

Biomass

1. Describe Biomass.
2. Renewable or Nonrenewable?
3. How much did the percentage of energy that biomass gives change from the mid-1800s to today?
4. What replaced biomass as the main source of our energy?
5. How does biomass harm the environment?
6. What are four ways we use biomass energy? Briefly describe each.
7. What are the two largest US Sources of Biomass in 2014?
8. What are the three largest US Biomass Consumers in 2014?
9. How has the amount of US Consumption of Biofuels increased since 2002 to 2014 (discuss both ethanol and biodiesel)?
10. Why is photosynthesis necessary for biofuel production?

Biomass

1. Describe Biomass.
2. Renewable or Nonrenewable?
3. How much did the percentage of energy that biomass gives change from the mid-1800s to today?
4. What replaced biomass as the main source of our energy?
5. How does biomass harm the environment?
6. What are four ways we use biomass energy? Briefly describe each.
7. What are the two largest US Sources of Biomass in 2014?
8. What are the three largest US Biomass Consumers in 2014?
9. How has the amount of US Consumption of Biofuels increased since 2002 to 2014 (discuss both ethanol and biodiesel)?
10. Why is photosynthesis necessary for biofuel production?

Coal

1. Describe Coal.
2. Renewable or Nonrenewable?
3. Where did coal get its energy?
4. What type of rock should we look for when looking for coal?
5. How has coal been used in the past?
6. Briefly describe two ways of mining coal.
7. Before being shipped to market, what has to happen to the coal?
8. What is the main use for coal today?
9. How does coal harm the environment, and how do companies reduce this effect?
10. Which states are the top producers for coal in 2014?

Coal

1. Describe Coal.
2. Renewable or Nonrenewable?
3. Where did coal get its energy?
4. What type of rock should we look for when looking for coal?
5. How has coal been used in the past?
6. Briefly describe two ways of mining coal.
7. Before being shipped to market, what has to happen to the coal?
8. What is the main use for coal today?
9. How does coal harm the environment, and how do companies reduce this effect?
10. Which states are the top producers for coal in 2014?

Geothermal

1. Describe Geothermal Energy.
2. Renewable or Nonrenewable?
3. How has Geothermal Energy been used in the past?
4. When did Geothermal Energy start being used to produce electricity? How many more years did it take before the first successful geothermal plant started operating in the US?
5. Where on earth is a good place to look for geothermal energy (not talking about hot springs and geysers).
6. Describe the two types of hydrothermal resources and how we use them.
7. How does geothermal energy impact the environment?
8. What continents does the Ring of Fire include?
9. What state produces the third largest amount of geothermal energy?
10. Why aren't any states on the East Coast of the US big geothermal producers?

Geothermal

1. Describe Geothermal Energy.
2. Renewable or Nonrenewable?
3. How has Geothermal Energy been used in the past?
4. When did Geothermal Energy start being used to produce electricity? How many more years did it take before the first successful geothermal plant started operating in the US?
5. Where on earth is a good place to look for geothermal energy (not talking about hot springs and geysers).
6. Describe the two types of hydrothermal resources and how we use them.
7. How does geothermal energy impact the environment?
8. What continents does the Ring of Fire include?
9. What state produces the third largest amount of geothermal energy?
10. Why aren't any states on the East Coast of the US big geothermal producers?

Hydropower

1. Describe Hydropower.
2. Renewable or Nonrenewable?
3. What force on earth allows us to use water to create energy?
4. What simple machine was used in the past to generate hydropower?
5. What characteristic of a river causes us to build a dam on that river (why doesn't Niagara Falls need a dam)?
6. For what purpose were most dams in the US originally built?
7. What are the three parts to a hydropower plants?
8. How do we store the energy in water so we don't waste it when people don't need it?
9. How does hydropower affect the environment?
10. What characteristic do you think the Top Hydropower Producing States in 2014 have in common?

Hydropower

1. Describe Hydropower.
2. Renewable or Nonrenewable?
3. What force on earth allows us to use water to create energy?
4. What simple machine was used in the past to generate hydropower?
5. What characteristic of a river causes us to build a dam on that river (why doesn't Niagara Falls need a dam)?
6. For what purpose were most dams in the US originally built?
7. What are the three parts to a hydropower plants?
8. How do we store the energy in water so we don't waste it when people don't need it?
9. How does hydropower affect the environment?
10. What characteristic do you think the Top Hydropower Producing States in 2014 have in common?

Natural Gas

1. Describe Natural Gas.
2. Renewable or Nonrenewable?
3. What is the main ingredient of natural gas?
4. How long ago was natural gas “put to work”?
5. Why is natural gas hard to find?
6. Besides porous rock, where else can we find natural gas?
7. How do we move natural gas around the country?
8. What are some uses of natural gas?
9. How does natural gas affect the environment?
10. Which Sector is the fourth largest consumer of natural gas in 2014?

Natural Gas

1. Describe Natural Gas.
2. Renewable or Nonrenewable?
3. What is the main ingredient of natural gas?
4. How long ago was natural gas “put to work”?
5. Why is natural gas hard to find?
6. Besides porous rock, where else can we find natural gas?
7. How do we move natural gas around the country?
8. What are some uses of natural gas?
9. How does natural gas affect the environment?
10. Which Sector is the fourth largest consumer of natural gas in 2014?

Petroleum

1. Describe Petroleum.
2. Renewable or Nonrenewable?
3. Where do we find Petroleum underground?
4. What was the first use for petroleum in history?
5. What is the success rate (percentage) of finding new places where petroleum exists?
6. How much of the US petroleum comes from underneath the ocean?
7. What process has to occur before we can sell petroleum in the market?
8. How does petroleum affect the environment?
9. What percentage of each Barrel of Oil in 2014 do diesel and gasoline make up?
10. What are the 1st, 3rd and 5th largest US Petroleum Consumption Sectors in 2014?

Petroleum

1. Describe Petroleum.
2. Renewable or Nonrenewable?
3. Where do we find Petroleum underground?
4. What was the first use for petroleum in history?
5. What is the success rate (percentage) of finding new places where petroleum exists?
6. How much of the US petroleum comes from underneath the ocean?
7. What process has to occur before we can sell petroleum in the market?
8. How does petroleum affect the environment?
9. What percentage of each Barrel of Oil in 2014 do diesel and gasoline make up?
10. What are the 1st, 3rd and 5th largest US Petroleum Consumption Sectors in 2014?

Propane

1. Describe Propane.
2. Renewable or Nonrenewable?
3. Why do we store propane as a liquid?
4. How many times more space does gaseous propane occupy compared to liquid propane?
5. How many years has it been since propane was discovered?
6. Trace the transportation of propane from distribution terminals to consumers.
7. How is propane used (briefly describe 5 ways)?
8. How does propane affect the environment?
9. How much propane (percentage) did the transportation sector use in 2014?
10. Why isn't propane used for transportation more than this?

Propane

1. Describe Propane.
2. Renewable or Nonrenewable?
3. Why do we store propane as a liquid?
4. How many times more space does gaseous propane occupy compared to liquid propane?
5. How many years has it been since propane was discovered?
6. Trace the transportation of propane from distribution terminals to consumers.
7. How is propane used (briefly describe 5 ways)?
8. How does propane affect the environment?
9. How much propane (percentage) did the transportation sector use in 2014?
10. Why isn't propane used for transportation more than this?

Solar

1. Describe Solar Energy.
2. Renewable or Nonrenewable?
3. What factors determine the amount of solar energy an area receives?
4. A friend tells you that space heating is when outer space is being warmed up by the sun and other stars. How would you address this (be sure to also include an example)?
5. How does a Passive Solar Home stay cool in the summer and warm in the winter?
6. Draw and label a diagram of two Passive Solar Homes, one in the Northern Hemisphere, one in the Southern Hemisphere. Draw the equator and only one sun in your diagram. Which side of each home faces the sun?
7. What would be a drawback to installing a Solar Water Heater in North Carolina?
8. Give one benefit and one drawback for Photovoltaic Solar Panels.
9. Describe another way we can use solar energy to create power.
10. If the sun's energy that reaches Earth every hour could power the entire US for a year, why do we have an energy problem? What do we need to do in order to harness the sun's enormous power?

Solar

1. Describe Solar Energy.
2. Renewable or Nonrenewable?
3. What factors determine the amount of solar energy an area receives?
4. A friend tells you that space heating is when outer space is being warmed up by the sun and other stars. How would you address this (be sure to also include an example)?
5. How does a Passive Solar Home stay cool in the summer and warm in the winter?
6. Draw and label a diagram of two Passive Solar Homes, one in the Northern Hemisphere, one in the Southern Hemisphere. Draw the equator and only one sun in your diagram. Which side of each home faces the sun?
7. What would be a drawback to installing a Solar Water Heater in North Carolina?
8. Give one benefit and one drawback for Photovoltaic Solar Panels.
9. Describe another way we can use solar energy to create power.
10. If the sun's energy that reaches Earth every hour could power the entire US for a year, why do we have an energy problem? What do we need to do in order to harness the sun's enormous power?

Uranium (Nuclear)

1. Describe Nuclear Energy.
2. Renewable or Nonrenewable?
3. Describe Fission.
4. What was the first use of nuclear fission?
5. How long have we known that the nucleus of an atom contains subatomic particles?
6. Describe a fuel assembly.
7. How is nuclear energy similar to coal?
8. What makes spent nuclear fuel dangerous?
9. How does nuclear energy affect the environment (besides the answer to number 8)?
10. What safety precautions are taken when building nuclear power plants? List 3 places and dates in which nuclear power plant safety precautions weren't enough.

Uranium (Nuclear)

1. Describe Nuclear Energy.
2. Renewable or Nonrenewable?
3. Describe Fission.
4. What was the first use of nuclear fission?
5. How long have we known that the nucleus of an atom contains subatomic particles?
6. Describe a fuel assembly.
7. How is nuclear energy similar to coal?
8. What makes spent nuclear fuel dangerous?
9. How does nuclear energy affect the environment (besides the answer to number 8)?
10. What safety precautions are taken when building nuclear power plants? List 3 places and dates in which nuclear power plant safety precautions weren't enough.

Wind

1. Describe wind energy.
2. Renewable or Nonrenewable?
3. Describe how wind occurs and the ideal situation for wind.
4. What is the earliest use of wind energy?
5. Compare and contrast Sea Breeze and Land Breeze.
6. List the steps that Wind Turbines use to produce energy.
7. Which technology do we use to measure wind speed? Wind direction? Why are these important for siting a wind farm?
8. Where does the wind blow more consistently and better for energy production?
9. Why don't wind farms produce more electricity? What are the ideal wind conditions for producing power?
10. How do wind turbines affect the environment?

Wind

1. Describe wind energy.
2. Renewable or Nonrenewable?
3. Describe how wind occurs and the ideal situation for wind.
4. What is the earliest use of wind energy?
5. Compare and contrast Sea Breeze and Land Breeze.
6. List the steps that Wind Turbines use to produce energy.
7. Which technology do we use to measure wind speed? Wind direction? Why are these important for siting a wind farm?
8. Where does the wind blow more consistently and better for energy production?
9. Why don't wind farms produce more electricity? What are the ideal wind conditions for producing power?
10. How do wind turbines affect the environment?