

Activity E1

Leaf transpiration



S.T.E.A.M is an abbreviation for Science Technology Engineering Art and Maths and is an integrated approach to learning that encourages learners to make connections between concepts and thinking which can be applied to solving real world problems.

Whether you are new to STEAM or not, these easy to manage projects all about water will encourage critical thinking skills and scientific processes all while having lots of fun along the way.

Background Information

In Cairns we are part of the Wet Tropics World Heritage Area and are surrounded by lush wet tropics rainforest. Did you know that all those plants you can see on the mountains are releasing water into the atmosphere? This is called transpiration and is an important part of the Water Cycle. Plants get most of the water they need from the soil through their roots, carrying it through tiny 'pipes' through the stems and to their leaves. The water escapes from pores (called stomata) under the surface of the plant's leaves. This experiment is a very easy exercise to see the process of transpiration (water vapour escaping or transpiring out through plants leaves).

For this activity you will need:

- A plant
- Clear plastic bag
- Twist tie or piece of string
- Measuring jug

Explore more...

Can you think of any factors that might affect the rate of transpiration? Do you think plants would transpire more or less during the dry season?

Can you think of ways transpiration could be useful to humans?

Do you think the size and shape of leaves affect the rate of transpiration?

Do you think transpiration affects how often a plant needs to be watered?

Did you know? Transpiration accounts for approximately 10% of the water in the atmosphere. A large tree can transpire 151,000 litres of water a year.

REMEMBER Approximately 30% of water in Cairns is used outside the home. You can use this water wisely by choosing plants that are suited to our climate here in Cairns!