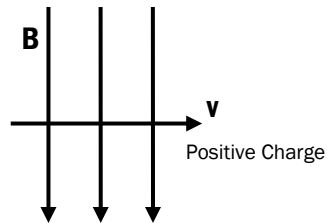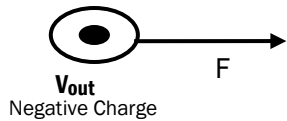# Questions

1. A beam of electrons moves at right angles to a 0.0239 T magnetic field. The electrons have a velocity of 4.91×10^5 m/s. What is the magnitude of the force on each electron?

2. A 0.65 meter section of wire in a circuit has a current of 8.75 A flowing through it. It is placed into a magnetic field and experiences a force of 1.86 N. What is the magnitude of the magnetic field?

3. A straight wire, 3.26 meters long, moves at 2.23 m/s in a perpendicular direction to a 4.47 T magnetic field. What is the EMF induced in the wire?

4. Find the direction of the magnetic field, conventional current or force using the hand rules.

V_{out}

F

Negative Charge

B

V

Positive Charge

B   X   X   X   X   X

B   ● ● ● ● ●

I_{in}

X

B

Magnetism

Name _____

1

Definitions

1. Lodestone - _____
   _____

2. Ferromagnetic Materials - _____
   _____

3. Permanent Magnet - _____
   _____

4. Temporary Magnet - _____
   _____

5. Electromagnet - _____
   _____

6. Domain - _____
   _____

7. Magnetic Flux - _____
   _____
   _____

8. Electromagnetic Induction - _____
   _____

9. Electromotive Force - _____
   _____

Equations (NOT on Reference Tables)

1.

2.

3.

Magnetic Field Lines

Draw the field lines for the following configurations

N S N S	
N S S N	S N N S