Dec. 13, 19

1. Collect Packet from Basket at door and/or take out TEK 6.9 Review Packet
2. Sharpen your pencil
3. Sit in assigned seat
4. Start answering the question

Advisory

1. Without using the word diligent how does is this video still teaching you about being diligent in your education?

Video: https://www.youtube.com/watch?v=-O7v4EJjx-g&feature=emb_title&disable_polymer=true

2. Are you truly being diligent in investing in your success or are you setting yourself up for failure?

TEK

6.(9) Force, motion, and energy. The student knows that the Law of Conservation of Energy states that energy can neither be created nor destroyed, it just changes form. The student is expected to:

(A) investigate methods of thermal energy transfer, including conduction, convection, and radiation;

(B) verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting; and

(C) demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy.

LO

Students will apply knowledge over energy transformation (TEK 6.9) to complete a fall semester review.

DOL

Students will complete 10/10 questions over energy transformation (TEK 6.9) with 80% accuracy or higher.

Agenda

1. PDN
2. DOL (Task Questions in packet)
3. Re-Teach / Correct Task/DOL questions

Fall Semester Final Exam Review TEK 6.9 / Energy

Kahoot:

https://create.kahoot.it/share/thermal-energy/517f5690-9435-435f-a838-588a6fbca4e9

·https://create.kahoot.it/share/energy-transformations-and-the-law-of-conservation-of-energy/3d7e490b-dece-45df-bbd6-ed9149f9dc5b

Quizlet:

· **https://quizlet.com/191599709/unit-5-test-tek-68-abcde-flash-cards/**

· https://quizlet.com/333268030/tek-68d-graphing-motion-flash-cards/

https://quizlet.com/291076346/tek-86-balanced-and-unbalanced-forces-force-and-motion-newtons-laws-flash-cards/

· **https://www.texasgateway.org/resource/changes-motion**

Gateway:

· https://www.texasgateway.org/resource/matter-and-energy-elements-versus-compounds

Review TEKS 6.9: Thermal Energy

1. Hot coffee is stirred with a spoon. The spoon gets hot due to _____.

2. A fire will warm to a person from several feet away because of _____.

3. The wax in a lava lamp rises and falls because of _____.

4. Warm air rises in a room because of _____.

5. When a hand is placed near an iron to check if it is hot, the heat is transferred to the hand through _____.

6. Cookware with copper on the bottom helps it heat evenly by transferring heat through _____.

7. Warm water rises in a pond and cold water sinks to the bottom because of _____.

8. When one end of a copper rod is placed in a flame, wax on the other end will melt because _____.

9. When a house burns down sometimes the vinyl siding of the houses nearby gers warped. Why? _____.

10. Warm air over the beach rises while cooler air from the ocean rushes into shore because of _____.

11. The metal skewer is so hot to touch that you drop your marshmallow into the campfire, why? _____.

12. A huge rock at the park gets so hot during the day that you cannot sit on it, why? _____.

13. The at night you lay on that same rock to keep warm by _____.

14. A fireman feels a door and it is hot from the fire on the other side due to _____.

15. The cause of weather systems and winds on Earth is _____.

Energy Transformations and the Laws of Conservation of Energy Kahoot.

Energy Transformations and Law of Conservation of Energy

1. What determines an objects thermal energy?

2. Which type of energy is converted when fireworks release heat, light and sound?

3. An automobile engine converts the chemical energy in gasoline mostly into heat and _____.

4. What energy conversion occurs when a person rubs his/her hands together rapidly?

5.

6. What energy transformation happens when a TV speaker produces music?

7. Which energy conversion occurs when wood is burned?

8. An object is thrown up, reaches maximum height and then falls. What caused it to slow down? _____.

9. When a button is pushed, a buzzer is activated. Electrical energy has turned into what? _____.

10. A student is riding a bike, pushes on the pedals and stops. The energy applied to the pedals _____.

11. Burning coal produces hot gases in a plant. What conversion takes place as gases move a motor? _____.

12. A student has a comb. He bends back the teeth on a comb. The mechanical energy changes to what? _____.

13. A ball rolls on a flat surface and stops. What caused the

14. Which correctly describes the energy transformation taking place, starting with the battery? _____.

15. Which one is the best example of chemical potential energy being converted into thermal energy? _____.

16. Which energy conversion occurs when a battery operated alarm clock goes off?

17. Campers make a fire with logs. Which is an energy transformation that takes place as they burn?

18. Which device can be added to an electric circuit to convert electrical energy into sound?

19. There is a battery operated toy car with a switch to make it move. What transformation happened?

20. What energy conversion takes place when a toaster is in use?

21. As a ball falls, it loses 4.2 Joules of Gravitational Potential Energy (GPE). How much GPE is converted into kinetic energy?

22. Solar panels use the sun’s energy for electricity. What would the energy conversion be?

23. What best describes the energy transformation that takes place in an iPod?

24.

25. Which best describes the energy conversion that takes place when you light a match.

26. A roller coaster involves Gravitational Potential Energy (GPE), Kinetic, Thermal and Sound Energy. Which statement is True?

27. Your TV uses energy. What happens when you turn on your TV?

28. Which of these best illustrates The Law of Conservation of Energy?

29. Candle was has Chemical Potential Energy (CPE). As it burns, it changes forms. What happens to the wax?

30. When using a flashlight, a battery turns electrical energy into light. Explain what happens to the energy?

31. The amount of electrical energy that goes into a lamp equals the amount of heat that comes out.

32.

33. During energy changes, part of the energy is always converted to _____.

34. Which of these statements describes the Law of Conservation of Energy?

3.5 DOL Questions

1. A black brick exposed to sunlight becomes warm. How is energy from the sun transferred to the brick?

a. Convection B: Conduction C: Radiation D: reflection

2. A student standing near a campfire feels warmer as the fire grows. Which process most likely transfers heat from the campfire to the student?

A: Conduction B: convection C: radiation D: transformation

3. Campers use a flashlight outside their tent at night for light.

A: Heat B: Chemical C: Electrical D: magnetic

Flashlights transfer electrical energy to light and _____ energy.

4. Which best describes the transformation of energy in a flashlight?

A: chemical energy into sound energy

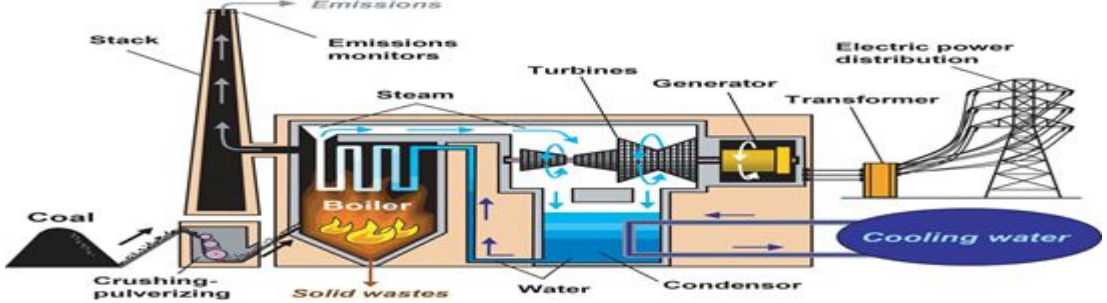
B: chemical energy into radiant energy

C: electrical energy into nuclear energy

D: electrical energy into mechanical energy

5. A teacher scraped a match against a piece of sandpaper. The match started to burn. Which statement best describes the energy changes that occurred?

A: the chemical energy stored in the match changed to thermal energy and light energy.
B: the thermal energy stored in the match changed to light energy and chemical energy.
C: The light energy and thermal energy stored in the match changed to mechanical energy.
D: the light energy and thermal energy stored in the match changed to chemical energy.



Which of the following correctly demonstrates the energy transformations in the coal burning power plant shown above?

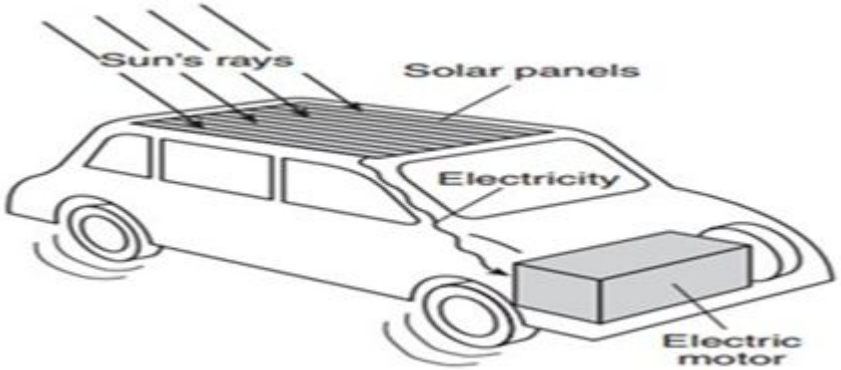
A: chemical to electrical to thermal to mechanical

B: mechanical to thermal to chemical to electrical

C: electrical to chemical to thermal to mechanical

D: chemical to thermal to mechanical to electrical

7. Several companies are working to develop solar power cars. These cars do not produce pollution and are better for the environment. The diagram below shows a moving solar car.



What is the sequence of the energy transformations represented in the diagram?

A: mechanical to chemical to solar

B: solar to chemical to electrical

C: mechanical to electrical to solar

D: solar to electrical to mechanical

8. A student is in a room that has an air temperature of 25 Degrees Celsius. Before pouring cold water into a glass, she notices that the ice in the pitcher is melting.

Which of the following would be the best way for the student to explain how thermal energy is moving in this situation?

A: heat moves from the ice to the water
B: cold moves from the ice to the water
C: heat moves from the air to the water
D: cold moves from the water to the room.

9. A student decided to cook a pot of pasta. When he reached to grab the handles of the pot, contact with the handles burned the student's hands. Which method of thermal energy transfer was responsible for burning his hands?

A: convection B: conduction C: radiation D: condensation

10. A class of sixth grade students was investigating methods of thermal energy transfer. One of their lab stations consisted of a Bunsen Burner heating a beaker of water. The diagram below shows the equipment set-up. The arrows represent the transfer of energy in the water.

Which process is primarily responsible for the thermal energy transfer indicated by the arrows in the beaker of water?

A: convection B: conduction C: radiation D: condensation

Corrections through use of strategies.

6.8 DOL Questions

1. A black brick exposed to sunlight becomes warm. How is energy from the sun transferred to the brick?

Radiation

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Radiation

A: Conduction B: convection C: radiation D: transformation

3. Campers use a flashlight outside their tent at night for light.

chemical to electrical to light and heat

Flashlight transfers electrical energy to light and _____ energy.

A: Heat B: Chemical C: Electrical D: magnetic

4. Which best describes the transformation of energy in a flashlight?

chemical to electrical to light and heat

A: chemical energy into sound energy

B: chemical energy into radiant energy (light energy)

C: electrical energy into nuclear energy

D: electrical energy into mechanical energy

chemical to light and heat

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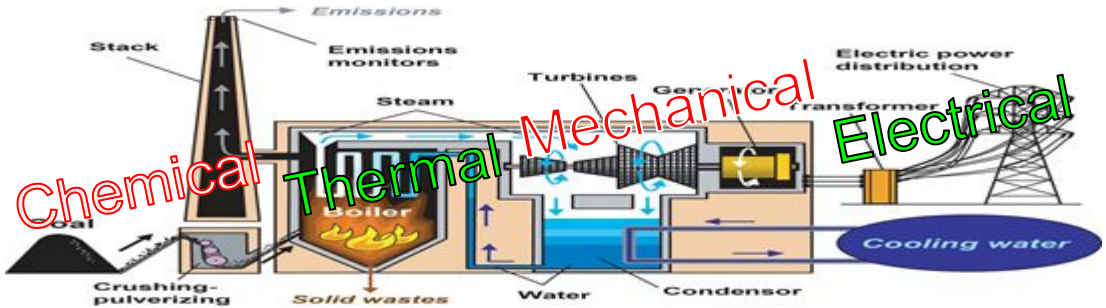
B: the thermal energy stored in the match changed to light energy and chemical energy.

C: The light energy and thermal energy stored in the match changed to mechanical energy.

D: the light energy and thermal energy stored in the match changed to chemical energy.

6. Many power plants in Texas use coal to provide electricity to area homes and businesses.



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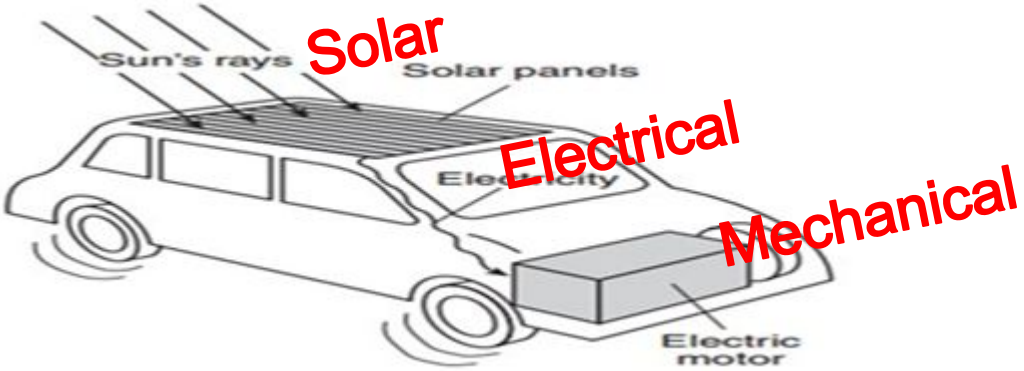

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Hot to Cold

Which of the following would be the best way for the student to explain how thermal energy is moving in this situation?

A: heat moves from the ice to the water

B: cold moves from the ice to the water

C: heat moves from the air to the water

D: cold moves from the water to the room.

conduction

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convection / heat rises & cold sinks

Which process is primarily responsible for the thermal energy transfer indicated by the arrows in the beaker of water?

A: convection ~~B: conduction~~ ~~C: radiation~~ ~~D: condensation~~