



Forests & Water

EXPERIMENT 1: WORKSHEET RESULTS

Typical Results

Experiment 1: To investigate transpiration in trees/plants:

Type of Leaf	Species of Tree	Volume of water in bag *	Why do you think the tree lost this much water?
Broadleaved in sunny area	<i>e.g. Oak</i> Ash	A lot	The leaves are big. Broadleaves grow best in places with lots of water.
Coniferous in sunny area	<i>e.g. Pine</i>	A little	Conifers have small needle like leaves to prevent water loss. They can grow in places with little available water.
Waxy in sunny area	<i>e.g. Holly</i>	A little	Holly keeps its leaves in winter, if they weren't protected with a waxy coat the winds quickly dry out the plant. Ivy often grows in shady conditions under trees, where there is little available water. They need to retain as much water as possible.
Plant in shaded area	<i>Any species</i>	A little or none	The main causes of Transpiration are sunlight & wind. Shaded plants are not exposed to sun & wind.
Branch with leaves removed in sunny area.	<i>Any species</i>	None	Plants mainly lose water through the stomata in the leaves.



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Transpiration Worksheet Questions:

1. What is transpiration?

Transpiration is the loss of water from the leaves of a plant into the air.

2. **Stomata** are tiny pores on the underside of leaves, which allow water to transpire from the leaf. They also allow gases to enter and exit.

3. Name 3 factors which speed up transpiration?

Heat **Sunlight** **Wind**

4. Why do coniferous trees have needle like leaves?

They often grow where there is not a lot of water. Having needle like leaves stops them losing too much water by transpiration. This is known as an adaptation to environmental conditions.

5. Why do some plants have waxy leaves?

Having waxy leaves stops them losing too much water by transpiration.

6. Do deciduous plants transpire in the winter. What evidence have you for this?

Deciduous plants don't transpire in winter as they lose their leaves and plants transpire through their leaves.