

# Solar Power Notes

## Part 1: Conduction, Convection & Radiation

Name \_\_\_\_\_ Period \_\_\_\_\_

### **Thermal Energy**

Energy that is generated by a \_\_\_\_\_ and measured by \_\_\_\_\_.

Can be \_\_\_\_\_.

### **Conduction**

The movement of heat or electricity through \_\_\_\_\_.

\_\_\_\_\_ are good conductors, particularly \_\_\_\_\_.

### Convection

The transfer of thermal energy through a \_\_\_\_\_ (gas or liquid).

Due to differences in \_\_\_\_\_.

Hot fluid \_\_\_\_\_ while cold fluid \_\_\_\_\_.

### **Radiation**

Energy transmitted in \_\_\_\_\_ or a stream of particles.

Travels through \_\_\_\_\_ and other types of \_\_\_\_\_.

**What are some examples of conduction?**

**What are some examples of convection?**

**What are some examples of radiation?**

# Solar Power Notes

## Part 2: Thermal Energy

Name \_\_\_\_\_ Period \_\_\_\_\_

What is the difference between Thermal Energy and Temperature?

What is temperature?

What SI unit is used to measure temperature?

If something is 48 degrees Celsius, what is it in Kelvin? (Show your work)

What happens to Thermal Energy as temperature increases?

What is heat?

What is specific heat?

What is the formula to calculate change in thermal energy?

# Solar Power Notes

## Part 3: Energy Transformation

Name \_\_\_\_\_ Period \_\_\_\_\_

### Energy Transformation

The process of changing energy from one \_\_\_\_\_ to another.

The \_\_\_\_\_ from one type of energy to another.

### Conservation of Energy

Energy can neither be \_\_\_\_\_ or \_\_\_\_\_.

Energy doesn't \_\_\_\_\_. It just \_\_\_\_\_ from one form into another.

### Types of Energy

\_\_\_\_\_ Energy that is stored. \_\_\_\_\_ Energy in motion.

Forms of Potential energy      Forms of Kinetic energy

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Mechanical Energy – KE

The energy a body possesses because of its motion caused by \_\_\_\_\_ or \_\_\_\_\_.

Ex: \_\_\_\_\_,  
\_\_\_\_\_

### Mechanical Energy – PE

The energy a body possesses because of its \_\_\_\_\_.

# Solar Power Notes

## Part 3: Energy Transformation

Name \_\_\_\_\_ Period \_\_\_\_\_

Ex: \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_

### **Thermal Energy – KE**

\_\_\_\_\_ energy

The total energy of atoms and molecules that are constantly in \_\_\_\_\_.

EX: \_\_\_\_\_, \_\_\_\_\_

### **Radiant Energy – KE**

\_\_\_\_\_ or \_\_\_\_\_ energy.

Energy caused by the movement of \_\_\_\_\_ waves.

Sound Energy – KE

Energy in the form of \_\_\_\_\_.

\_\_\_\_\_ spread in all directions as one vibrating object touches another object making it vibrate.

Ex: \_\_\_\_\_, \_\_\_\_\_

### **Electrical Energy**

KE

Moving \_\_\_\_\_ in a conductor.

Ex: \_\_\_\_\_

### **PE**

Stored electrons not \_\_\_\_\_.

Ex: \_\_\_\_\_,  
\_\_\_\_\_

### **Chemical Energy – PE**

Energy stored in \_\_\_\_\_ substances.

# Solar Power Notes

## Part 3: Energy Transformation

Name \_\_\_\_\_ Period \_\_\_\_\_

Ex: \_\_\_\_\_,  
\_\_\_\_\_.

### Nuclear Energy - PE

\_\_\_\_\_ energy

The energy stored in the nucleus of an \_\_\_\_\_.

Ex: \_\_\_\_\_

# Solar Power Notes

## Part 4: Renewables vs. Non-Renewables

Name \_\_\_\_\_ Period \_\_\_\_\_

What is the definition of Non-renewable energy?

Name the 3 fossil fuels:

What is another example of non-renewable energy?

What is renewable energy?

Name 5 renewable energy sources:

What is the definition of solar energy?

What is the definition of wind energy?

What is the definition of geothermal energy?

What is the definition of biomass energy?

What is the definition of hydroelectric energy?