



# Taking Care of the Earth



**Science  
Year 1  
Spring 2**



|                        |   |
|------------------------|---|
| Natural resources      | Materials we can use that are <b>from nature</b> , for example, we can use wood from trees to make furniture. |
| Manufactured Resources | Materials we can use <b>that people make</b> , for example, plastic.  |
| Renewable resource     | A resource that <b>doesn't run out</b> , for example, wind energy.  |
| Non-renewable resource | A resource that <b>will run out if we use it all</b> , for example, coal.                                     |
| Pollution              | A substance that is <b>harmful to the environment</b> , for example, spilling oil into the sea.               |
| Environment            | The <b>natural world</b> around us.   |
| Conserve               | To <b>protect something</b> from harm or destruction.   |



**Recycle:** To use something again, sometimes for a different purpose.

#### Non-renewable



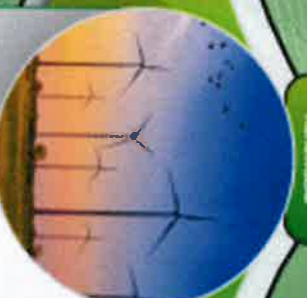
**Coal** is a hard black rock which can be burned. It is found deep under ground. It takes millions of years for coal to be made by the Earth.

#### Non-renewable



**Oil** is a thick, black liquid that is found deep under ground. It can be used to make petrol. It takes millions of years to make oil.

#### Renewable



**Wind** is air blowing from a particular direction. It can be used to turn turbines to make electricity.

#### Renewable



**Water** is a liquid we all use to survive. Good water is salty. Fresh water falls from the sky as rain.







# Y1 Science

## Taking Care Of The Earth

### Spring 2



Working scientifically skills

|   |   |   |   |  |   |
|---|---|---|---|--|---|
|  |  |  |  |  |  |
| Asking questions  | Identifying and classifying   | Carrying out tests  | Observing closely   | Recording data   | Using observations to answer questions.   |



Types of scientific enquiry

|   |   |   |   |  |   |
|---|---|---|---|--|---|
|  |  |  |  |  |  |
| Comparative/<br>fair testing  | Identifying,<br>grouping and<br>classifying                                       | Research  | Observing over<br>time  | Pattern seeking  | Problem solving   |

# Lesson 1

## Lesson 1

### Knowledge Objective:









To describe different ways we can take care of the Earth.

### Subject skill:

Identifying and classifying.



## Key vocabulary

|   |           |   |  |
|---|-----------|---|--|
|  | care      | → | What is needed for the health, welfare, maintenance, and protection of someone or something. |
|  | Earth     | → | The planet on which we live.   |
|  | world     | → | The earth, together with all of its countries and peoples.                                   |
|  | resources | → | A stock or supply of materials.  |
|  | natural   | → | Not made or caused by humankind.   |
|  | logging   | → | Is the process of cutting, processing, and moving trees to a location for transport.         |
|  | flooding  | → | The covering of normally dry land with a large amount of water.                              |
|  | pollution | → | A substance that is harmful to the environment, for example, spilling oil into the sea.      |

## Lesson 1 - teach

This is a picture of the Earth. We live on the Earth and the UK is on the Earth.



## Lesson 1 - teach

People live on the **Earth**, and we use things the Earth produces.

We use water, trees, the air, even the sunshine.



## Lesson 1 - teach

We drive our cars, build factories and fly on planes.

Many of the things people do affect the **Earth**.



## Lesson 1 - teach



When we need **paper**, we must cut down a **tree**. When lots of people need paper, lots of trees are cut down.

This can have an impact on **animals** and on the air too.



When we create **rubbish**, it must go somewhere.

Scientists have found lots of rubbish **floating** in the sea.



Scientists have also found that the air is **polluted** in many cities around the **world** because people drive cars and other vehicles that create **pollution**.



Sometimes land and rivers become **polluted** because people dump rubbish.

Watch Charlie and Lola: Look after your planet.

<https://www.youtube.com/watch?v=7T3gRV12vmc>

## Lesson 1 – shared read

This is a lot of rubbish.



We cut down lots of trees to make lots of paper.



Some people dump lots of rubbish on land or in rivers.



## Lesson 1 – talk task

Why is it important to take care of the Earth?



**Talk frame to scaffold:**

It is important to take care of the Earth because \_\_\_\_\_



### Lesson 1 – talk task

It is important to take care of the Earth because a clean environment is essential for healthy living. The more you don't care about our environment, the more it will become polluted with contaminants and toxins that have a harmful impact on our health.



## Lesson 2

## Lesson 2

### Knowledge Objective:

To know that there are natural and manufactured resources that people on Earth use.

### Subject skill:

Identifying and classifying



## Key vocabulary



natural

Not made or caused by humankind.



manufactures

Materials we can use that people make, for example, plastic.



resources

A stock or supply of materials.



renewable

A resource that doesn't run out, for example, wind energy.



non-renewable

A resource that will run out if we use it all, for example, coal.

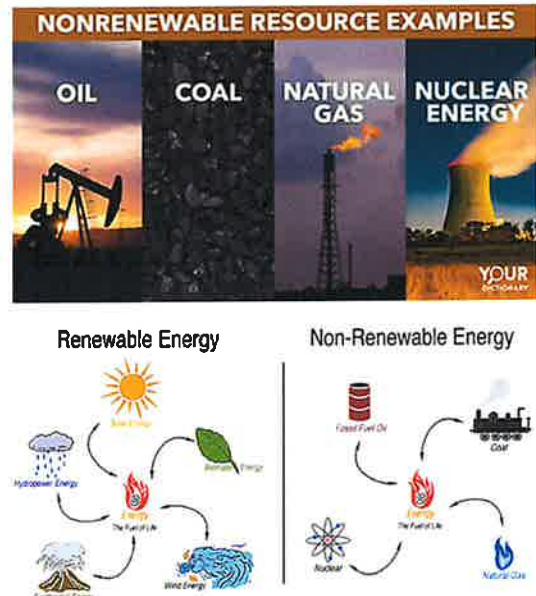
## Lesson 2 - teach

Earth has **natural resources**, such as coal, oil, wind, and trees.

Some natural resources are **renewable**, such as wind. However some natural resources are **non-renewable**, such as coal.

**Non-renewable** resources either cannot be replaced, or the time it takes to replace them is so long that replacing them is not an option. Coal is made over many thousands of years from the remains of giant plants that died when the dinosaurs were alive. It would take thousands of years to make more coal, so we classify coal as a **non-renewable resource**.

Using **non-renewable** resources, whilst they are in ready supply now, might be problematic in the future when the supply is running low.



## Lesson 2 - teach



Trees are a **natural resource** that people can use to make furniture and paper.

We need **natural resources** to survive; air, water and land (to grow food).



Other **resources** are useful, but perhaps not essential for survival; cars, clothes, furniture



## Lesson 2 - teach

People use **natural resources** to make things we need.

Coal is a useful **resource** for people because we can burn it to make heat.

Electricity is made by burning coal but coal is **non-renewable**, when we have dug up all the coal that is in the ground, there won't be any more because it takes millions of years to make.

So it is a really useful **resource**, but it won't last forever.

**Natural resources** are materials we can use that are from nature, for example, we can use wood from trees to

**Manufactured resources** are materials we can use that people make, for example, plastic.



## Lesson 2 - shared read

We use wood from trees.



We burn coal to make heat.



Coal is useful but will not last forever.





**Lesson 2 – talk task**

What natural resources  
do people use and why?

**Talk frame to scaffold:**

People use \_\_\_\_\_ for \_\_\_\_\_.

**Lesson 2 – talk task**

People use trees to make paper.

People use wood to make furniture.

People use the wind turn electric generators for electrical power.

People use the sunlight to convert energy from sunlight into electricity.

**Lesson 2 – Plenary**

Some **natural resources** are **renewable**; they can be easily replaced and cannot be used up.

**Replanting** is one way of replacing trees that have been cut down.

Other resources are **non-renewable**; there is a limited amount of the resource on earth and they may be used up at some point in the future.

# Lesson 3

## Lesson 3

### Knowledge Objective:

To identify logging as a way of harvesting the Earth's natural resources.

### Subject skill:

Identifying and classifying



## Key vocabulary



logging

Is the process of cutting, processing, and moving trees to a location for transport



deforestation

Is the purposeful clearing of forested land.



construction

The act of building.



extinction

Is the termination of a group, usually a species.



erosion

Is the process in which earthen materials are worn away and transported by natural forces such as wind or water.



flooding

The covering of normally dry land with a large amount of water



recycle

The process of converting waste into reusable materials.



## Lesson 3 - teach

Trees are one of Earth's **renewable natural resources**.

They are renewable because they can be replanted.

The wood from trees can be used for paper, furniture, flooring in homes, and for **construction**.

**Logging** is the practice of cutting down lots of trees.

Sometimes when trees are cut down, they are **replanted** and this is a sustainable practice.

Some logging, however, is undertaken in such quantities that it has devastating impact on the environment.



## Lesson 3 - teach

People cut down trees not just for the wood, but also to clear land for planting crops, grazing animals, mining and building and **construction**.



**Logging** can lead to:

- Animals losing their homes, food and shelter.

- Extinction** in the case of some vulnerable species

- Erosion** and **flooding** (trees anchor the soil and absorb water- without them the soil can wash away)

- Heavy rain causes soil to wash away into streams and rivers, animals such as fish cannot lay their eggs.



## Lesson 3 – shared read

The chair is wood.



We cut down trees not just for wood.



Logging can lead to animals losing their homes and food.



## Lesson 3 – talk task

Why does logging happen?

What can happen as a result of logging?

Talk frame to scaffold:

Logging happens because \_\_\_\_\_

\_\_\_\_\_ can happen as a result of logging.

**Lesson 3 – talk task**

Logging happens because of many economical reasons, such as planting crops, cattle-ranching, mining, oil and gas extraction, development, and subsistence-farming.

Extinction, erosion, flooding, animals losing their homes, food and shelters can all happen because of logging.

**Lesson 3 – Plenary**

What can we do to help reduce logging?

Always use both sides of a piece of paper (scrap paper)  
Recycle paper, share and recycle books.  
Don't snap pencils, care for things made from wood.

# Lesson 4

Lesson  
4

**Knowledge Objective:**

To know that people create pollution which can harm the environment

**Subject skill:**

Identifying and classifying



## Key vocabulary



**pollution**

Is the introduction of harmful materials into the environment

**contamination**

Impure by polluting or poisoning.

**chemicals**

A substance which has been artificially prepared or purified.

**air**

The invisible gaseous substance surrounding the earth, a mixture mainly of oxygen and nitrogen

**water**

Is a transparent, tasteless and odorless liquid.

**land**

The part of the earth's surface that is not covered by water.

**rubbish**

Waste material; refuse or litter

**waste**

To use carelessly, extravagantly, or to no purpose.

**fumes**

An amount of gas or vapour that smells strongly or is dangerous to inhale

### Lesson 4 - teach

**Pollution** occurs when substances are released into the **environment** that **contaminates** it in some way.

The large majority of **pollution** is created by human activity.

When we drive cars, use machines, throw away rubbish, burn things, we are often creating **pollution**.

The pollution we create can be harmful to ourselves, but it also can be harmful to plants and animals too.

**Air, water and land** in our environment can be **polluted** by the waste that people create.





## Lesson 4 - teach

Notes  
Demonstrate this by dropping some ink into water- what happens to the water?

**Pollution** means creating waste that harms the **Earth**.

Sometimes places in our environment can become **contaminated** by **pollution**.

This means a place, such as a river, can become dirty and damaged by pollution.

Our environment can be damaged by the **waste** that we create.

These things can all cause **pollution**: rubbish/litter, oil, poisonous substances, human waste (sewage), car fumes, burning rubbish.

## Lesson 4 - teach

Notes  
Discuss these three types of pollution; air, water and land. Show images and videos to support understanding.

What does contaminated mean? TTYP



There are three types of pollution; air, water and land.



Watch what happens to our rubbish:

<https://www.youtube.com/watch?v=SSIVXZrWMK4>

## Lesson 4 – shared read

This is a lot of rubbish.



The rubbish in the sea hurts the fish.



Water, air and land can be polluted by harmful waste.



# Lesson 5

## Lesson 5

### **Knowledge Objective:**

To describe an animal using scientific words.

### **Subject skill:**

Observing closely.



## Key vocabulary



conservation

The prevention of wasteful use of a resource.



recycle

The process of converting waste into reusable materials.



materials

The matter from which a thing is or can be made.



old

Belonging to the past.



new

Discovered recently or now for the first time.



purpose

The reason for which something is done or created.

## Lesson 5 - teach

This is a **landfill** site.

Getting rid of **rubbish** is really difficult.

Sometimes it can be burned, but this creates **pollution** for the air.

Sometimes it can be buried in the ground but this can **pollute** the ground.



## Lesson 5 - teach

## What is recycling?

We can reduce **pollution** by recycling.

**Recycling** means taking materials from the things we have used and using these materials to make **new** products.

Such as **recycling** plastic bottles to make fleeces, tshirts, sleeping bags, furniture.





## Lesson 5 - teach

**Recycling** is vital as the ever increasing volume of waste we produce has a huge negative impact on the **natural** environment. Harmful chemicals and greenhouse gasses are released from rubbish in landfill sites.

**Recycling** helps to reduce the **pollution** caused by waste.

**Recycling** requires much less energy and therefore helps to preserve **natural** resources.



## Lesson 5 - teach

**Recycling** one ton of paper can save 17 trees, 7,000 gallons of water, 2 barrels of oil, and 4,000 kilowatts of electricity. The energy that you save can power a home for 5 months.

The average family uses 6 trees worth of paper each year. **Recycling** is a key way we can take care of the **Earth**.

Watch Clean Up! By Dapo Adeola and Nathan Bryon.

<https://www.youtube.com/watch?v=4ts-2hFq18w>



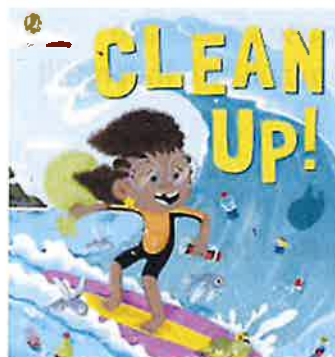
## Lesson 5 – shared read

This is a landfill.



Lets help clean up the sea.

Recycling is a key way to help clean up Earth.



## Lesson 5 – talk task

1. Paper is collected from different garbage bins and is accumulated in a large garbage container.
2. Then the paper is taken to the recycling plant where the paper is segregated into different grades.
3. Papers in different grades are then washed with soap and water to remove ink, staples, and glue. It is then mixed with water to create a slurry.
4. On adding some specific materials and chemicals to the slurry, different paper products such as cardboard, office paper, etc. can be obtained.
5. The slurry is then rolled into thin sheets using large rollers.
6. Then the paper is exposed to heat for drying up and after that, it is cut into pieces and is made ready to use again.