CapeNature 20 YEARS 1999-2019

Twenty years of nurturing nature for you

CELEBRATIING BIODIVERSITY DAY – Soil is life !

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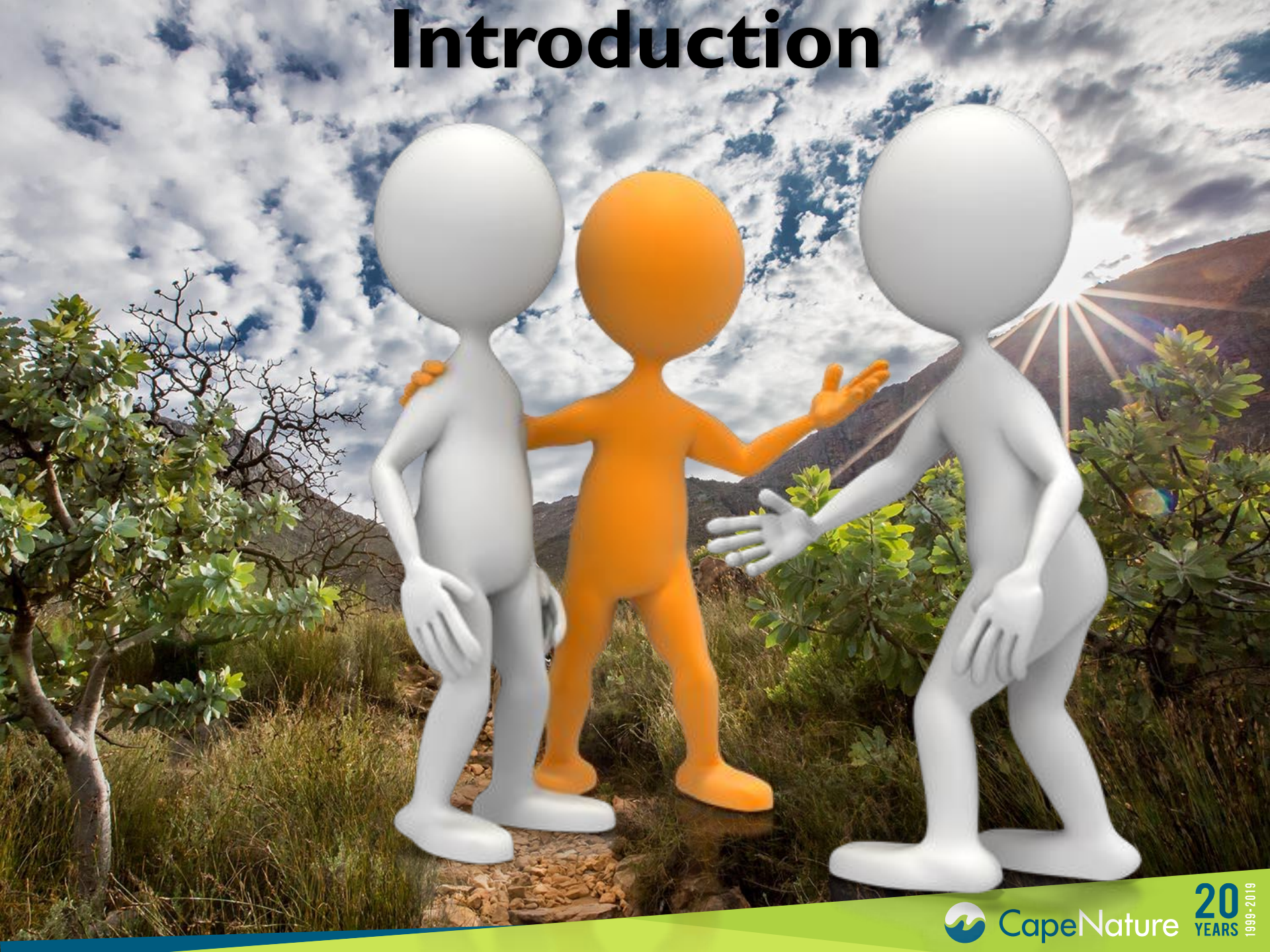
ADD TITLE

Introduction



Who are we?

CapeNature is the part of government that protects natural occurring plant and animal life (biodiversity) in the Western Cape.

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What are we going to do today?

- Learn all about soil types and the creatures that live there
- Learn why soil is important and how all plants and animals depend (need) the soil and each other
- Promise to do one thing to protect our soil when we go home

What are the rules for today?

Listen to the speaker

Have fun!

Respect your teacher and classmates

RULES OF ENGEGEMENT

Take part in all the activities!

Be safe

What else?

Tuning in

So what on Earth is BIODIVERSITY?

- The variety of life on Earth
- 30 million species found on Earth
- Bio + Diversity

Activity: Biodiversity Picture Game

What is International Day for Biological Diversity?

- A special day to celebrate biodiversity – like a birthday!
- Takes place on 22 May each year around the World
- This years theme is BIODIVERSITY, OUR FOOD, OUR HEALTH

Quick activity: If the first Biodiversity Day was in 1993, how old is it today? 2017 minus 1993?

One of the reasons we need biodiversity is because we eat it!

We eat more than 7000 species of plants and animals!

Quick activity: Think of your favorite plant or animal to eat. What did you have to eat for breakfast? For dinner? What would life be like if we only had one type of food to eat?

Imagine a world with only BROCCOLI

We need soil not only to grow our food but also,

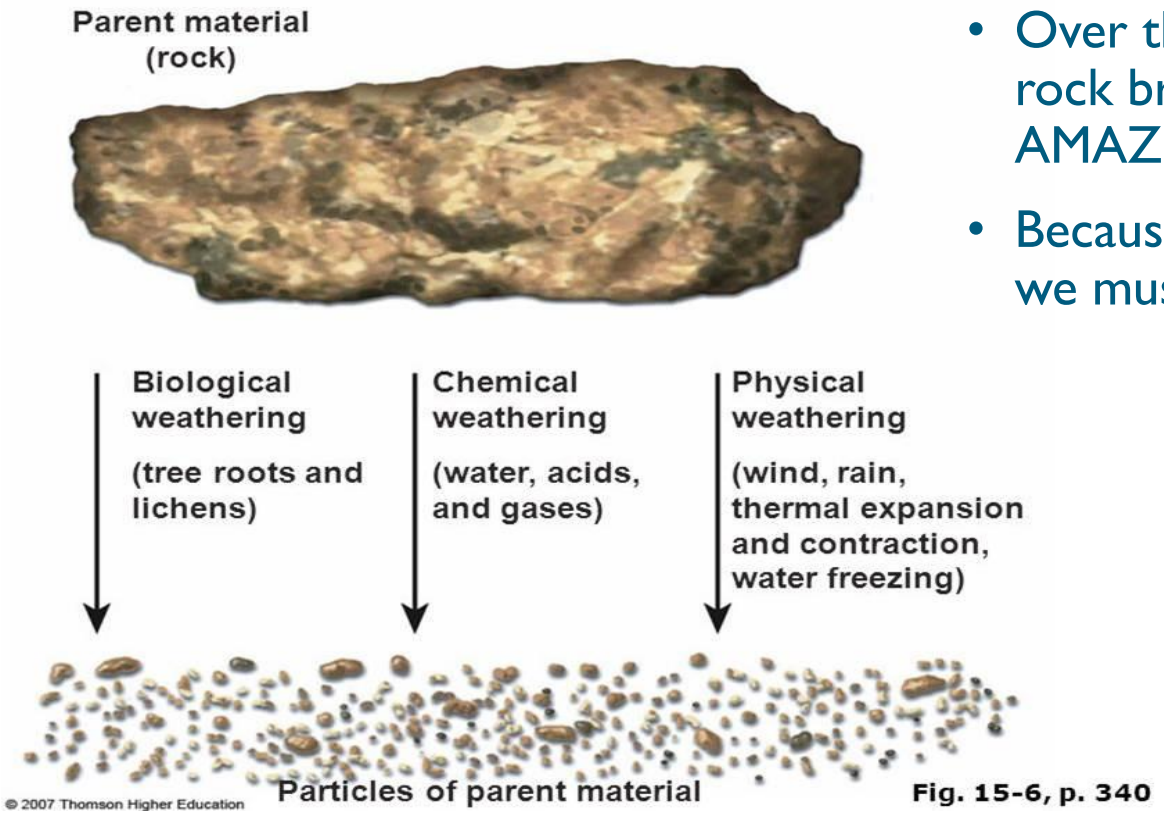
- For plants to grow that may give us medicine
- For plants to grow as food for other animals
- As a home for many animal and insects

Soil types






How soil is formed?



- Rocks break into grains by weathering (wind, water)
- Over thousands of years the rock breaks down into soil – AMAZING, RIGHT?
- Because soil forms so slowly, we must protect it!

Different types of soil

- We find different soils in different places –e.g. soil in Cape Town, Khayelitsha is mostly sand because it is built on a sand dune
- We get sandy, clayey and loamy soil types

Lots of hard sand grains/particles

Lots of fine clay grains/particles

Activity: Discovering what is found in loamy soil – EXPERIMENT TIME!

What type of particles does loamy soil have?

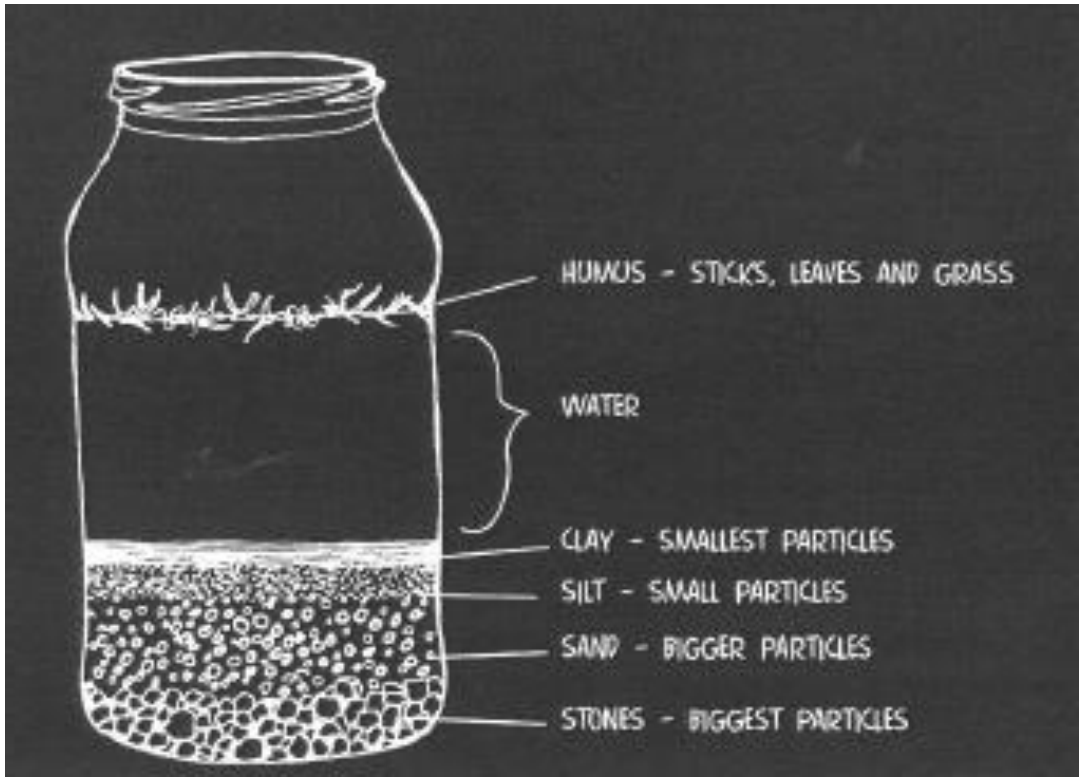
Working in your groups:

- Mix your soil with water in the jar and let it stand for the particles/grains to settle
- Draw a picture of what you have found
- Can you see different layers? Can you label these?

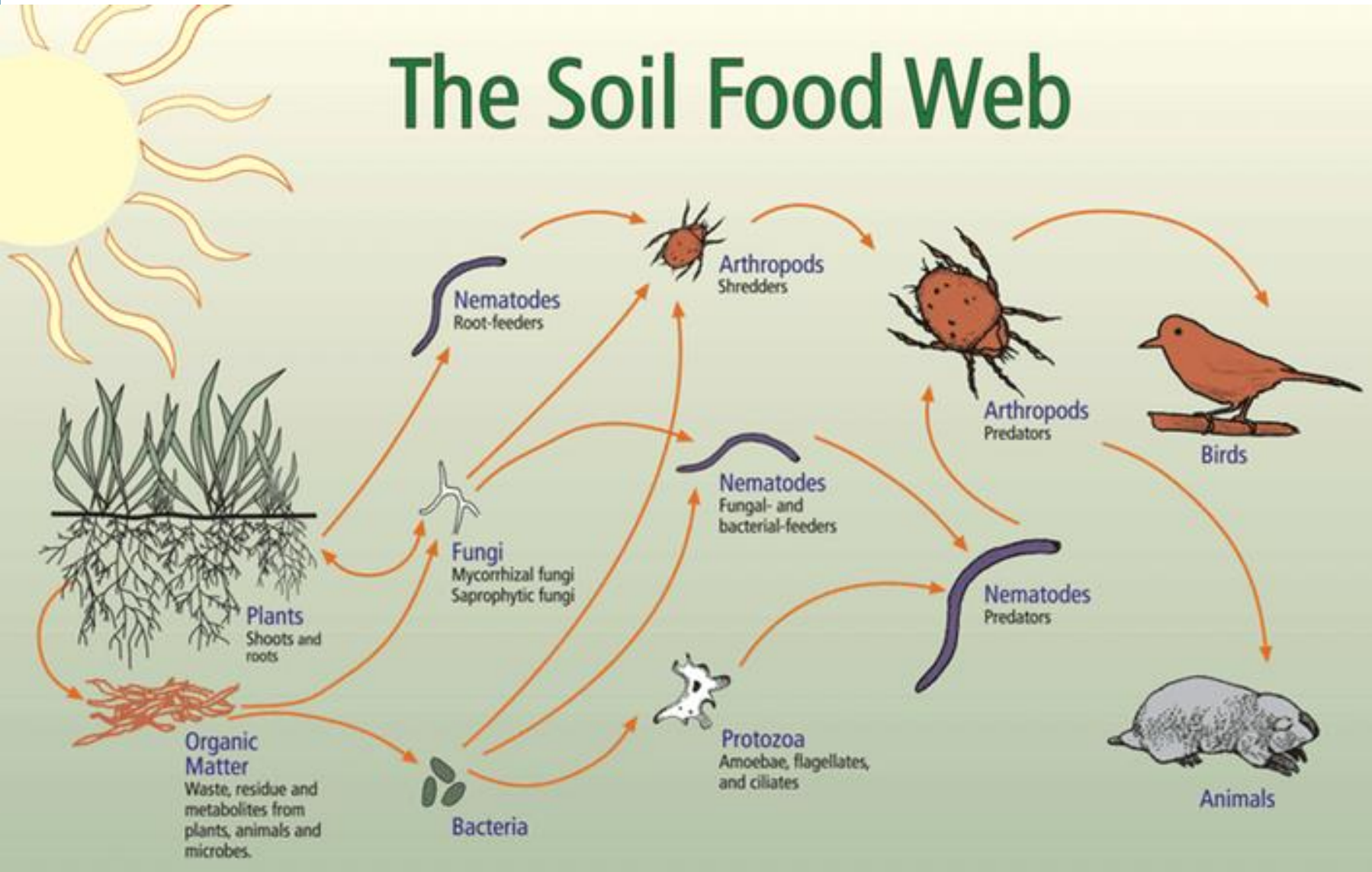
Results

What is loamy soil?

- Loamy soil has sand, silt, clay particles and humus.
- It is the best soil for planting



Interdependence



Everything depends on everything else

- Can you survive without other people? What have other people done for you to survive since you were a baby?
- Plants and animals need resources such as water, soil, food (other plants and animals), places to shelter etc. to survive
- This is called interdependence

Activity: Discovering how organisms and soil need each other

Living soil

- Use your poster to match up the words with the pictures
- How are we as humans dependent on soil?
- What threatens our soil?

LIVING SOIL

Healthy soil is alive with millions of organisms. Many are so tiny that they can live in the spaces between the soil particles. Insects and other creepy crawlies live in the leaf litter and soil below it, where they break down dead plants and animal matter. Some larger animals make tunnels in the soil, some make nests, while others keep cool and safe in burrows and only emerge to feed at night.

Common molerats live in burrows and make large molehills as they push up the soil. These rodents have large front teeth and claws that they use for digging. Molerats feed on plant bulbs.

Pangolins have big claws, and a long sticky tongue to lick up termites, their favourite food.

Termites live in termite mounds. The **queen** lays eggs and is guarded by **soldiers**, while the **workers** find food. Termites carry plant matter underground and this helps to fertilise the soil.

Hadedas use their long beaks to dig for insects and earthworms.

Aardvarks live in burrows and come out at night to break open termite nests for food.

Some micro organisms such as **bacteria** and **fungi**, and **insects** and their **larvae**, live on roots and often damage and kill them. However, nitrogen-fixing bacteria are very useful and play an important role in providing roots with nitrogen for good plant growth.

Earthworms burrow and eat soil. This improves soil quality. They are called the 'farmer's friend'.

Many **creepy crawlies** are found in leaf litter. Most help to break down dead plants and animal matter and recycle nutrients in the soil.

Microscopic plants and **animals** live in the spaces between the soil particles. Some microbes enrich the soil and break down organic matter. Some eelworms damage roots, but others are useful and eat harmful bacteria.

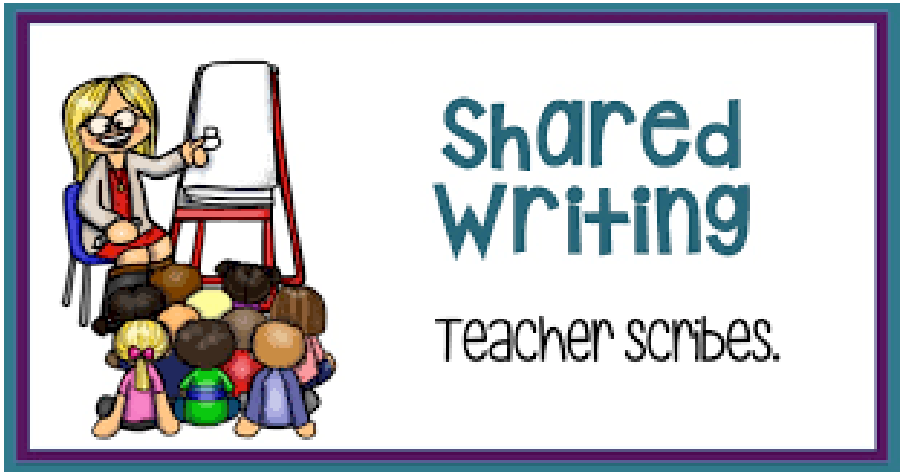
Words and art Amy Wright

Consolidation

Shared writing

Let us all complete the following sentences together:

- Today I learned …
- Soil is important because……



What YOU can do to protect soil biodiversity

- GROW, GROW, GROW - start a vegetable garden…

- GROW GREEN FINGERS - plant trees and local plants – they firmly hold on to soil

- SPEAK UP - tell everyone about the importance of soil and biodiversity

Activity: Pledge one thing you will do to conserve soil and biodiversity after today.

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THANK YOU.