PLANTS

ROOTS

- Plants come in many shapes and sizes. Did you know that an important part of most plants is hidden underground?

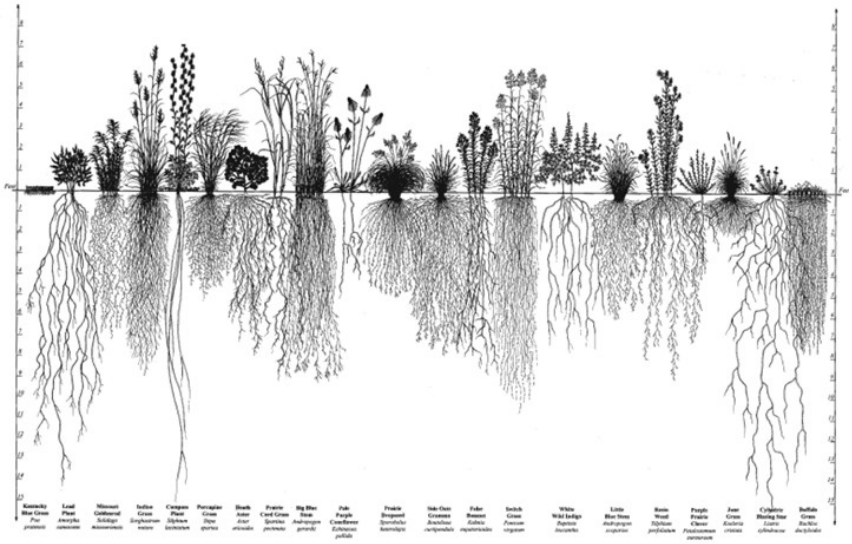
- Plants are made up of different parts. Each part has a function that helps the plant to grow and survive.

- The part of the carrot plant that we eat is its root.
- **Roots hold plants in the ground**.

- **Roots also take in, or absorb, water and nutrient from the soil.**

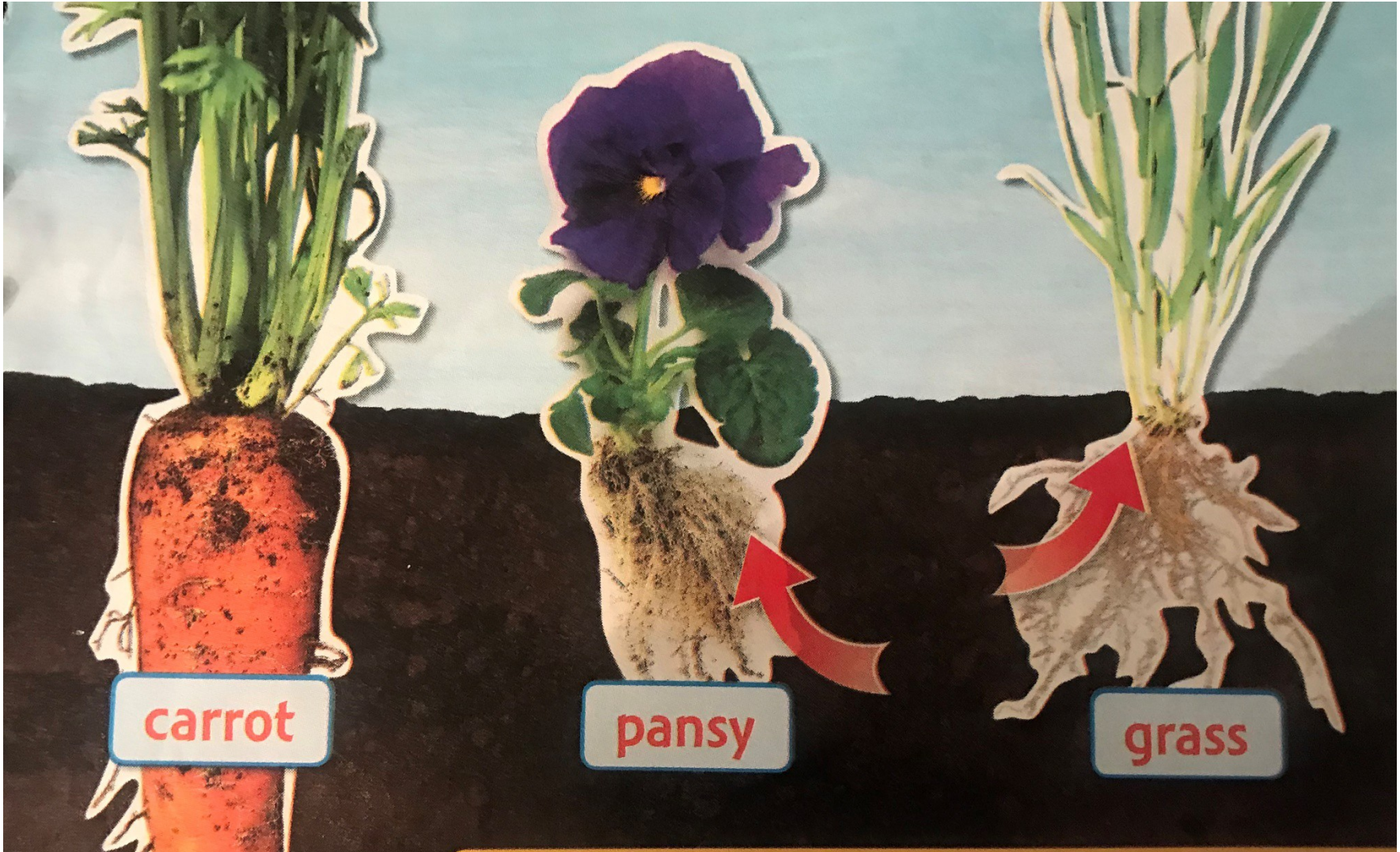
- **Nutrients are materials that living things such as plants need to grow.**

- Some roots are long and can reach water deep under the ground. Some roots have many small, hairy branches that spread out just under the soil to get water from a large



What do all the roots have in common?

- They help move nutrients and water from the soil to other parts of the plant.
- They help to support the plant.



Roots Come in All Sizes and Shapes

Look at the pictures of roots on this page. Fill in the table to compare and contrast the roots. How are they alike? How are they different?

- Journal Germination

Stems

- What happens to water and nutrients after they enter the roots? How do they get to the rest of the plant?

- Water and nutrients move from the roots to the stem.

Nutrients

- Materials living things need to live and grow

- ***The stem is the part of the plant that helps the plant to stand tall and strong.***

- ***It holds up the part of the plant that is above the ground.***

- ***A stem carries water and nutrients from the roots to other parts of the plant.***

- The woody stems of most of trees are big and thick. The stems of flowers are often soft and thin. Some plants have one main stem, but others have many.

Flowering plants

- **Plants that reproduce sexually and grow from <u>seeds</u>**

Nonflowering plants

- **Plants that reproduce sexually and grow from <u>spores</u>**

- Journal Flowering Plants

Leaves

Plant food

- Water and nutrients keep a plant healthy. But a plant still needs food to survive. Luckily, a plant doesn’t need to go anywhere to get its food!

- Unlike animals, **most plants can make their own food. This important process takes place in leaves.**

- **Leaves use water, air, and sunlight to make food.**
- **The food made in leaves is transported through the plant’s stems to other parts of the plant.**
- **Plants use most of this food energy to live and grow.**
- **The rest of the food is stored.**

- **Leaves are many different sizes and shapes.**

- **Big, wide leaves can catch more sunlight. This helps the plant make more food.**

The Cycle of Life

The Cycle of Life

- The tallest tree in the world was once small enough to fit in your hand. Like you, plants start out small and grow bigger.

- The blossom on apple trees and other plants are called <u>flowers</u>.

- **A flower is the plant part that helps some plants reproduce.** When living things reproduce, they make new living things like themselves.

- *What is the function of a flower?*
- **It helps a plant to reproduce.**

Reproduce

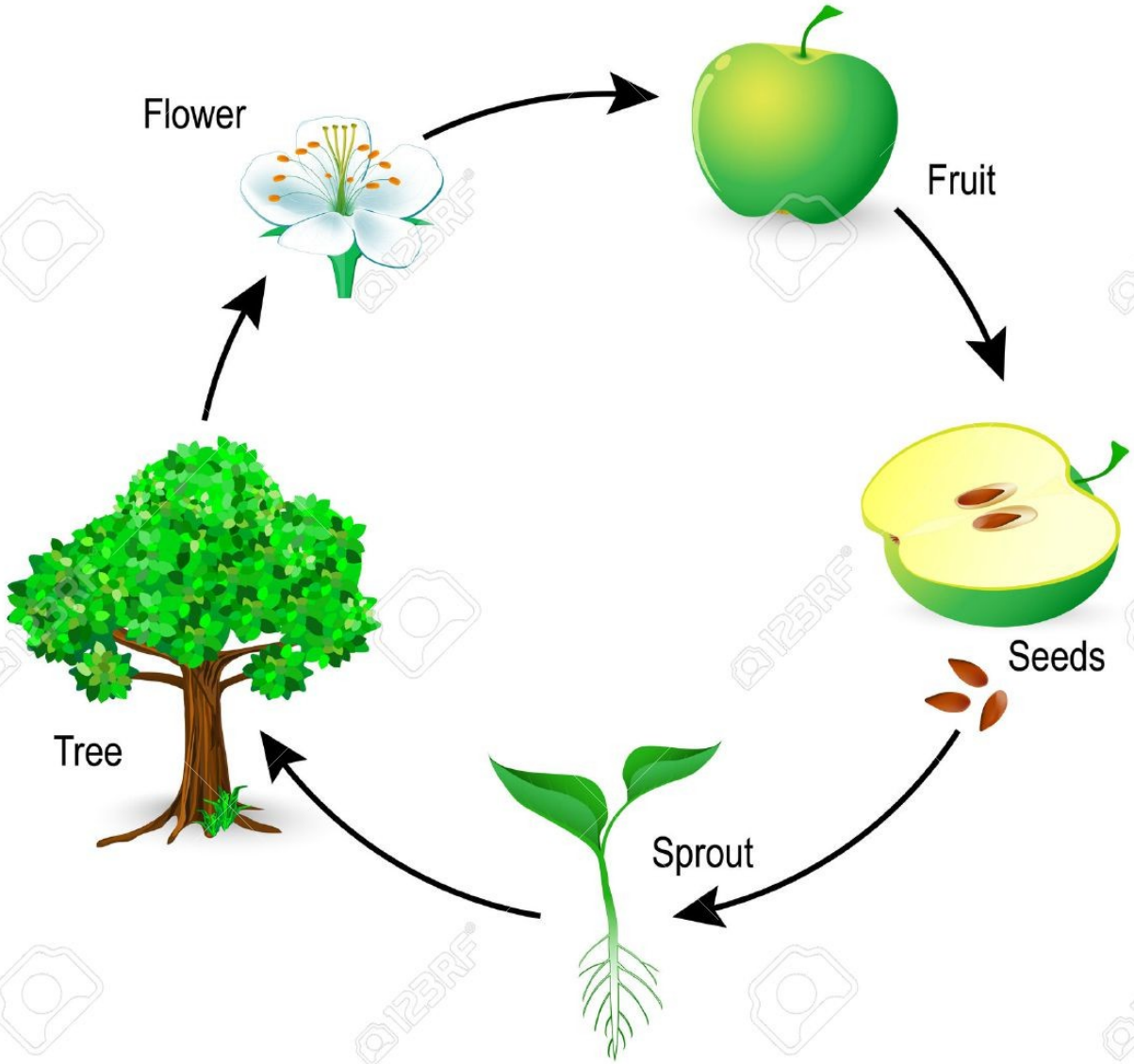
- Reproduction allows living things to make new living things similar to themselves.

- *What would happen if living things did not reproduce?*
- Eventually, there would be no more living things.

- First, **flowers grow into fruit**. After the fruit ripens, it **falls to the ground**. The fruit contains seeds. A seed has a small plant inside of it. A seed also has food for the small plant.

- Then sunlight, soil, water, and air help the **seeds sprout into seedlings and grow**. The seedlings **grow into adult plants**. The life cycle continues as the adult plants **produce more flowers and seeds.**

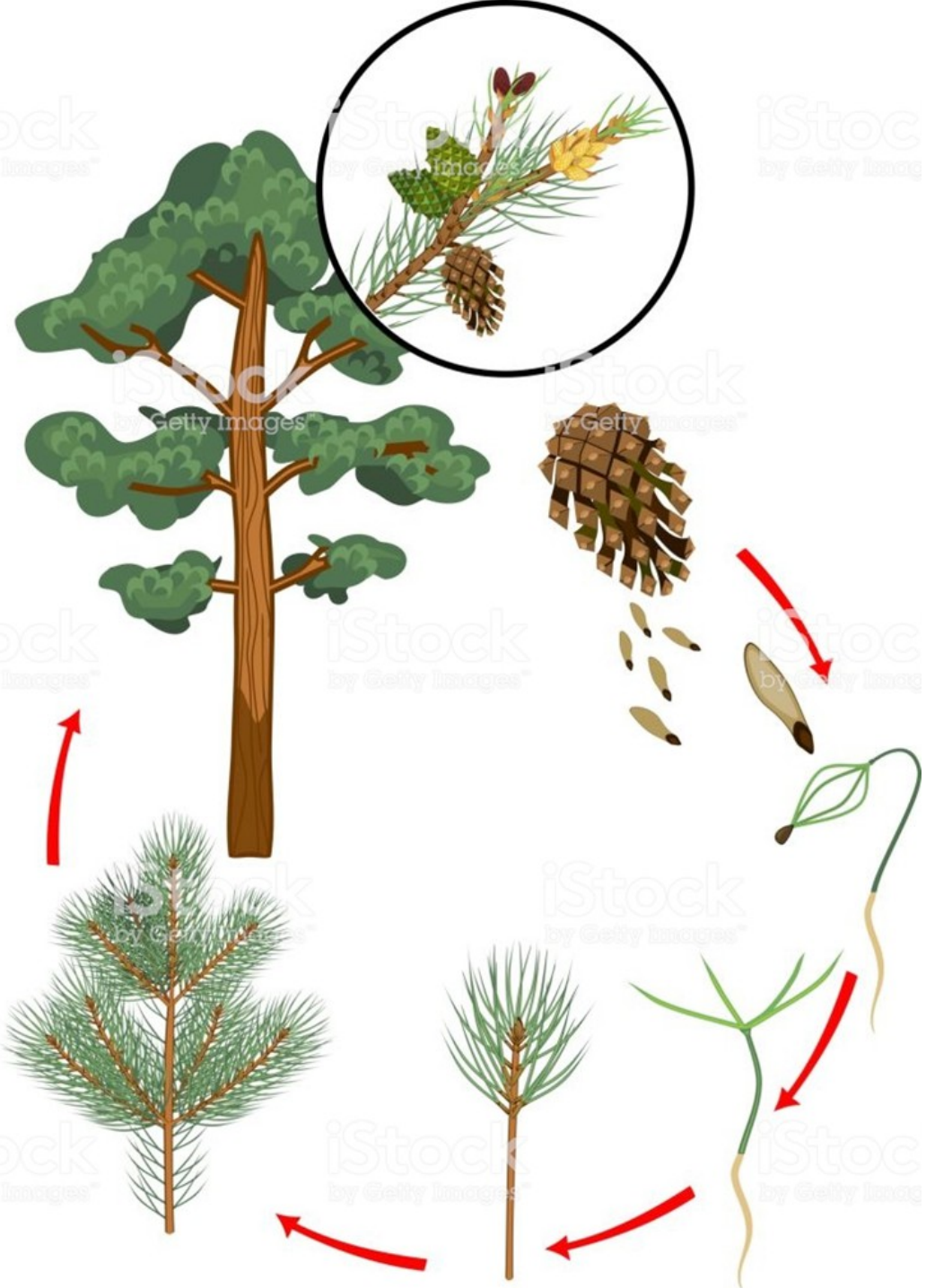
LIFE CYCLE OF AN APPLE TREE



Cone seeds

- Not all plants have flowers. Some have **cones**. Like a flower, a cone is used in reproduction, but cones do not turn into fruit. A cone opens to release its seeds.

- *What does a cone help plants to do?*
- It helps a plant to reproduce.



- Show students a cut apple and cones.

Sum it up…

- The _____ of the plant absorb water and nutrients from the _____. The water and nutrients next move from the roots to the _____. From there, the water and nutrients move to the _____. This part of the plant uses _____, air, and water to make _____.