

DO PLANTS NEED LIGHT TO GROW ?



Materials:

Instructions



1

Place the potted plant in a sunny place.

2

Cover one of the leaves completely with tinfoil to shield it from the light.

3

Leave for 2 weeks. Remove the tinfoil. Compare the leaf with the uncovered leaves.

Effect of light on plant growth.

1

Put a layer of cotton wool at the bottom of each of the cups.

2

Add a little water to all 3 cups.

3

Sprinkle the watercress seeds evenly over the cotton wool.

4

Put 1st cup in a sunny place, and the 2nd cup under a cardboard box.

5

Cut out several holes of the other cardboard box and place the 3rd cups under this box.

6

Leave for several days and check daily that the cotton wool is still damp.

Observe and compare the growth of the 3 cups.

Experiment 1

SHOW PLANTS ABSORB WATER



Materials:



Instructions

An adult should help to make the plastic jar, as this could be dangerous.

1



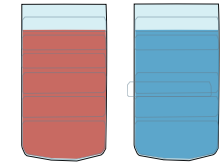
Cut off the top of the 2 plastic bottle to make a plastic jars.

2



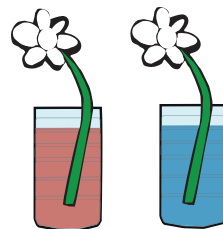
Fill the jar $\frac{1}{2}$ - $\frac{3}{4}$ with water. Pour food colouring and water into the each plastic jar.

3



Add the food colourings to the water making the colour as strong as possible - the stronger the colour the better the result!

4



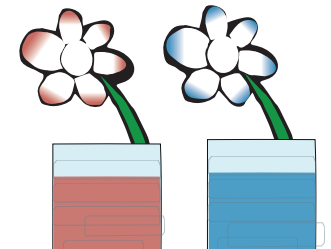
Place the carnations into the plastic jars.

5



Leave to stand a few hours or overnight. What do you observe in the petals?

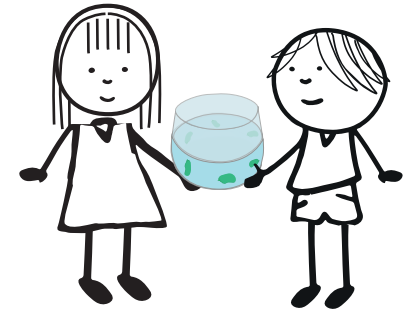
6



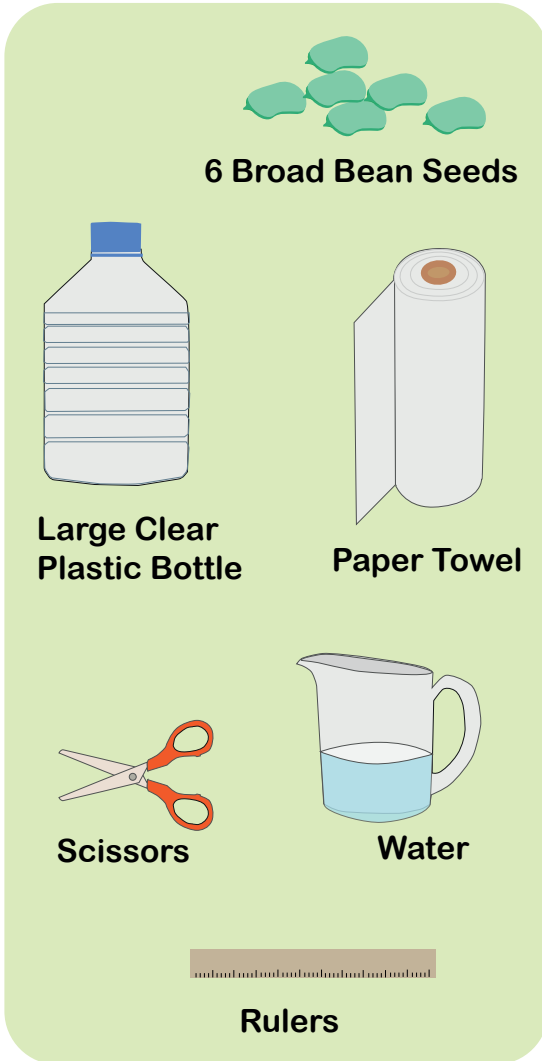
Observe what happens! Do the petals change colour?

Optional step - An adult can carefully cut some of the stem in half and place one half in each coloured water.

BEAN SPROUTING



Materials:



Instructions

An adult should help to make the plastic jar, as this could be dangerous.

1

4 cm

Cut off the top & neck from the plastic bottle - 4cm off the top of the remainder of the bottle to make a plastic ring and set aside.

2

Fold

Put 3 sheets of paper towel together and fold in half.

3

Towels touch the bottom

Place the folded towels inside the container around the edge. Pour water into the container until it is about 3 cm deep.

4

1 Container
2 Paper
3 Ring

Push the plastic ring into the container to support the paper towels:

- 1- Container
- 2- Paper towels
- 3- Plastic ring (pinning the paper towel against the side)

5

Beans between the wall

up down sideways

Push the beans in between the paper and the outside wall of the container.

6

Leave the container in a warm place for 2-5 days. Ensure the paper towels stays moist.

Observe the bean sprouts!
What do you notice?

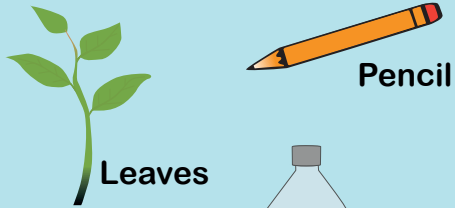


ARE LEAVES REALLY GREEN?

Extension of “how plants absorb water experiment”, get a closer look at how this happens!



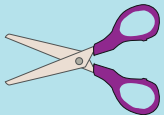
Materials:



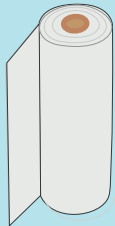
Cup



Rubbing Alcohol



Scissors



Kitchen Paper Towel

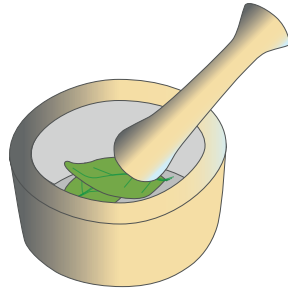


Pestle and Mortar

Instructions

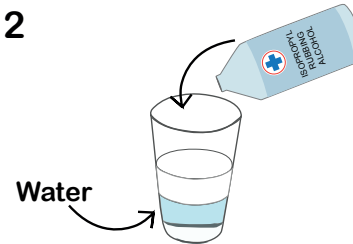
An adult should help with rubbing alcohol, as this could be dangerous.

1



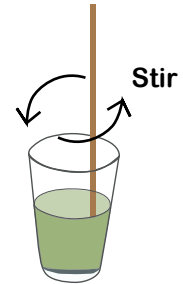
Take a leaf and pestle and mortar to make paste.

2



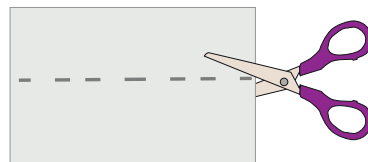
In the cup, mix equal parts water and rubbing alcohol - just enough to cover the leaf paste in the bottom of the cup.

3



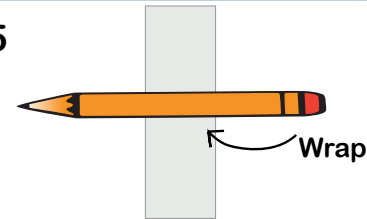
Mix the leaf paste with the solution and let your experiment sit overnight.

4



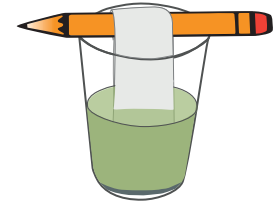
Cut a long strip of kitchen paper towel with a scissors.

5



Roll the strip of kitchen paper towel wraps around the middle of the pencil, so that it is leaving one end of kitchen paper towel hanging loose.

6



Place the pencil across the cup. Let the paper sit in the solution for 15 - 20 minutes. Then set the paper aside to dry.

What do you observe?



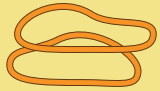
Materials:



Transparent bags



Pen



Rubber Band
or Twist tie



Healthy Outdoor
Plant with Live Leaves-
Ideally in the Sun

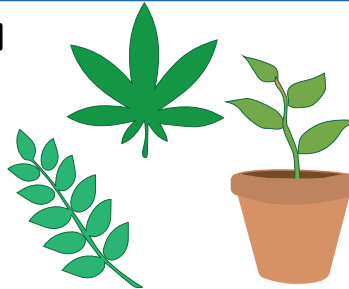
TRANSPIRATION IN LIVING LEAVES

Plants absorb water from the soil and release through the leaves into the atmosphere. This is called transpiration.



Instructions

1



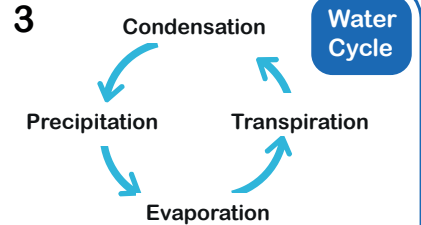
Select an outdoor plant with large healthy leaves - ideally on a sunny day.

2



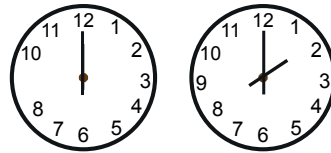
Place a transparent bag completely over a sunny section of the plant, so several leaves are inside the bag - sealing it with a rubber band.

3



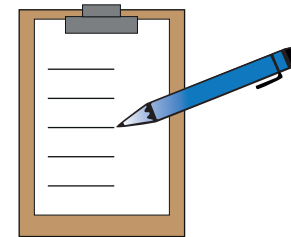
Look at the water cycle - make a prediction. What do you think will happen in the bag?

4



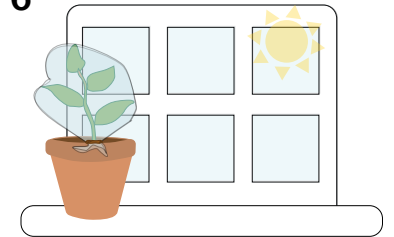
Check back in 2 hours to see if anything has happened in the bag, you might have to leave it for even longer!

5



Record your findings. What part of the water cycle does this experiment show?

6



You can try this experiment on different plants!

Do some plants transpire more than others?
Does it matter if it is in the sun or in the shade?
Does the experiment work at night?



PLANT VASCULAR SYSTEM IN A CELERY STICK

Food and water are carried through tubes in plants, similar to blood vessel in animals. This is called vascular system.



Materials:

Instructions

An adult should help to make the plastic jar, as this could be dangerous.

Plastic Bottle

Food Colourings

Cup

Jug of Water

Scissors

Celery Stalks (with leaves attached)

1

Cut off the top of the plastic bottle to make a plastic jar.

2

Take a stalk of celery and cut off a small slice at the bottom to remove any hardened tissue.

3

Fill the plastic jar 1/3 full of water and add enough food colouring to make a strong concentration.

4

Place the celery into the container of solution.

5

Remove

After a few hours, remove the celery from the water.

6

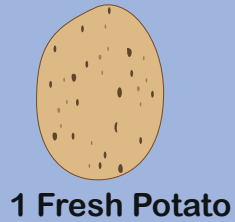
Cut off the bottom of the celery and examine the slice.



Materials:



Paints or
Felt-tip Pens



1 Fresh Potato



1 Packet of
Watercress Seeds



Knife



Jug of Water



2 Balls of Cotton Wool

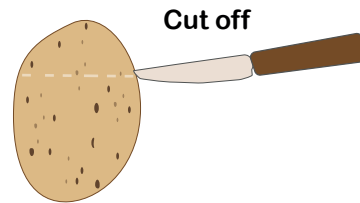
GROW SOME PLANT HAIR!



Instructions

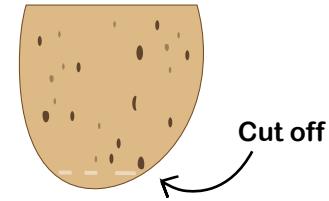
An adult should help to cut off and scoop out the top of the potato.

1



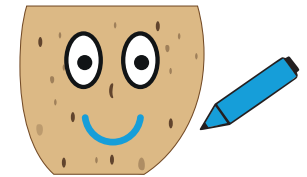
Cut off and then scoop out the top of the potato to create a little hollow to allow the

2



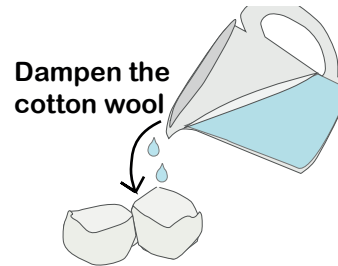
Slice the bottom of the potato to create a flat surface so it can stand.

3



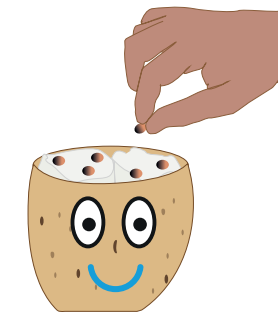
Decorate your potato head to make them come alive.

4



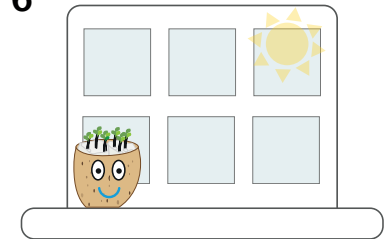
Dampen the cotton wool balls and place on the top of the potato.

5



Sprinkle the watercress seeds on top of the cotton wool.

6



Place in a warm place and check the cotton wool is damp each day.