Recognise plant characteristics

leaves
• Leaves are described by their:
  • shape
  • margin (leaf edge)
  • arrangement (the way the leaves are arranged on the stem).
• Leaves can be divided or classified into two groups - simple or compound.
shape

linear  lanceolate  ovate  falcate  cordate
margin (leaf edge)
arrangement - the way the leaves are arranged on the stem

• opposite
  (the leaves are opposite each other on the stem)
• alternate (the leaves are alternate on the stem)
Leaf Arrangement

• whorled (the leaves form a circle around the stem)
Smell or Aroma.

- Eucalyptus leaves are a good example.
Simple or Compound

• Leaves can be divided or classified into two groups - simple or compound.
• Simple leaves are one piece.
• The flat part of the leaf, the blade structure, is attached to the stem by a **sheathing leaf base**, or a **petiole** (stalk).
• An **axillary bud** is found at the base of the petiole where it attaches to the stem.
Simple leaves

- Sometimes a simple leaf does not have a petiole and the leaf is termed sessile.
Simple leaves

• Camellias and banksias are examples of plants that have simple leaves
Compound leaves

- The compound leaf blade is divided into leaflets.
- The axis (or area) beyond the petiole is called the rachis.
Compound leaves

- The compound leaf has just one axillary bud.
Types of compound leaves

- pinnate
Types of compound leaves

• bipinnate
Types of compound leaves

• palmate
ternate
• Many pea plants have compound leaves, for example, *Kennedia* and *Hardenbergia*. 
Leaf functions

• The main functions are photosynthesis and transpiration.
Photosynthesis

• Chlorophyll (the green pigment or colouring of leaves) takes in energy from sunlight and uses this to turn water and carbon dioxide into oxygen and sugar.

• The oxygen is released into the atmosphere. Sugar is used to form the compounds required for growth of the plant and to provide energy.

• Excess sugar may be converted into starch for storage in the roots.
Transpiration

• Plants lose water from the leaves through evaporation.
• This process not only helps to cool the leaves but also draws water into the plant from the soil through the roots to replace the water lost.
• Transpiration is an important part of the water cycle where water evaporates, forms clouds and then falls back as rain to the ground.
References