

# Write the correct vocabulary term for the following definitions.

1. a material in which thermal energy (heat) moves quickly
2. a material in which thermal energy (heat) moves slowly
3. energy can be transformed from one form into another or transferred from one region to another, but energy cannot be created or destroyed
4. energy due to the motion of particles that make up an object
5. energy that an electric current carries

6. energy that electromagnetic waves carry
7. energy that is stored in the nucleus of an atom
8. energy that sound carries from vibrating objects
9. measure of the average kinetic energy of the particles in a material
10. movement of thermal energy from a region of higher temperature to a region of lower temperature

11. potential energy that depends on height
12. energy stored in objects that are compressed or stretched
13. energy stored in the chemical bonds between atoms
14. the ability to cause change
15. energy due to motion

16. stored energy due to the interactions between objects or particles
17. the total energy of an object or group of objects due to large scale motions and interactions
18. the transfer of thermal energy (heat) by collisions between particles in matter (touchin')
19. the transfer of thermal energy (heat) by electromagnetic waves
20. the transfer of thermal energy (heat) by the movement of the particles in a fluid (gas or liquid) from one part of the material to another
21. when the temperatures of materials that are in contact are the same

22. The **machines** used to make toys probably use this:

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

23. Lanterns glow with a bright **light** that is this form of energy.

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

24. You put some milk on the stove **to heat up** using this.

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

25. A string of lights are working because of this.

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

26. Batteries are necessary for many toys. The batteries contain this energy.

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

27. List the three ways that heat is transferred

**-R** \_\_\_\_\_

**-C** \_\_\_\_\_

**-C** \_\_\_\_\_

28. When you are at the beach your body warms up because of this type of thermal transformation.

**-RADIATION**

**-CONDUCTION**

**-CONVECTION**

29. As you are walking on the beach your feet are getting warm touching the hot sand because of this type of thermal transformation.

**-RADIATION**

**-CONDUCTION**

**-CONVECTION**

30. The milk for the hot chocolate is boiling on the stove because of this type of thermal transformation.



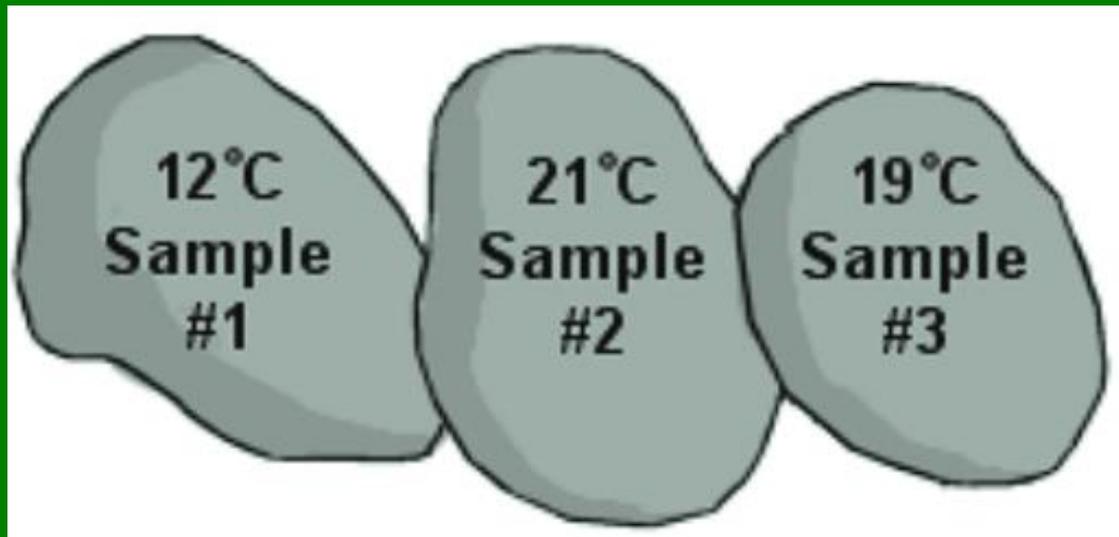
- RADIATION**
- CONDUCTION**
- CONVECTION**

31. You use a metal pot because metal easily transfers heat. It is a good \_\_\_\_.



32. Mom is careful not to burn herself on the hot metal by using an oven mitt. It is an \_\_\_\_\_.

33. Heat moves from areas of \_\_\_\_\_  
temperatures to areas of \_\_\_\_\_  
temperatures.

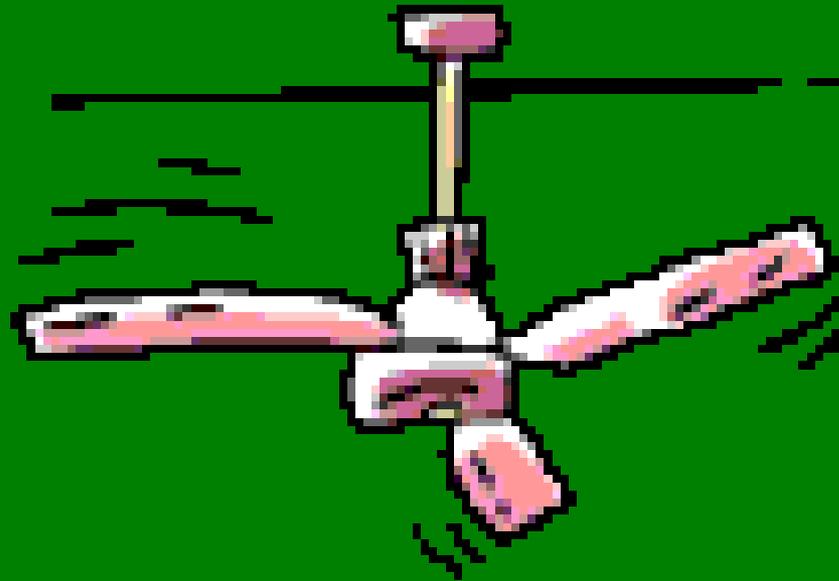


34. What does the Law of Conservation of Energy state?

35. The burning of the logs transforms the chemical potential energy in the logs to which forms of energy?



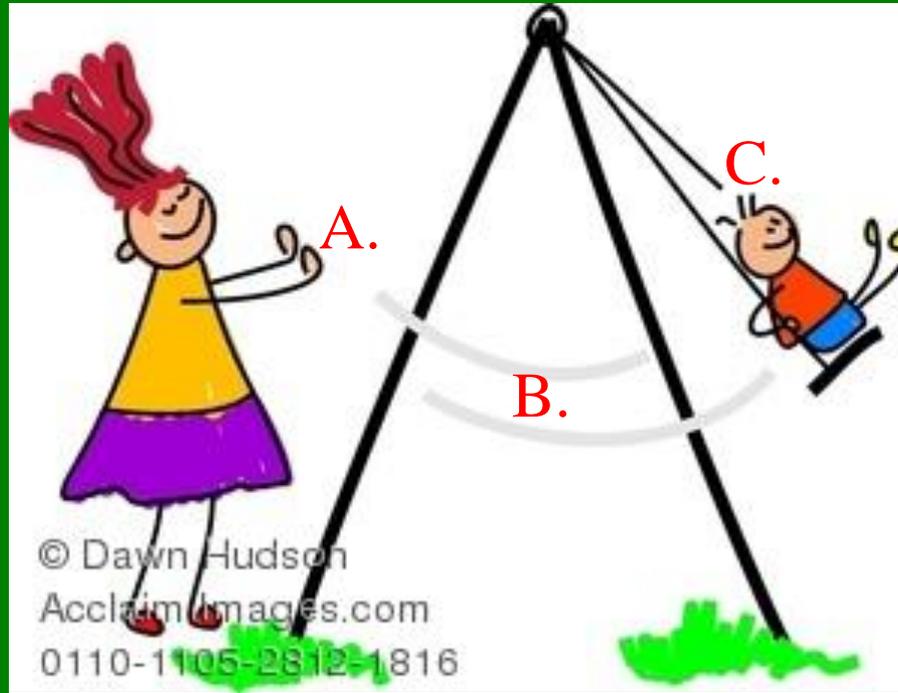
36. When the ceiling fan is turned on, the electrical energy is transformed to which form of energy?



# Hot Chocolate Containers

Temperature (*C)	Container A	Container B	Container C
Final	27	33	25
Initial (beginning)	35	35	29
Change	8	2	4

37. You have a long way to travel and want your hot chocolate to stay HOT! Which container is the best insulator and doesn't allow the heat from the hot chocolate to escape?



38. Describe the Potential and Kinetic Energy at:

Point A

Point B

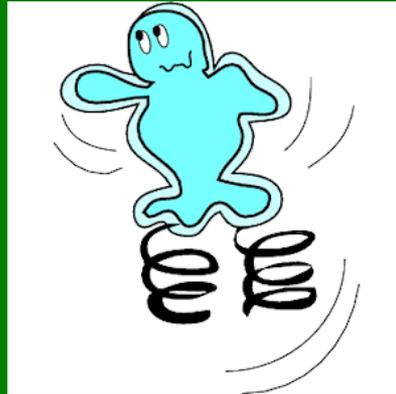
Point C

# Identify each as gravitational, chemical, or elastic potential energy:

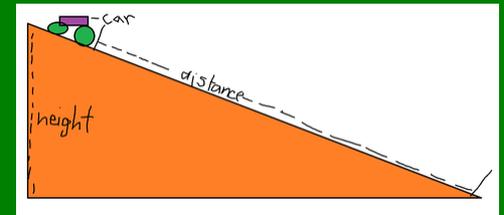
39.



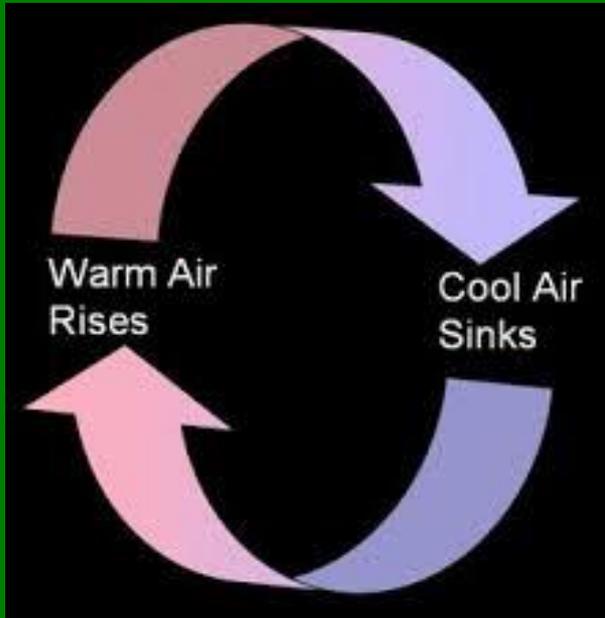
40.



41.



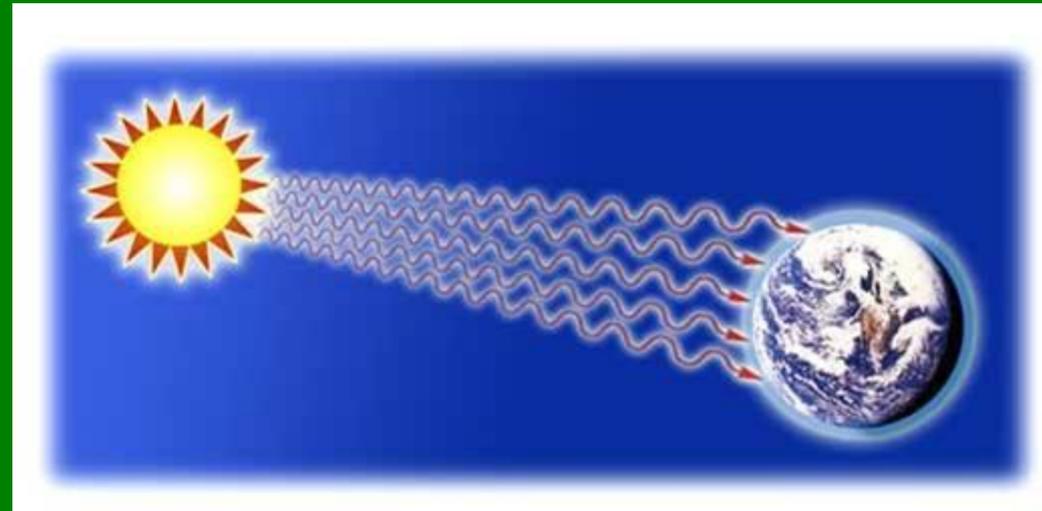
42. Convection occurs in fluids (gases and liquids) because of \_\_\_\_.



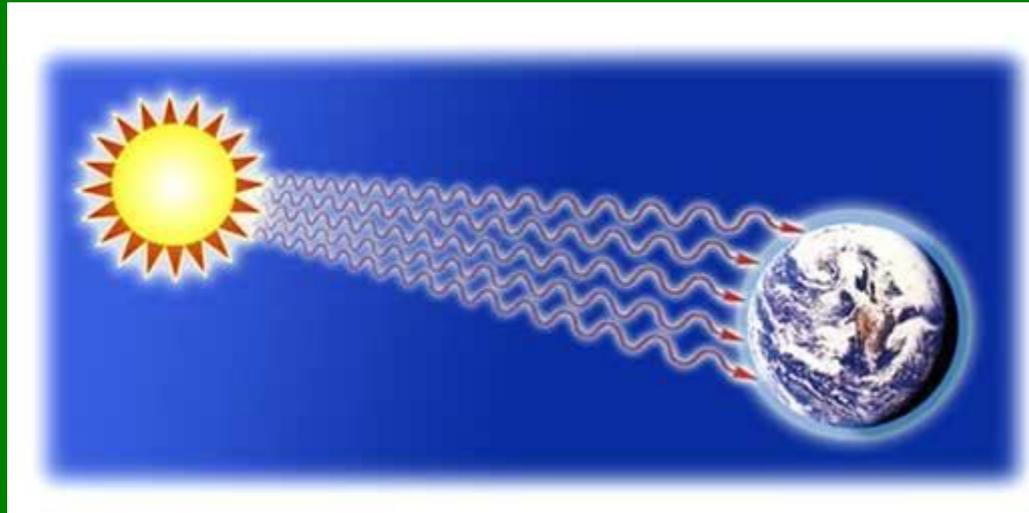
Hotter fluids rise and cooler fluids sink because of this.

43. Earth is warmed by the sun due to \_\_\_\_, a type of heat transfer.

- RADIATION
- CONDUCTION
- CONVECTION



44. This type of heat transfer can occur when there is no matter present



- RADIATION**
- CONDUCTION**
- CONVECTION**

**Now, check your  
answers and mark  
any you should review.**

1. a material in which thermal energy (heat) moves quickly  
**thermal conductor**

2. a material in which thermal energy (heat) moves slowly  
**thermal insulator**

3. energy can be transformed from one form into another or transferred from one region to another, but energy cannot be created or destroyed **Law of Conservation of Energy**

4. energy due to the motion of particles that make up an object  
**thermal energy**

5. energy that an electric current carries **electric energy**

6. energy that electromagnetic waves carry **radiant energy**
7. energy that is stored in the nucleus of an atom **nuclear energy**
8. energy that sound carries from vibrating objects **sound energy**
9. measure of the average kinetic energy of the particles in a material **temperature**
10. movement of thermal energy from a region of higher temperature to a region of lower temperature **heat**

11. potential energy that depends on height **gravitational potential energy**

12. energy stored in objects that are compressed or stretched **elastic potential energy**

13. energy stored in the chemical bonds between atoms **chemical potential energy**

14. the ability to cause change **energy**

15. energy due to motion **kinetic energy**

16. stored energy due to the interactions between objects or particles  
**potential energy**

17. the total energy of an object or group of objects due to large scale motions and interactions **mechanical energy**

18. the transfer of thermal energy (heat) by collisions between particles in matter (touchin') **conduction**

19. the transfer of thermal energy (heat) by electromagnetic waves  
**radiation**

20. the transfer of thermal energy (heat) by the movement of the particles in a fluid (gas or liquid) from one part of the material to another  
**convection**

21. when the temperatures of materials that are in contact are the same  
**thermal equilibrium**

22. The **machines** used to make toys probably use this.

**Mechanical Energy**

**Chemical Potential Energy**

**Thermal Energy**

**Electrical Energy**

**Radiant Energy**

**Sound Energy**

**Nuclear Energy**

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Mechanical Energy

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**-Radiation**

**-Convection**

**-Conduction**

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**-RADIATION**

**-CONDUCTION**

**-CONVECTION**

29. As you are walking on the beach your feet are getting warm touching the hot sand because of this type of thermal transformation.

**-RADIATION**

**-CONDUCTION**

**-CONVECTION**

30. The milk for the hot chocolate is boiling on the stove because of this type of thermal transformation.



- RADIATION
- CONDUCTION
- CONVECTION

31. You use a metal pot because metal easily transfers heat. It is a good \_\_\_\_\_.

**conductor**

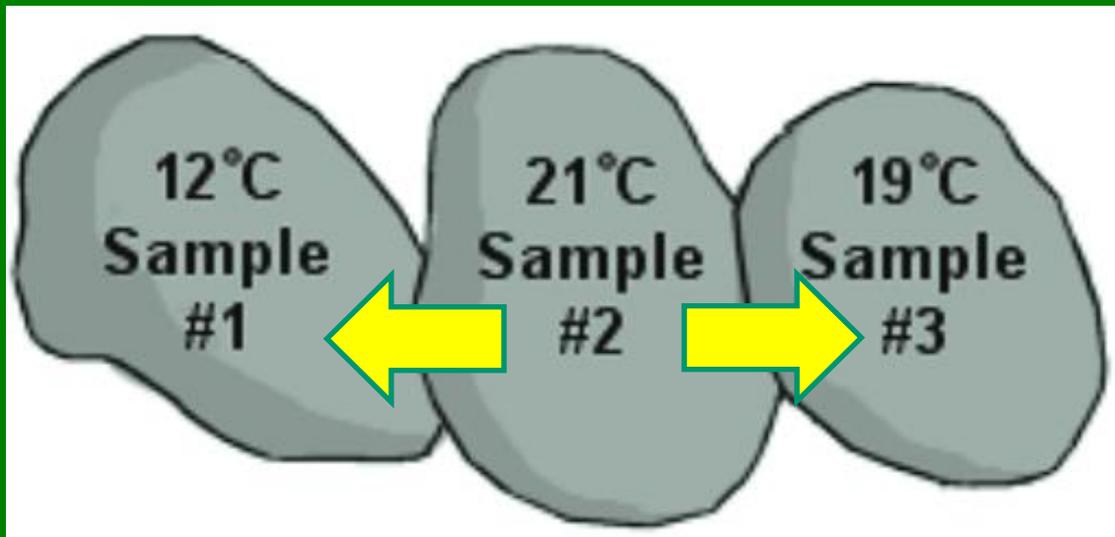


32. Mom is careful not to burn herself on the hot metal by using an oven mitt. It is an \_\_\_\_\_.

**insulator**

33. Heat moves from areas of \_\_\_\_\_  
temperatures to areas of \_\_\_\_\_  
temperatures.

**warmer to cooler**



34. What does the Law of Conservation of Energy state?

**Energy cannot be created or destroyed. Instead energy is converted, changed, or transformed into another form of energy.**

35. The burning of the logs transforms the chemical potential energy in the logs to which forms of energy?



Mechanical Energy

Chemical Potential Energy

**Thermal Energy**

Electrical Energy

**Radiant Energy**

Sound Energy

Nuclear Energy

36. When the ceiling fan is turned on, the electrical energy is transformed to which form of energy?

**Mechanical Energy**

~~Chemical Potential Energy~~

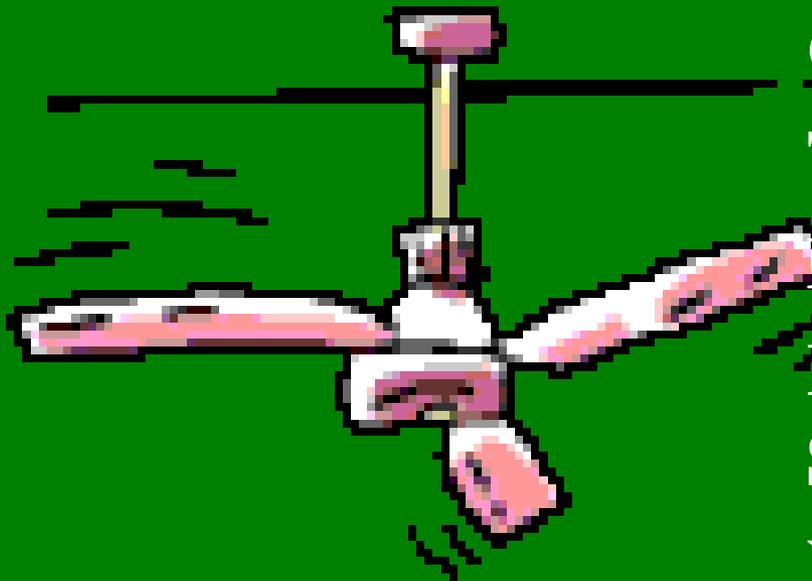
~~Thermal Energy~~

~~Electrical Energy~~

~~Radiant Energy~~

~~Sound Energy~~

~~Nuclear Energy~~

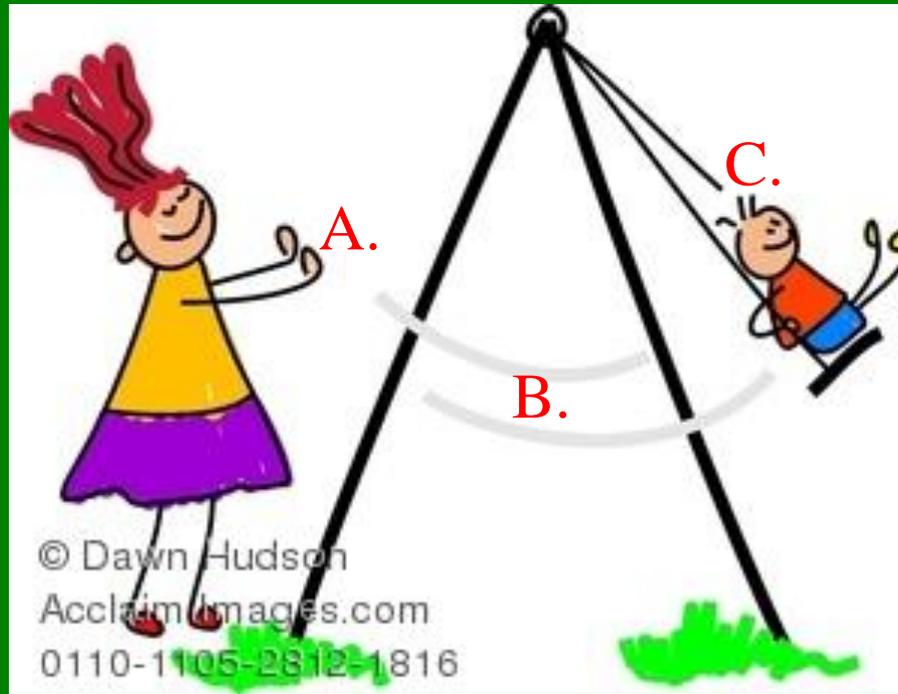


# Hot Chocolate Containers

Temperature (*C)	Container A	Container B	Container C
Final	27	33	25
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Change	8	2	4

37. You have a long way to travel and want your hot chocolate to stay HOT! Which container is the best insulator and doesn't allow the heat from the hot chocolate to escape?

**Container B because it had the lowest temperature change.**



38. Describe the Potential and Kinetic Energy at:  
Point A – **Mostly Potential Energy**  
Point B – **Mostly Kinetic Energy**  
Point C – **Mostly Potential Energy**

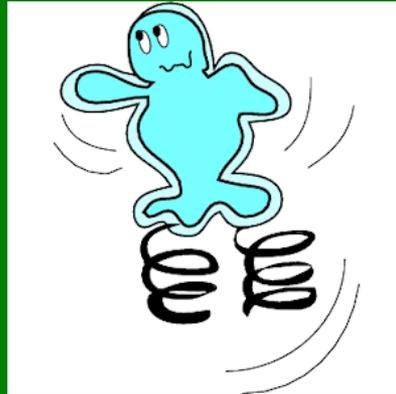
Identify each as gravitational, chemical, or elastic potential energy:

39.



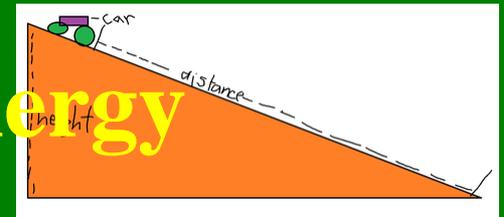
**Chemical Potential Energy**

40.

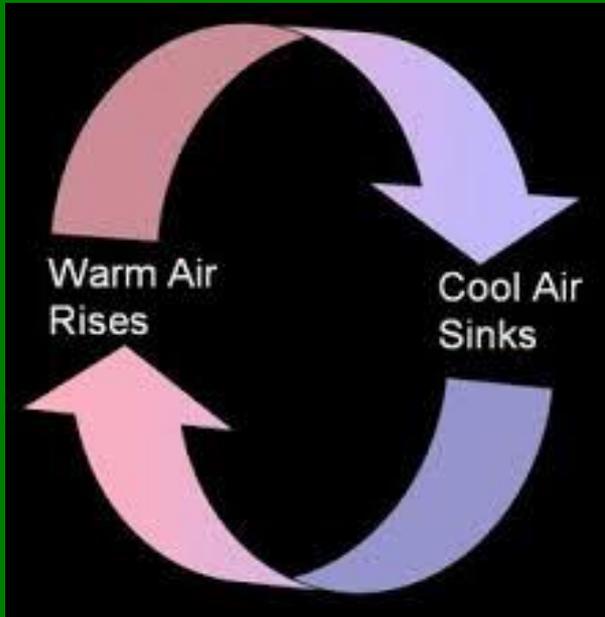


**Elastic Potential Energy**

41. **Gravitational Potential Energy**



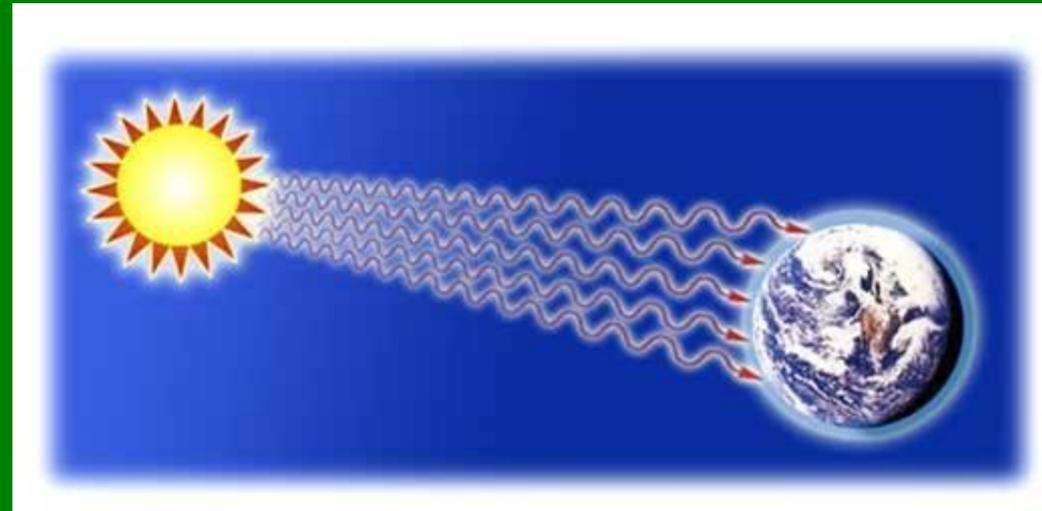
42. Convection occurs in fluids (gases and liquids) because of **DENSITY**.



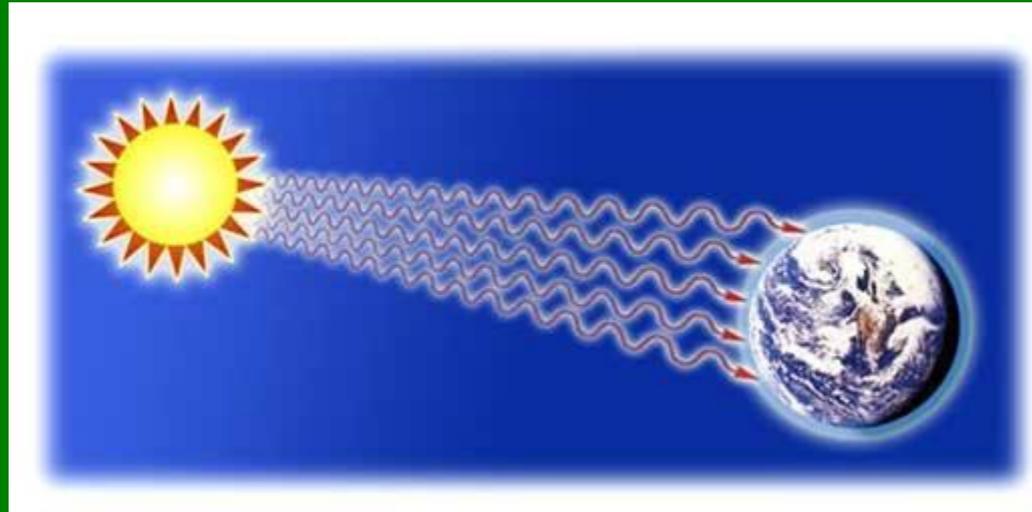
Hotter fluids rise and cooler fluids sink because of this.

43. Earth is warmed by the sun due to \_\_\_\_, a type of heat transfer.

- RADIATION**
- CONDUCTION
- CONVECTION



44. This type of heat transfer can occur when there is no matter present



**-RADIATION**

**-CONDUCTION** needs solids, liquids or gases to occur

**-CONVECTION** needs liquids or gases to occur