

## A communication network under your feet

The world of communications is far more than man-made inventions. Most of the world's communication exists organically in nature in ways that humans may struggle to notice or understand.

When you walk in a wood, there are many amazing things to see when you look up, but did you know that there is something incredible going on beneath your feet? Tangled among the tree roots is a network of fine threads called **mycelium**, part of an **organism** (living thing) called **fungus**.

When we think of fungus we usually think of mushrooms and toadstools, but these are only the small 'fruiting body' of a much larger organism. Most of the fungus is underground as mycelium. These can spread for miles under the soil, connecting to other fungi, and the roots of plants and trees. The network is so large, that it affects almost 90% of plants on the planet. Beneath every footstep you take, there can be between 500–1000km of mycelium.

Like the neural pathways in our brains, these connecting threads (known as the **mycorrhizal network**) allows all plants and fungi to talk to one another, trade nutrients (such as water and minerals), protect their own, and compete for vital resources, forming what Scientists now refer to as the "**Wood Wide Web**". When two or more organisms live together in a way which benefits them both, it is called **symbiosis**.

### Did you know?

- Older, larger trees connected to the network are sometimes called **Mother Trees** or **Hub Trees**.
- Mother Trees may be able to detect sickness in other trees in the network and can ensure that the sick trees get the nutrients they need.
- The fungus will use around a third of the nutrients travelling through the mycelium to keep itself alive and healthy.
- The network allows young trees to grow in the shade of taller trees by providing them with the nutrients they cannot produce through **photosynthesis** (using the energy from the sun to make food).



## How to Make Mushroom Spore Prints

Have a go at making these beautiful spore prints at home using the Flat or Portobello Mushrooms found in shops.

**Step One:** Carefully trim mushrooms to expose the gills and remove the stems.

**Step Two:** Place the caps of the mushrooms face down on card or thick paper (gills facing the paper). You can use matte white or black card or watercolor paper.

**Step Three:** Place bowls or glass dishes over the mushroom caps. This will create some humidity for the mushrooms to release spores and allow the spores to drop from the gills to form patterns without any disturbances.

**Step Four:** Leave the mushrooms for 12-24 hours.

**Step Five:** Remove the bowls and gently lift up the mushroom to reveal the print.

### Remember:

- The print is made by the spores so it will smudge very easily. You can use a fixative spray to keep the spores in place.
- Only use **edible mushrooms** - don't pick mushrooms in the wild if you don't know how to identify them.
- Please have an adult to supervise when trimming the mushrooms and when using the fixative spray.



Photo by HowWeMontessori

Why not share your creations with us  
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Planet PK Champions will be back next month on Saturday 20th April, 10:30- 12:00. Meet us in the Clore Learning Space at PK Porthcurno to make something exciting from recycled plastics!