

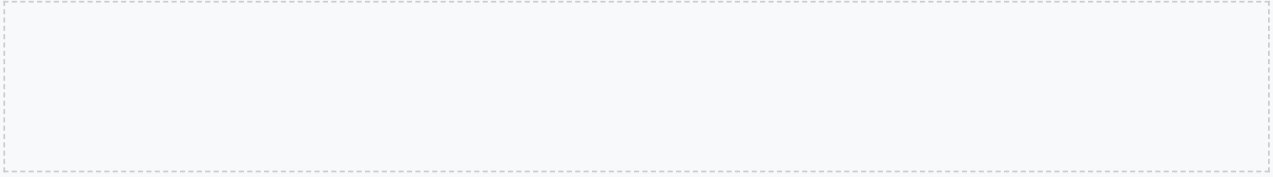
Introduction to Basic Electrical Engineering

Welcome to the world of electrical engineering! In this worksheet, we will explore the basics of electricity, circuits, and safety protocols. By the end of this activity, you will be able to explain the basic concepts of electrical engineering and identify the components of a simple circuit.

What is Electricity?

Electricity is the flow of electrons through a conductor, such as a wire.

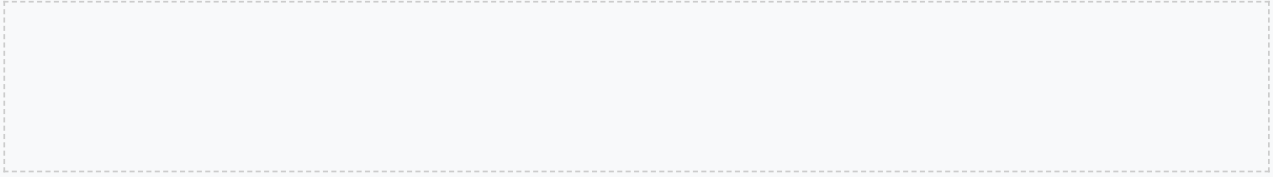
Draw a simple diagram of a circuit and label the components.



Circuit Components

A simple circuit consists of a power source, conductors, and a load.

Identify and label the components of a simple circuit diagram.



Electrical Safety

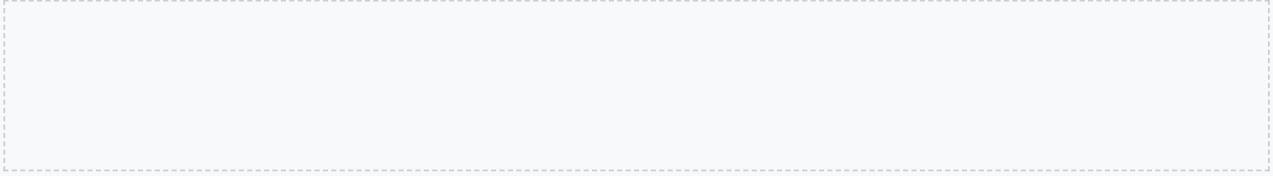
Electrical safety is crucial to prevent electrical shock and injuries.

List 5 safety precautions to take when working with electrical components.

Circuit Analysis

A series circuit has components connected one after the other, while a parallel circuit has components connected between the same two points.

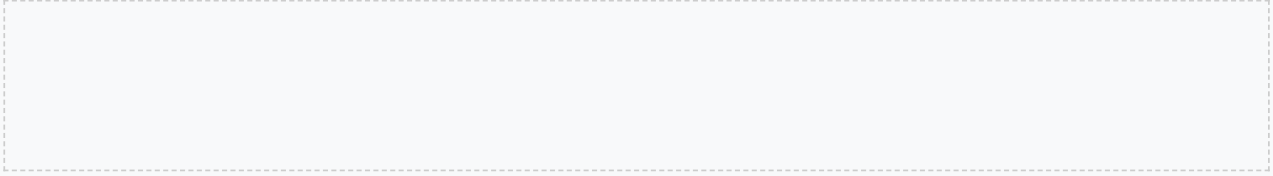
Draw a diagram of a series and parallel circuit and explain the difference.



Electrical Symbols

Electrical symbols and notation are used to represent components and circuits in a concise and standardized way.

Match the electrical symbols with their meanings.



Resistance and Ohm's Law

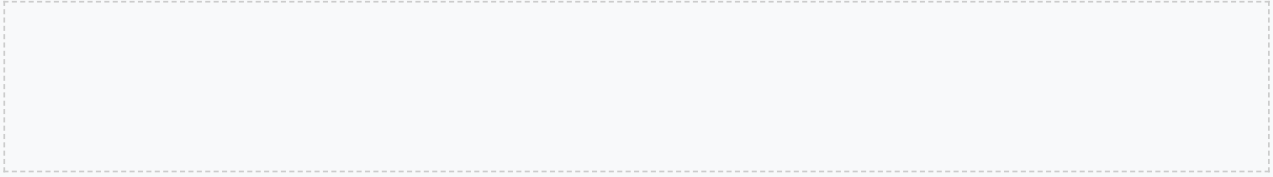
Resistance is the opposition to the flow of electricity through a conductor and is measured in ohms.

Calculate the resistance of a circuit using Ohm's Law.

Circuit Building

A simple circuit can be built using a battery, wires, and a small device such as a light bulb.

Build a simple circuit using the materials provided.



Troubleshooting

Common problems include short circuits, open circuits, and faulty components.

Identify and troubleshoot a simple circuit problem.

Conclusion

*Congratulations! You have completed the introduction to basic electrical engineering worksheet.
What did you learn about electrical engineering and how can you apply it in your everyday life?*