All you need to start exploring your micro-worlds is a printer and a Build Your Own Microscope.

Simply cut out the Build Your Own Explorer cards and tick them off as you investigate each item.

Always take care when exploring, it might be a good idea to take an adult with you, even if it is just to carry your finds! Happy exploring!

BUILD YOUR OWN Explorers

01 Fact & Find... A leaf!

Look down for leaves that have fallen to the ground, or on the tree for green leaves.

Can you find different colour leaves? What shape are they? When you look close-up can you see different parts of the leaf? Can you see the stem or the veins ?

Did you know?

Trees take Carbon Dioxide out of the air and replace it with oxygen. They do this through their leaves. This process is known as photosynthesis.

02 Fact & Find... Mud!

Mud is a mixture of water and soil, and usually appears after rainfall.

Can you find some wet or dried mud? What colour is it? What does it feel like?

New research has shown that exposure to friendly soil bacteria (Mycobacterium Vaccae) stimulates the immune system causing the brain to release serotonin, the endorphin that boosts your mood and makes you feel happier.

Did you know?

Volcanic mud is a fantastic hair moisturiser!

03 Fact & Find... Plastic!

Plastic is a man-made material and if recycled properly can be an eco-friendly material.

There are different types of plastics used for different things such as your reusable water bottle or lunch box. Can you find plastic at home amongst your toys, or even in the park?

Did you know?

There are two main types of plastic, Thermoplastics which can be warmed up and reshaped, and Thermosetting plastics which cannot be re-shaped once set.

04 Fact & Find... Concrete!

Concrete is the most used material in the world!

Look outside and you'll find concrete around your home as gate posts, patios or walls. When you look closely what can you see? Is it smooth or rough? Concrete formed naturally in Israel 12 million years ago, and is now made by mixing cement, gravel (or sand) with water. Once set, concrete continues to strengthen for decades to come.

Did you know?

The Romans built the Pantheon in Rome around 120 AD, (over 1870 years ago!!) and it is still the largest unsupported concrete structure in the world.

05 Fact & Find... Moss!

Can you find some green moss? Maybe on a wall or pavement, or on a grassy area. What does it feel like and what can you see when you look up close? Can you see any little creatures?

A patch of moss is made up from lots of tiny moss plants packed together to help retain water. Moss does not have roots, seeds or make fruit.

Did you know?

There are lots of types of moss in the UK with names like Glittering Wood, Swans Neck, Spring Turf and Silk Forklet Moss!

06 Fact & Find... Rubber!

You might find rubber at your local park as the seat for a swing, or the tyre of a bike. If you use the hand-held microscope and take it out to look closely at rubber objects, what can you see?

Natural rubber comes from the sap of a tree, and when the rubber is made from chemicals (man made) it is called synthetic rubber.

Did you know?

Rubber can be moulded into many objects, including tyres, hoses, shoes and bouncy balls!

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BUILD YOUR OWN Explorers

07 Let's find... A feather!

You can often find fallen bird feathers in your garden, at the local park or just out and about.

When a bird raises its wings, the feathers open up and allow air to pass though. On the down stroke, the feathers close up and prevent the air passing through, this generates the lift needed for the bird to stay up in the air.

Take a close look at your feather. What can you see? Can you spot hair-like filaments? These are called barbs.

Did you know?

Small song birds have 1000 to 3000 feathers, whereas Swans have 25,000!

08 Let's find... A Stone!

Stone has been used for building for 1000's of years. If you look in your garden or on a beach you'll be sure to find lots of stones!

Great stones to look for are smooth round ones. They come in all shapes and sizes depending on what type of rock they are - sandstone, limestone, granite, chalk, slate, crystal or gem stones. What can you find? Can you find stones with layers, or different colours?

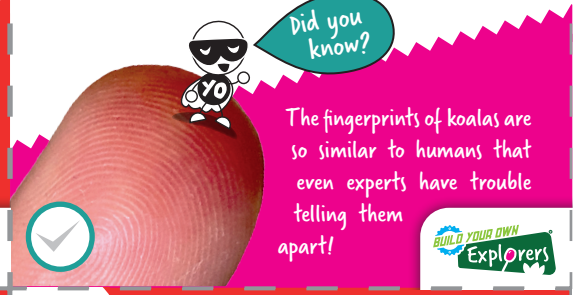
Did you know?

Stonehenge, a circle of huge standing stones was erected in the late Neolithic period in around 2500 BC!

09 Let's find... A fingerprint!

Look closely at the tips of your fingers. Can you see your finger print?

Fingerprints develop before babies are born. Your fingerprints are made of several layers of twisted skin that formed prior to your birth. These ridges of skin make patterns. Scientists studying fingerprints identified three main ridge patterns: loops, whorls, and arches. Which do you have? No two fingerprints are exactly alike.



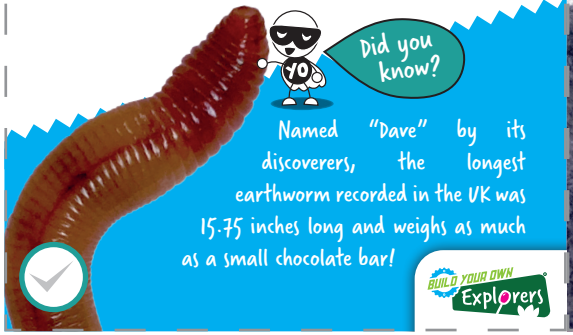
Did you know?

The fingerprints of koalas are so similar to humans that even experts have trouble telling them apart!

10 Let's find... A worm!

Have a look under rocks or in a place where there is moist soil to find a common earthworm.

Earthworms have rings around their body. These are called annuli and help the worm to move around. What can you see when you look closely at your earthworm? Can you tell which end is its head with a mouth for feeding? Don't forget to gently place your worm back where you found it when you've finished exploring.



Did you know?

Named "Dave" by its discoverers, the longest earthworm recorded in the UK was 15.75 inches long and weighs as much as a small chocolate bar!

11 Let's find... Wool!

Hats, scarves, gloves, and jumpers can be made from wool. Most wool comes from sheep and goats, but llamas and camels can also be sheared for their wool.

Wool is a natural material. Can you look up close at the threads used to make the wool fabric? Does it stretch? How does it feel against your skin? Is it soft?

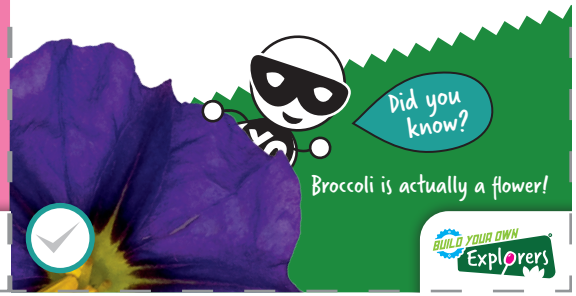
Did you know?

Wool is naturally water and stain resistant! Instead of water droplets being absorbed into the fabric, they bead together and roll off.

12 Let's find... A petal!

There are many wild flowers to be found outside in gardens and parks. Flowers like buttercups, daisies and dandelions have different petals you can look at. What can you see? Are the petals smooth or rough?

Flowers are highly adapted to attract their specific pollinators such as bees, flies, moths, hummingbirds, and even bats. This is why the petals on flowers are so brightly coloured and smell good too.



Did you know?

Broccoli is actually a flower!