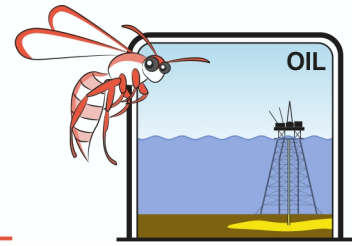
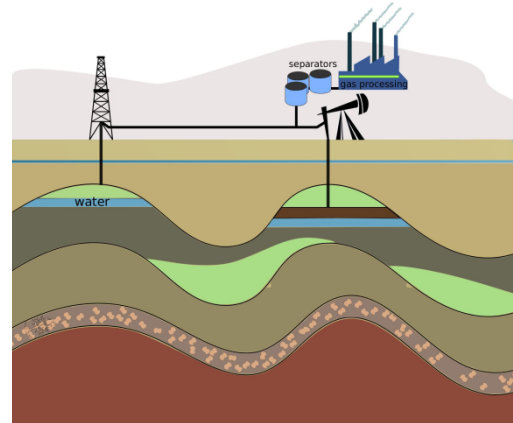


Oil and Gas – Student Review



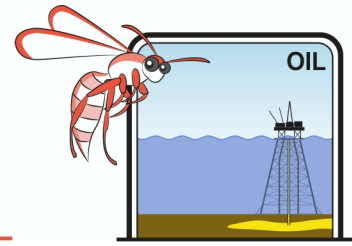
Insert these words into the correct blanks in the paragraph below:

| | |
|-------------------------------------|------------------------------------|
| <input type="radio"/> above | <input type="radio"/> offshore |
| <input type="radio"/> animals | <input type="radio"/> permeable |
| <input type="radio"/> below | <input type="radio"/> petrol |
| <input type="radio"/> domestic gas | <input type="radio"/> plants |
| <input type="radio"/> drill | <input type="radio"/> pressure |
| <input type="radio"/> half | <input type="radio"/> refinery |
| <input type="radio"/> hydrocarbons | <input type="radio"/> reservoir |
| <input type="radio"/> impermeable | <input type="radio"/> source rocks |
| <input type="radio"/> kerogen | <input type="radio"/> 3-5km |
| <input type="radio"/> non-renewable | <input type="radio"/> 4-6km |
| | <input type="radio"/> 60% |



Oil and gas are _____. These fuels are sources of _____ energy. They started out as microscopic dead marine _____ and _____ that were buried in the ocean sediment. Pressure from overlying sediments _____ and heat from _____ changed them into a substance called _____. The rocks in which these fragments are held in very low concentrations are called _____. More heat and pressure change this substance into oil or gas. Oil forms at depths between _____ while gas forms at about _____ below the surface of the Earth. Continuing pressure forces oil and gas to migrate upwards through _____ rocks until an impermeable layer or rock structure traps them. If enough oil or gas is trapped, this is called a _____. If they are not trapped, the oil and gas are broken down by bacteria or escape into the atmosphere. To bring these fuels to the surface, we first _____ holes down to the reservoir, and then pump the oil and gas up pipes. Crude oil and gas is then sent to the _____ to be separated into useful products such as _____, _____ diesel, and aviation fuel. Most of Western Australia's oil and gas is found _____. Burning natural gas releases _____ less greenhouse gases compared to burning coal.

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Explanations of terms - Fill in the blanks:

- _____ are molecules built from atoms of hydrogen, oxygen and carbon.
- _____ resources take a very long time - geological time - to be created and replenished (if ever). Renewable resources are replenished within a human timescale.
- _____ and _____ are the original source for oil and gas. Most of the oil and gas in WA was formed from marine plankton. Elsewhere, coastal swampy lagoons may have trapped dead terrestrial and plants and animals creating source rocks.
- _____ are waxy, dense, tiny specks of 'pressure cooked' organic matter that may later be concentrated and eventually changed to become oil or gas. This process can take perhaps 150 million years to complete.
- _____ are rocks that have low concentrations of hydrocarbons but these can be concentrated as they are trapped over time.
- _____ is the depth range beneath Earth's surface which provides just enough heat and pressure to form oil. Closer to the surface bacteria break down the oil to form tar.
- _____ is the depth range beneath Earth's surface which provides the greater heat and pressure necessary to form gas. At depths of over 6km the kerogen becomes carbonised.
- _____ rocks allow liquids and gases to travel through them because they have spaces between their grains that are joined together (called pore spaces).
- _____ are areas of permeable rock (or sediment) which have been sealed above by an impermeable rock such as clay or an impermeable structure such as a sealed fault. Hydrocarbons can become concentrated as they migrate from below and become trapped in the reservoir.
- _____ holes are drilled from the surface down into the reservoir. The oil well can be on land or on a platform out at sea.
- A _____ takes the oil, gas, water and other materials from the well head and separates the mix into its useful parts such as petrol and domestic gas. LNG (liquefied natural gas) is exported from Western Australia.