

Chapter 4.2 – Renewable Energy Resources (pages 144-149)

Match the vocabulary term to its definition:

_____ 1. resources that are used faster than they can be replaced by natural processes

_____ 2. resources that can be replaced by natural processes in a relatively short amount of time

_____ 3. energy from the sun

_____ 4. an energy resource that is available on a nearly continuous basis

_____ 5. group of wind turbines that produce electricity

_____ 6. electricity produced by flowing water

_____ 7. thermal energy from Earth's interior

_____ 8. energy produced by burning organic matter such as wood, food scraps, and alcohol

<u>Word Bank</u>
Biomass energy
Geothermal energy
Hydroelectric power
Inexhaustible energy
Nonrenewable resources
Renewable resources
Solar energy
Wind farm

_____ 9. Solar power plants transform radiant energy from the sun into ___ energy.

_____ 10. The electrical energy then turns ___ which are connected to generators.

_____ 11. Solar panels which gather and store solar energy are ___ solar energy.

_____ 12. Using design elements in the house, like windows on the south side of a home, that capture energy from the sun is ___ solar energy.

_____ 13. Wind turbines convert ___ energy in wind into electric energy.

_____ 14. To produce hydroelectric power, humans build a ___ across a powerful river.

_____ 15. ___ areas that have great differences between high and low tides can be a source of tidal power.

_____ 16. In geothermal power plants, the ___ turns the turbines which are connected to a generators that produce electricity.

- _____ 18. The most widely used source of biomass is ____.
- _____ 19. Ethanol, a fuel for vehicles, is made from plants like ____.
- _____ 20. Adding ethanol to fuel reduces the amount of ____ released by vehicles.
- _____ 21. Biodiesel is made from vegetable oils and ____.
- _____ 22. ____ is the fastest growing renewable fuel in the United States.
- _____ 23. Renewable energy currently meets ____% of US energy needs.
- _____ 24. Of that percentage, biomass is responsible for ____% of the US energy needs.
- _____ 25. Management of renewable resources often focuses on ____ their use.

Look at Table 1 on page 148:

26. Which of the renewable resources listed has an advantage of being nonpolluting?

27. Which of the renewable resources listed is available in the United States?

_____ 28. Which of the renewable resources listed has a disadvantage of producing air pollution?

_____ 29. Which of the renewable resources listed has a disadvantage of being limited to areas with active tectonic plates?

_____ 30. Which of the renewable resources listed has a disadvantage having to rely on adequate rainfall?

_____ 31. Which of the renewable resources listed has a disadvantage of being limited to areas with strong, steady winds?

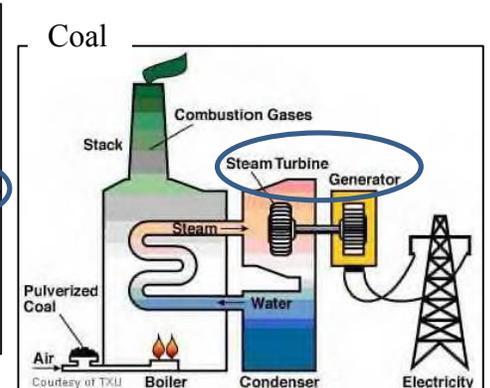
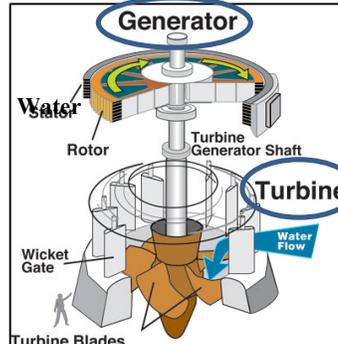
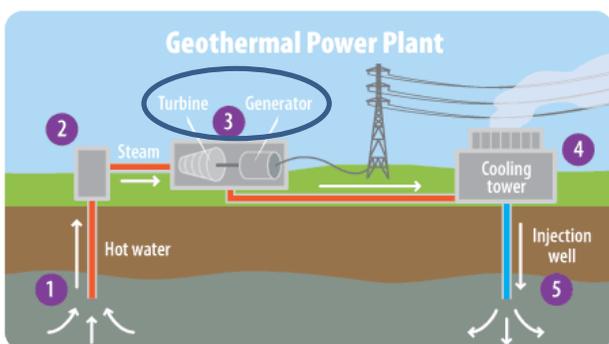
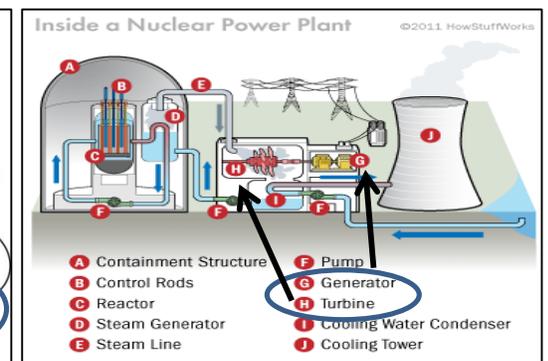
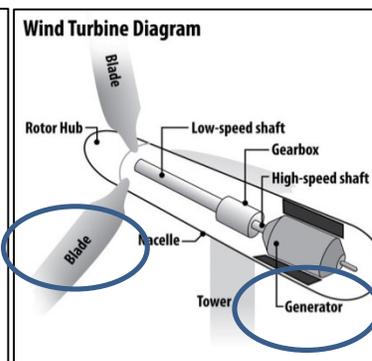
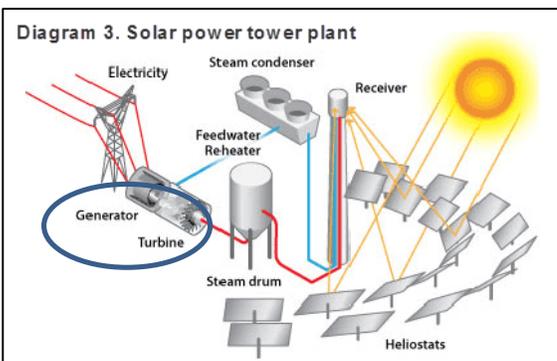
_____ 32. Which of the renewable resources listed has a disadvantage of the high cost of cells?

_____ 33. Which of the renewable resources listed has a disadvantage of being less efficient than fossil fuels?

Describe how people make use of renewable energy:

Type	Description of Its Use
Solar energy	34. Solar cells capture _____ energy from the sun and convert it to electric energy.
Wind energy (Wind farms)	35. Wind turns groups of wind _____ that produce electricity.
Hydroelectric power	36. Dams across powerful rivers produce electricity from _____ water.
Tidal power	37. Flowing water between _____ and _____ tides turns turbines that produce electricity.
Geothermal energy	38. _____ energy from Earth's interior produces steam that turns turbines that produce electricity.
Biomass energy	39. _____ material can be burned or converted into fuel for vehicles.

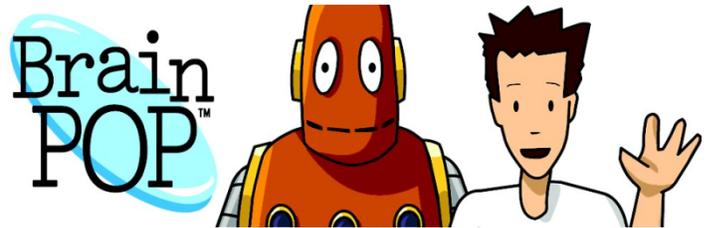
40. On each diagram below, highlight the word generator with yellow and the word turbine/blade with orange. In ALL resources (nonrenewable and renewable) that produce electricity, something must turn a _____ which is connected to a _____ that produces electricity. Our task is to find a reliable resource for that task.





Scan this code and watch the following short video clips.
<https://goo.gl/5XxmNA>

Check when completed	
_____	Under the heading <i>Energy Resources</i> , watch “Biofuels”
_____	Screenshot of summary of “Biofuels”
_____	Watch “Geothermal”
_____	Screenshot of summary of “Geothermal”
_____	Watch “Hydro”
_____	Screenshot of summary of “Hydro”
_____	Watch “Solar”
_____	Screenshot of summary of “Solar”
_____	Watch “Wind”
_____	Screenshot of summary of “Wind”

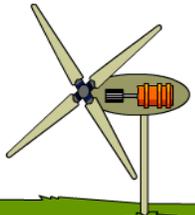


Titles to Search

Quiz grade

Solar Energy	
Wind Energy	
Biofuels	
Dams	

LABEL IT



Draw a line connecting each part of a wind turbine to its place in the image. Draw an arrow on the image to indicate wind direction.

- ROTOR BLADES
- GENERATOR
- POWER LINE

FILL IN THE BLANKS

Wind turbines convert the wind's energy into a rotational energy called

A place with lots of turbines working together is a wind

Wind energy is a energy source, unlike oil and other fossil fuels.

About percent of America's power is generated by the wind.