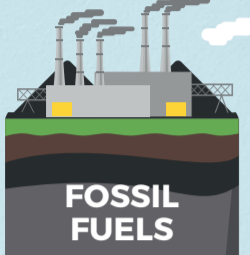

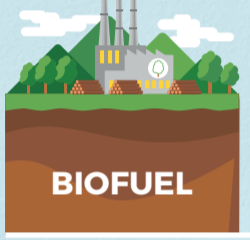
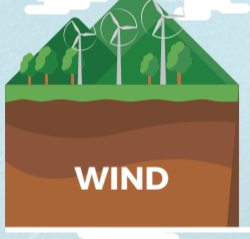



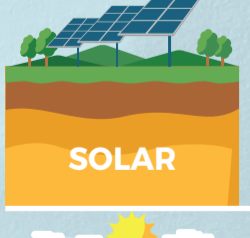
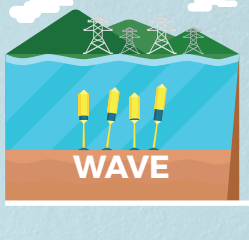


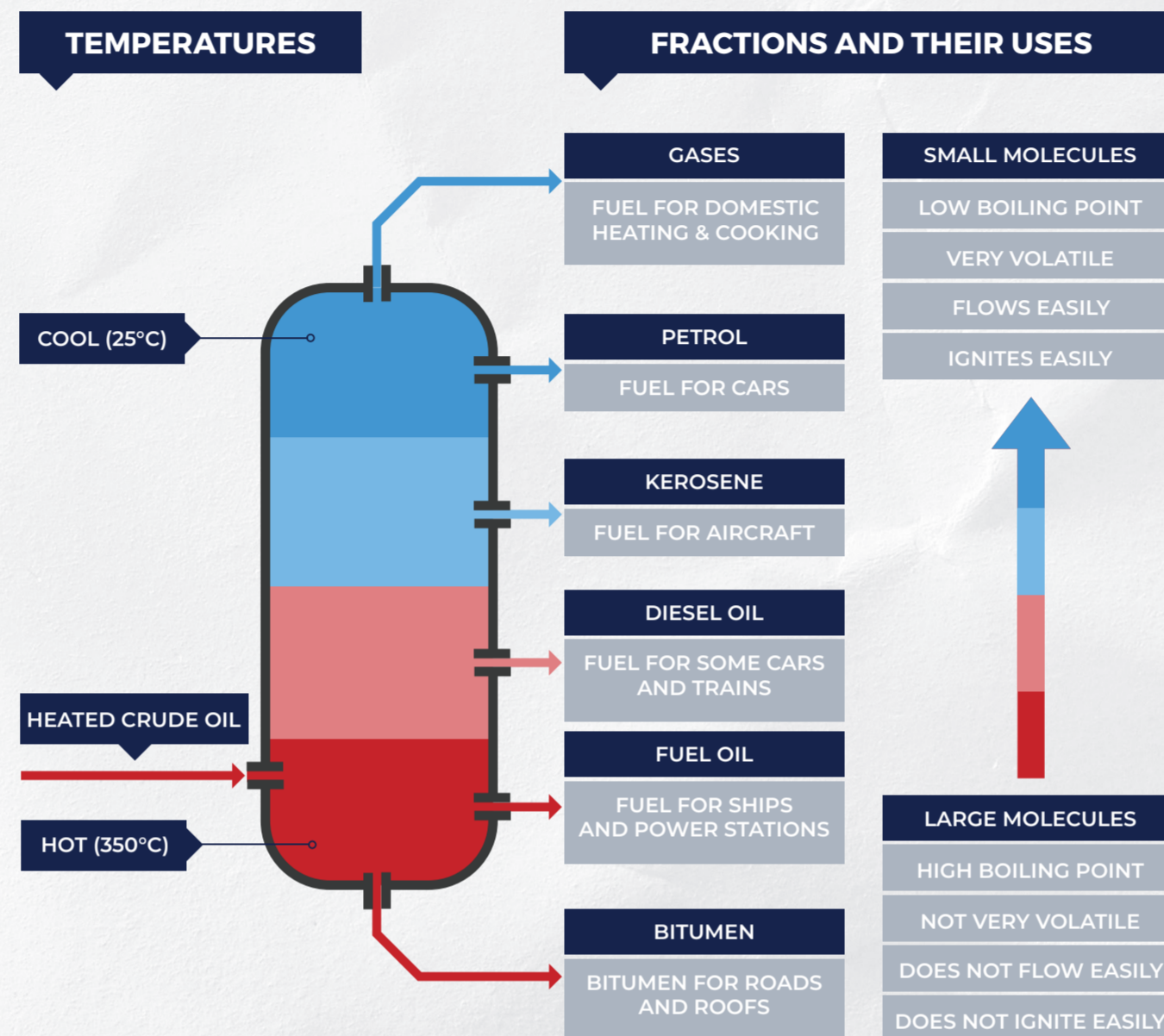
DIFFERENT ENERGY SOURCES

Nearly everything requires energy, and a way to use energy is by transferring it from one energy store to another. Systems that can store large amounts of energy are called energy resources. The major energy resources available to produce electricity are fossil fuels, nuclear fuel, biofuel, wind, hydroelectricity, geothermal, tidal, water waves and the sun.

	ENERGY STORE	RENEWABLE OR NON-RENEWABLE	USES
	CHEMICAL	NON-RENEWABLE	TRANSPORT, HEATING, ELECTRICITY GENERATION
	NUCLEAR	NON-RENEWABLE	ELECTRICITY GENERATION
	CHEMICAL	RENEWABLE	TRANSPORT, HEATING, ELECTRICITY GENERATION
	KINETIC	RENEWABLE	ELECTRICITY GENERATION
	GRAVITATIONAL POTENTIAL	RENEWABLE	ELECTRICITY GENERATION
	INTERNAL	RENEWABLE	ELECTRICITY GENERATION, HEATING
	KINETIC	RENEWABLE	ELECTRICITY GENERATION
	NUCLEAR	RENEWABLE	ELECTRICITY GENERATION
	KINETIC	RENEWABLE	ELECTRICITY GENERATION

CRUDE OIL FRACTIONS

Crude Oil is a liquid fossil fuel that is very viscous and black in appearance. It is a mixture of lots of different hydrocarbons. Fractional distillation is used to separate crude oil into simpler, more useful mixtures. This method can be used because different hydrocarbons have different boiling points.



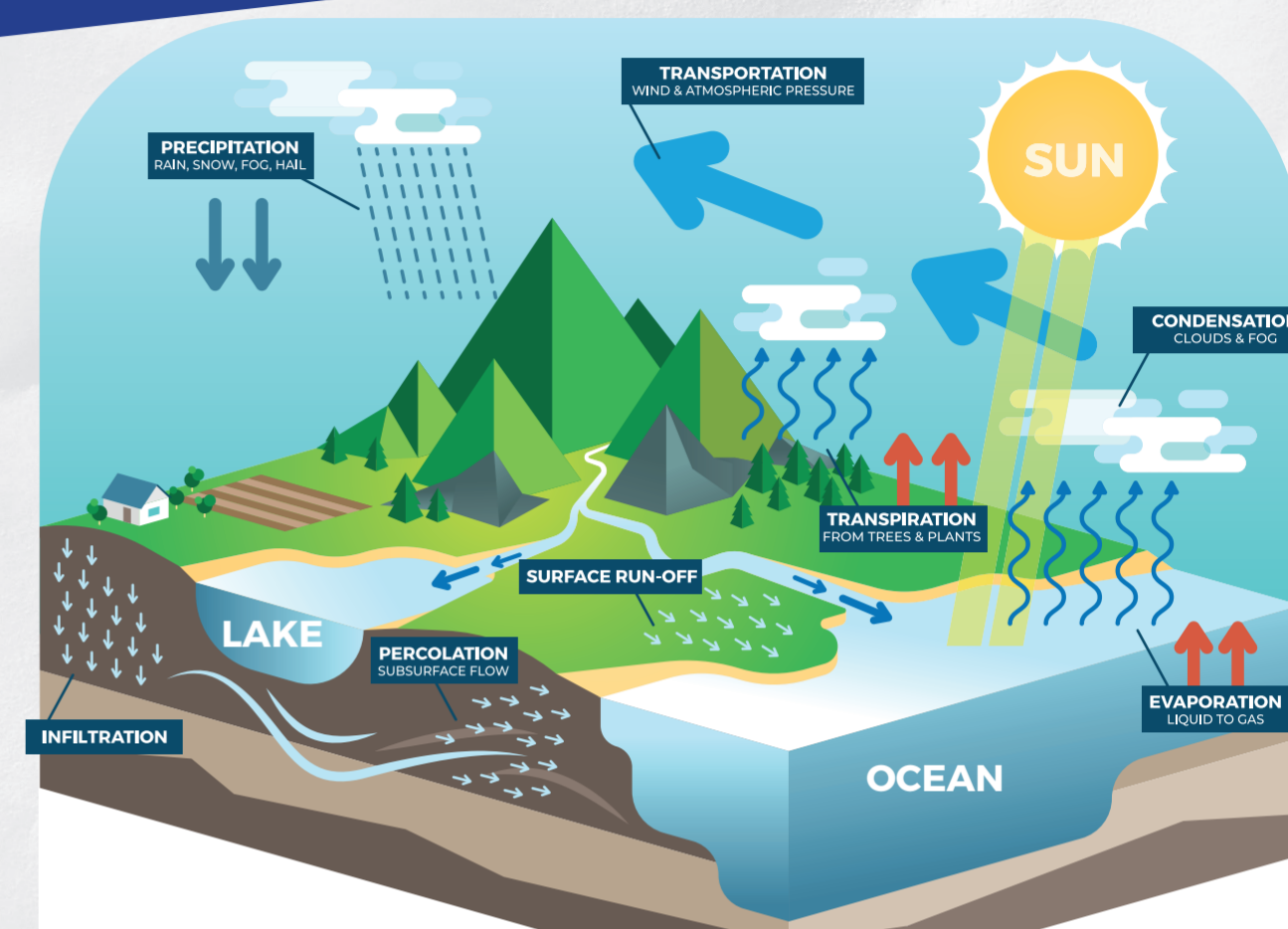
Fractional Distillation: Step-by-Step

- Crude oil is vaporized and fed into the bottom of the fractionating column.
- As the vapour rises up the column, the temperature falls.
- Fractions with different boiling points condense at different levels of the column and can be collected.
- The fractions with high boiling points (long chain hydrocarbons) condense and are collected at the bottom of the column.
- Fractions with low boiling points (short chain hydrocarbons) rise to the top of the column where they condense and are collected.

One way to remember the names of the fractions is 'Good Penguins Keep Diving For Bass'

THE WATER CYCLE

Water is constantly recycled by the earth. Energy from the sun evaporates water from the land and sea forming water vapour. This rises up into clouds and then cools, condenses and falls as rain onto the ground. The water then drains into the sea and the water cycle starts again.



PROCESS	WHAT HAPPENS TO WATER
EVAPORATION	Water turns from a liquid to a gas when it evaporates.
CONDENSATION	After evaporation water can cool and convert from gas to liquid often forming clouds.
TRANSPORTATION	Water within clouds can be blown many miles by strong winds and so transported to other areas.
PRECIPITATION	Precipitation occurs when rain, snow, hail and sleet fall from the sky.
SURFACE RUN-OFF	Much water will be absorbed into the ground after precipitation, but if a large volume falls or the ground is already wet, some water can run along the surface of the ground.
INFILTRATION	This occurs when water that has fallen as precipitation is absorbed into the ground. This can then be stored within underground rocks called aquifers.
TRANSPIRATION	Transpiration is the process where plants absorb water through their roots, and then give off water vapour through microscopic pores in their leaves called stomata.