

Lichen Reproduction Game

Aim: Understand how lichen reproduce

Equipment: Set of cards: 'Tree', 'Fungi', 'Alga'

Subject:

Science

Skills:

Oracy

You will need to:

- Introduce the woods to the group, showing the area where you will be conducting the game.
- Give each group a card and on the card will be the words 'tree', 'fungi' or 'alga'. Divide the pupils so that a quarter of the group are trees, and the rest will create a ratio of three fungi to every alga. Tell them not to reveal what they are to the other pupils.
- Tell those who are trees to spread out to form a woodland and they should stand tall like trees.
- Tell the spores, who are the fungi and algae to run around as if they are being blown by the wind and try to pair with each other. Once they are in pairs, they need to find a tree to grow on.
- The spores that haven't paired will fall to the ground and die.
- Gather the group together and discuss how so many lichens survive when so many spores die before pairing up with a partner?



Why are so many spores released into the air?



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Then:

- Play another round of the game. Those who died in the first round will now be trees, and some of the trees will need to stay close to each other and others need to be further apart.
- The excess spores in the first round of the game will be divided into 'alga' or 'fungi' once again (a ratio of two fungi to every alga). Instruct them to run around in the wind once again and try to pair up and find a tree to grow on.
- This time, the ones that have landed on a tree that grow close to each other die, as well as those not in pairs. The ones that land on trees with a large space around them will survive and lichen will grow.
- Gather everyone together and discuss why this has happened. What has changed in the woods? What do lichen require to grow?



What do lichen require to grow?



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Information for you to read:

- Lichens are sensitive and very complex organisms. To survive and reproduce they must have extremely special conditions. Reproduction can happen in different ways:
- **Asexual / Vegetative** – They produce a clone of themselves or release small bundles of algae and fungi into the air which then produces new lichen.
- **Sexual** – They release fungal spores into the air, and they must find algal spores or cyanobacteria in the atmosphere in order to create lichen. Hundreds of different fungi exist that form lichen, along with much less algae and cyanobacteria. In order to reproduce, the correct combination of fungi, alga and cyanobacteria spores must come together on a suitable surface in order to grow lichen, and in a suitable environment.

We are going to play a little game to show how sexual reproduction happens.

Tree	Tree
Fungi	Fungi
Fungi	Fungi
Alga	Alga

Cut up the above cards. You will need enough for one each for the pupils in your class.



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