

# UPGRADE to the Bundle

## Crash Course - PHYSICS 46 Episode Series Bundle

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### Crash Course Physics #32: Magnetism

Name: \_\_\_\_\_ Date: \_\_\_\_\_

You can access the video here → <https://youtu.be/s94auB5uLWw?si=7JMNi7RGpmUp9ueQ>

1. Magnets have two poles: a north pole and a \_\_\_\_\_ pole.
2. Magnetic field lines point from the \_\_\_\_\_ pole to the south pole.
3. Unlike electric charges, magnetic poles cannot be \_\_\_\_\_.
4. The magnetic field around a wire with current forms \_\_\_\_\_ loops.
5. Magnetic field strength is measured in units called \_\_\_\_\_.
6. The symbol used to represent the magnetic field vector is the letter \_\_\_\_\_.
7. The first \_\_\_\_\_ helps determine the direction of the magnetic field created by a current-carrying wire.
8. The second right-hand rule helps determine the direction of the magnetic \_\_\_\_\_ on a wire in a magnetic field.
9. The force from a magnetic field is strongest when the current is \_\_\_\_\_ to the field lines.
10. The equation for magnetic force on a wire is  $F =$  \_\_\_\_\_.
11. To find the magnetic force on a single charge, we use the equation  $F =$  \_\_\_\_\_.
12. The magnetic force on a single charge is zero if the velocity is \_\_\_\_\_ to the magnetic field lines.
13. The third right-hand rule helps determine the direction of the force on a single \_\_\_\_\_ in a magnetic field.
14. If a charged particle is negatively charged, the direction of the magnetic force is \_\_\_\_\_ to the direction given by the third right-hand rule.
15. Moving electric charges create \_\_\_\_\_ fields.

### Crash Course Physics #32: Magnetism KEY

1. Magnets have two poles: a north pole and a **south** pole.
2. Magnetic field lines point from the **north** pole to the south pole.
3. Unlike electric charges, magnetic poles cannot be **isolated**.
4. The magnetic field around a wire with current forms **circular** loops.
5. Magnetic field strength is measured in units called **teslas**.
6. The symbol used to represent the magnetic field vector is the letter **B**.
7. The first **right-hand rule** helps determine the direction of the magnetic field created by a current-carrying wire.
8. The second right-hand rule helps determine the direction of the magnetic **force** on a wire in a magnetic field.
9. The force from a magnetic field is strongest when the current is **perpendicular** to the field lines.
10. The equation for magnetic force on a wire is  $F = ILB\sin\theta$ .
11. To find the magnetic force on a single charge, we use the equation  $F = qvB\sin\theta$ .
12. The magnetic force on a single charge is zero if the velocity is **parallel** to the magnetic field lines.
13. The third right-hand rule helps determine the direction of the force on a single **charge** in a magnetic field.
14. If a charged particle is negatively charged, the direction of the magnetic force is **opposite** to the direction given by the third right-hand rule.
15. Moving electric charges create **magnetic** fields.

15 Questions

Answer Key Included

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