Plants can be either herbaceous or woody. Most Herbaceous Plants have stems that are soft, green and contain little woody tissue. These plants die to the ground each year. Most annual and perennial flowers fall into this category along with vegetables and houseplants.

**Background Information:**

**Herbaceous**
Plants with stems that are non-woody and die back to the ground every year. Some herbaceous plants, for example, marigolds, grass, tomatoes, green beans and geraniums.

**Woody**
Plants with stems that are hard. These stems usually don’t die back to the ground during the winter. These are stems we use to make things like furniture and houses. Woody plants, for example, oak trees, maple trees, lilacs, apple trees and ivy.

**Life Cycle**
A plant's life cycle describes how long a plant lives or how long it takes to grow, flower, and set seed. Plants can be either an annual, perennial, or biennial.

**Annual**
A plant that completes its life cycle in one growing season. It will grow, flower, set seed, and die. For example, Marigolds, tomatoes, and poppy.

**Perennial**
A plant that lives for 3 or more years. It can grow, flower, and set seed for many years. Underground parts may regrow new stems as in the case of herbaceous plants, or the stems may live for many years like woody plants (trees). For example, Daisies and roses.

**Biennial**
A plant that needs two growing seasons to complete its life cycle. It grows vegetatively (produces leaves) one season. Then it goes dormant or rests over the winter. In the spring, it will begin to grow again and grow flowers, set seed, and die. The seed that is left behind on the ground germinates and the cycle begins again. For example, Parsley, carrots, and foxglove.
Basic parts of most plants:

Plant Parts - Roots
The roots help provide support by anchoring the plant and absorbing water and nutrients needed for growth. Plants can have either a taproot system (such as carrots) or a fibrous root system (such as turf grass). In both cases, the roots are what carries the water and nutrients needed for plants to grow.

Plant Parts - Stem
Stems carry water and nutrients taken up by the roots to the leaves. Then the food produced by the leaves moves to other parts of the plant. The cells that do this work are called the xylem cells (pronounced zylem). They move water. The phloem (pronounced floam) cells move the food. Stems also provide support for the plant allowing the leaves to reach the sunlight that they need to produce food.

Plant Parts - Leaves
Leaves are the food making factories of green plants. Leaves come in many different shapes and sizes. Leaves can be simple. They are made of a single leaf blade connected by a petiole to the stem e.g. oak leaf.
A compound leaf is a leaf made up of separate leaflets attached by a petiole to the stem like the ash tree leaf.

Leaves are made to catch light and have openings to allow water and air to come and go. The outer surface of the leaf has a waxy coating called a cuticle which protects the leaf. Veins carry water and nutrients within the leaf. Leaves are the site of the food making process called photosynthesis. In this process, carbon dioxide and water in the presence of chlorophyll (the green pigment) and light energy are changed into glucose (a sugar). This energy rich sugar is the source of food used by most plants. Photosynthesis is unique to green plants! Photosynthesis supplies food for the plant and oxygen for other forms of life, like people. A green plant helped make the oxygen you are breathing today.
**Plant Parts - Flowers**

Flowers are important in making seeds. Flowers produce pollen. Once the flowers ovule has been fertilised by pollen that is produced by the anther, it becomes the seed and the ovary of the flower become the fruit. This is a very important part of the life cycle of plants.

Petals are also important parts of the flower because they help attract pollinators such as bees, butterflies and bats with their colours. You can also see tiny green leaf-like parts called sepals at the base of the flower. They help to protect the developing bud (seed).

**Plant Parts - Fruit**

The fruit is the ripened ovary of a plant containing the seeds. After fertilisation, the ovary swells and becomes either fleshy or hard and dry to protect the developing seeds. Many fruits help seeds spread (maple seeds). Many things that we label as vegetables are really fruits, for example, tomatoes, cucumbers and beans.

Every seed is a tiny plant (embryo) with leaves, stems, and root parts waiting for the right conditions to make it germinate and grow. Seeds are protected by a coat. This coat can be thin or thick and hard. Thin coats don’t protect the embryo very well but thick coats can let the embryo survive tough conditions. The seed also contains a short-term food supply called the endosperm, which is formed at fertilisation but is not part of the embryo. It is used by the embryo to help its growth. Seeds are a plant’s way of getting from one area to another by either wind, water or animals.

**What to do:**

Provide the background information to your students. You can use figure 1. to identify the different parts of a plant. Then visit your park and conduct the following worksheets.
Identify Parts of the Plant

Inside the fruit, we find the _____________.

[Diagram of a plant with labeled parts]
Be a Plant Detective

Pick a plant to investigate in the park. At different times of the year, plants change as they are in flower during spring and summer but may be in fruit in Autumn and Winter.

What season is it? ________________________

What month is it? ________________________

Is your plant in flower? yes or no _____________

If no, move onto second page.

What colour is your flower? _________________

How many petals has your flower got? _________

What is your plant’s name? __________________

Draw a picture of your plant or the flower and label the parts.
The next step in identifying your plant is that you must look at the leaves.

What shape is your leaf? Draw the leaf.

How many leaves are on each branch? _____________________________

Is there just one leaf or many leaves together? _______________________

Having looked at your plant, can you identify what plant it is?

Plant Name: _________________________________________________

In your classroom, can you find out any other information on your plant, such as:
Where is it from? When does it flower? How does it grow?
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Our Relationship with Plants

Without plants, no life could exist on our planet. Every animal needs some type of plant to survive. In the following puzzle, during your park visit, observe your surroundings and find out which plant each of the animal below need and why they need it.

Some animals need plants for food such as the nectar in flowering plants, some eat the fruits and seeds from the plants, others live amongst the plants and trees for shelter and protection.

Link up the animal with the plant on which they rely on to live.

Hint:

They eat the red berries of the holly tree

They feed on the nectar and help pollinate plants

Its larvae need it as food