

## Moss Mystery: Investigating Which Way Moss Grows on Trees with a Compass and Lux Meter

### Abstract

In this activity, participants use a compass and a lux meter to investigate which side of a tree moss tends to grow on. By measuring the amount of light on each side of the tree and comparing it to the direction where the moss is most abundant, participants can learn about the environmental factors that influence moss growth. This activity encourages participants to observe and analyze their natural surroundings, and to develop a greater appreciation for the ecological relationships between different organisms.

### Type of activity

Life and earth science - outdoor

### Materials and Equipment

FizziQ Junior app on a smartphone or tablet

### FizziQ Jr functionalities used

Compass - Orientation

Lux meter - Ambient Light or Reflected Light

Experiment notebook (photo and text)



### Instructions:

- Begin by finding a tree with moss growing on its trunk.
- Use the compass to determine the north direction.
- Hold the compass next to the tree and note in your notebook or laboratory notebook which direction the compass needle points.
- Use the lux meter to measure the amount of light on each side of the tree. Place the lux meter at the base of the tree trunk and note the brightness values for each side of the tree.
- Look closely at the moss on the tree trunk and note which side of the tree has the most abundant moss growth.
- Compare the compass direction and the brightness values measured by the lux meter with the direction where the moss is most abundant. If the moss is more abundant on the north side of the tree and that side of the tree is also more shaded, this may indicate that the moss prefers cooler, shaded environments. If the moss is more abundant on the south side of the tree and that side of the tree is also more sunny, this may indicate that the moss prefers warmer, sunnier environments.

- Repeat this activity with several trees to verify if this relationship between the moss direction, the orientation of the tree, the brightness, and the temperature is consistent. It is important to record the results of each observation to be able to compare them later.
- This activity can be used to deepen the study of the ecological relationships between moss and trees, and to better understand the environmental factors that influence their growth.

## Safety

Be careful when walking in nature with your tablet. Don't be distracted, don't let it fall on the ground or put water on it.

## Author

Christophe Chazot

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