

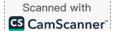


#### What is produced by a primary battery

**Alternating current (AC)** 

**Direct current (DC)** 

**Static electricity** 



#### What is the role of the electrolyte in an electrochemical cell

To act as an insulator between electrodes

To facilitate a chemical reaction and free electrons

To store electrical energy for later use







A primary battery produces electricity using two different metals in a chemical solution like sulfuric acid or alkaline

Flectrolyle



### What type of materials are commonly used for piezoelectric generation

Ceramic and plastic

**Crystalline quartz and Rochelle salt** 

Metal and glass









# The most common piezoelectric materials used today are crystalline quartz and

Rochelle





#### What phenomenon occurs when a crystal of quartz is squeezed

It produces a steady DC voltage.

Charges of opposite polarity appear on its surfaces.

It generates heat through friction.



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What effect describes the conversion of mechanical energy into electrical energy using crystals like quartz

convert mechanism energy

Thermoelectric effect

Piezoelectric effect

**Electromagnetic effect** 







When a crystal of quartz is squeezed, charges of opposite polarity will appear on two opposite surfaces of the crystal, and this phenomenon is known as the three three three effects.

### What principle describes the generation of voltage in thermocouples

Ohm's law

Seebeck effect

Joule heating





Which of the following is NOT a use of thermocouples in aviation

from type of thermocouple

CHT

CAT

Measuring cylinder head temperatures

**Generating surplus electricity** 

Measuring exhaust gas temperatures

Thermocouples generate a voltage between two wires that is proportional to the temperature at the

#### What is the primary function of a solar cell

To store electricity

To convert light energy into electricity

To amplify electrical signals

### Which material is commonly used in solar cells to absorb photons from sunlight

Copper



Aluminum

A solar cell, also known as a photovoltaic cell, is a device that converts light energy into

Electricity





### What occurs when non-conductive materials are rubbed together

Heat generation

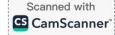
Production of static electricity

**Chemical reaction** 



Imbalance of charges

Generation of magnetic fields









The production of electricity by friction involves the build-up of static electricity when non-conductive materials are rubbed together, leading to a transfer of



# What is produced when a conductor is moved through the magnetic lines of flux

**Electric resistance** 

**Electromotive force** 

Thermal energy

When connected to a circuit, what type of current is produced by the small alternating voltage generated through the motion of a conductor in a magnetic field

**Direct current (DC)** 

Alternating current (AC)

**Pulsating current** 

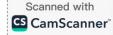






When a conductor is moved through the magnetic lines of flux created by a magnet or electromagnet, it generates

force, leading to current flow for electrically operated devices



# What happens to a semiconductor atom when a photon strikes it

It loses its ability to conduct electricity.

It raises the energy level of its electrons.

It emits a photon of equal energy.

#### How does the frequency of light affect the energy of the photons

Higher frequency light has less energy.

Frequency of light does not affect photon energy.

Higher frequency light has more energy.







When a photon strikes a semiconductor atom, it raises the energy level above what is needed to in orbit hold its Electrons which it is allow from of current

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What is the term for electrical energy produced from mechanical pressure on a dielectric or non-conducting crystal

**Electromagnetic induction** 

**Piezoelectricity** 

Thermoelectric effect







What occurs when a conductor is moved through the magnetic lines of flux of a magnet or electromagnet

**Heat generation** 

Induction of voltage

Decrease in resistance



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Electrical energy produced from mechanical pressure on a dielectric or non-conducting crystal is known as

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