



# Lesson 3 Fuels

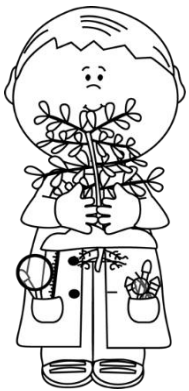
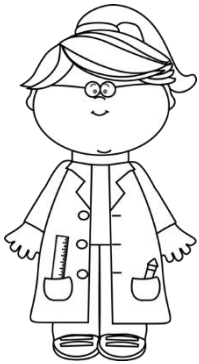
LO: To understand what fuels are

List common fuels	
Describe what a fuel is	
Explain what a fuel is	

# Key word

**Fuel**

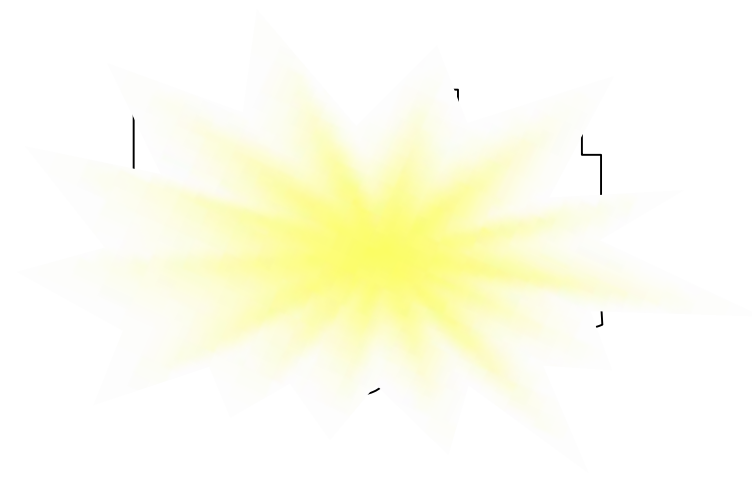
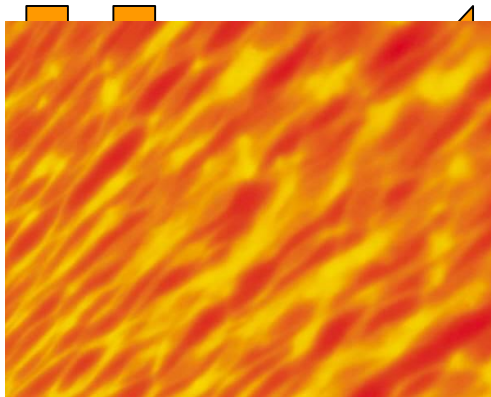
A substance that  
contains a store  
chemical or nuclear  
energy



# Starter: What energy?



**A FUEL** is a substance  
that burns  
to release energy



# Which ones are fuels?

Wood

Oil

Iron

Electricity

Natural Gas

Coal

Rocks

Alcohol

Sugar

# Collins book 1 page 118

## What are fuels?

You may have heard the word '**fuel**' being talked about. A fuel is a source of energy. We use a lot of energy in our world and fuels provide most of it. We use fuels all the time. There are many different types of fuel. There are fuels that are solids, liquids and gases.



# Solid, Liquid or Gas?



# Collins Book 1 page 118

## Common fuels

The fuels used most commonly are **coal**, **oil** and **natural gas**. In many parts of the world the only available fuel is wood. In very poor parts of the world people burn cow dung or peat. Often these people have to travel large distances to gather their fuels and they are careful about how they use them.

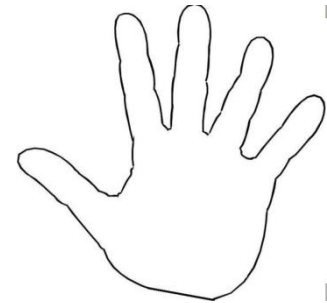
---

What are the four most common fuels?

# Confidence Check

Show from 1-5 on how confident you are on each success criteria.

*1 is not at all confident, 5 is super confident*



## Success Criteria

To be able to list some common fuels

# Coal, Oil, Natural gas, Wood

- We could make more of this fuel in quite a short time.....
- This fuel is a liquid and can flow easily along pipelines.....
- This solid fuel has to be dug out from under the ground.....
- This fuel is in a state that allows it to be compressed .....
- This fuel is not described as a fossil fuel .....

# What is a biofuel?



wiseGEEK



# Collins book 1 page 120

## Fuels from plants

Recently different fuels have been developed using technology. Examples are **bio-diesel**, which is made from plant material and **ethanol**. Ethanol is a liquid fuel that is sometimes called alcohol. It is made from plants, especially sugar cane. In Brazil, where it is warm and wet, growing conditions are ideal for sugar cane. The country does not have large resources of fossil fuels to burn, so growing sugar cane to make ethanol is an attractive alternative. Ethanol is even used in cars instead of petrol. Many other parts of the world are now starting to grow crops used to make ethanol.

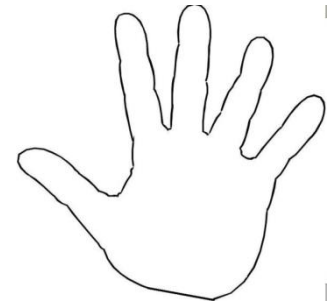
# Biofuel or Fossil Fuel?

- Fossil fuels are mined from under the ground they are:
  - Crude oil
  - Natural Gas or
  - Coal
- Plus anything else that they are broken down into e.g petrol, diesel and methane

# Confidence Check

Show from 1-5 on how confident you are on each success criteria.

*1 is not at all confident, 5 is super confident*



## Success Criteria

To be able to describe what a fuel is



**FOSSIL FUELS**

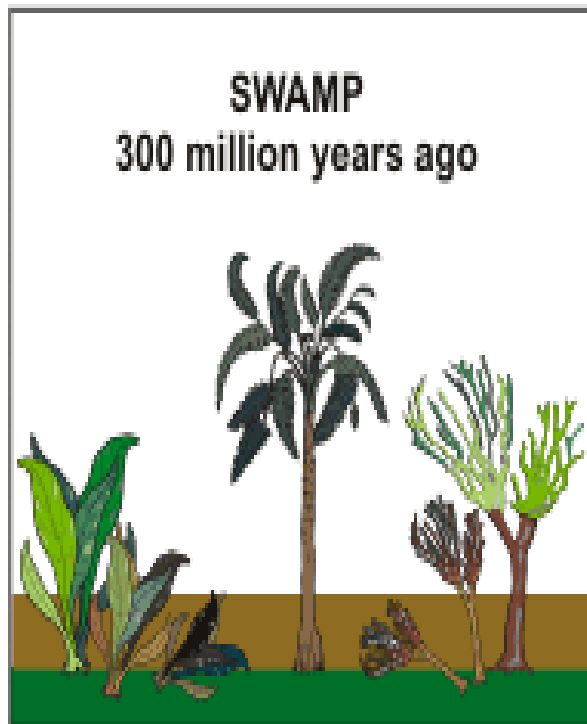
# Coal

How was coal formed? What can you remember?

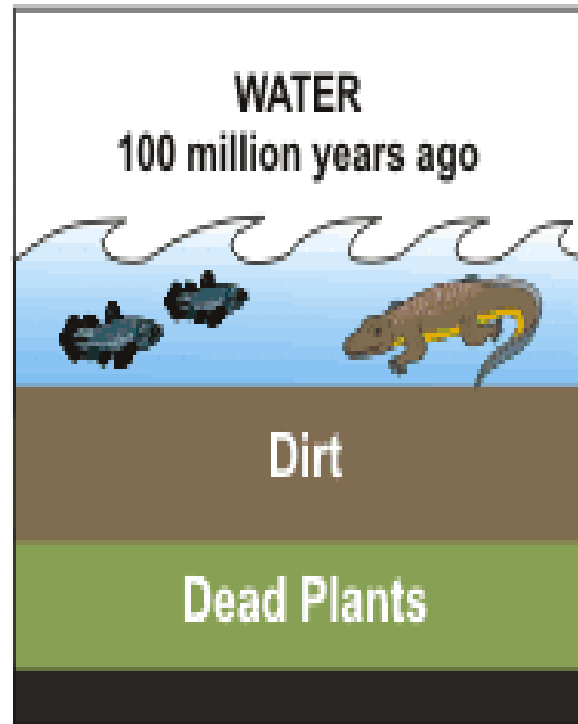
1. What is it made from?
2. What conditions does it need?
3. How long does it take to make?



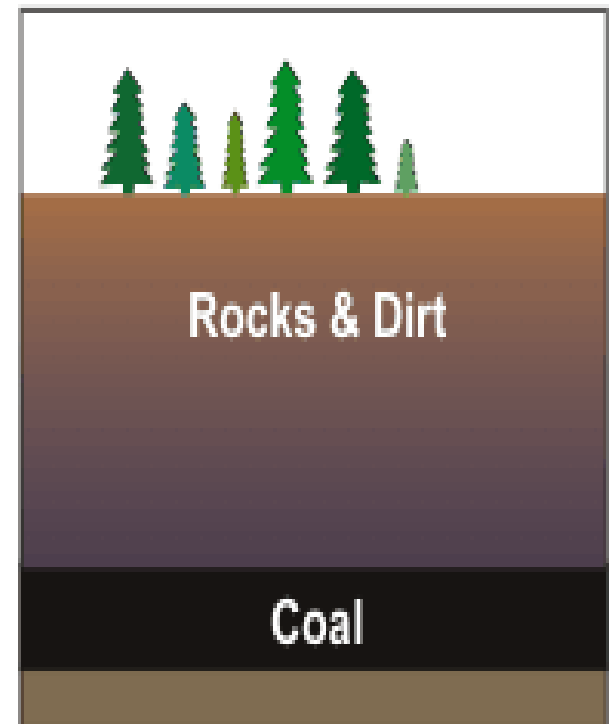
# HOW COAL WAS FORMED



Before the dinosaurs, many giant plants died in swamps.



Over millions of years, the plants were buried under water and dirt.



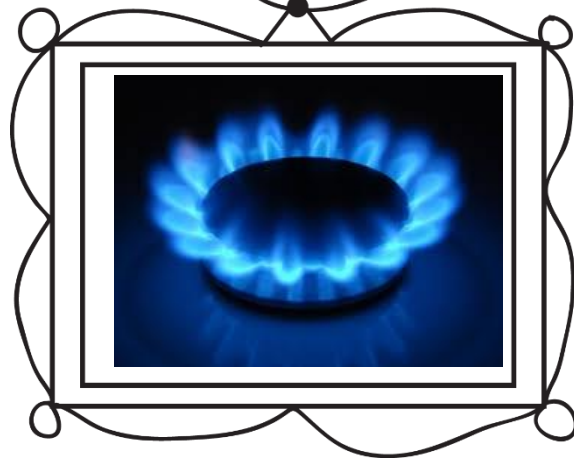
Heat and pressure turned the dead plants into coal.

# Oil and Natural Gas

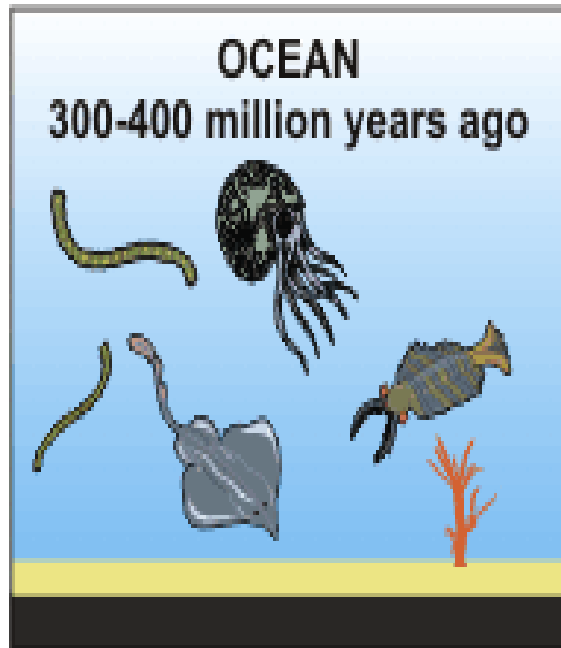


How are Oil and Natural gas formed? What can you remember?

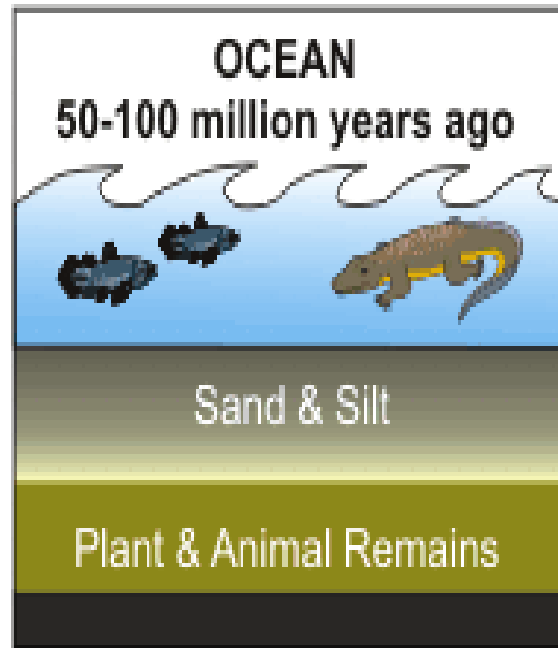
1. What is it made from?
2. What conditions does it need?
3. How long does it take to make?



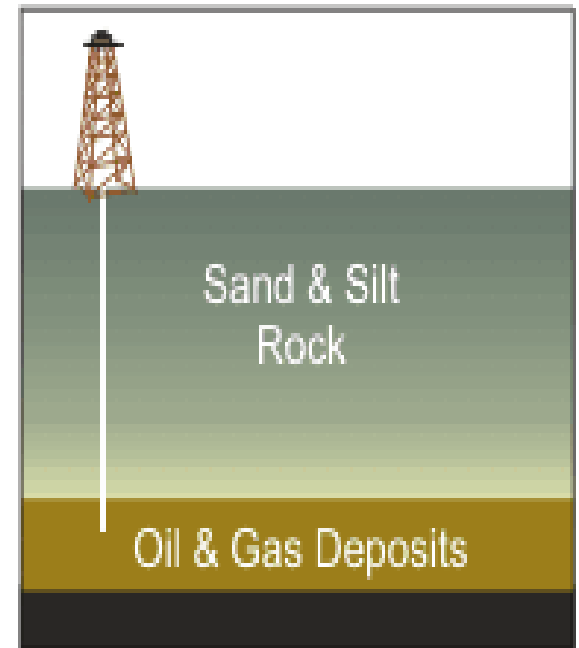
# PETROLEUM & NATURAL GAS FORMATION



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of silt and sand.



Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.



Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and gas deposits.