



Ever wish you could live in the forest? Next best thing? Grow your own forest! You can grow a living rainforest (biosphere) in a jar that you can keep in your room. If you put in the right soil, plants and animals, and provide the right amount of light, your *biosphere* can exist for a very long time *without you doing anything*. Your rainforest-in-a-jar is also a good way to see how water moves through the water cycle.

**Amazing fact:** The amount of water on earth is the same now as it was when the world was created. It may not always be in the same location but it is the same amount. It just cycles round and round, through the ground, up to the sky and down again. You can see how the water cycle works right in your rainforest-in-a-jar. The plants take up moisture (*liquid water*) from the soil and release it through their leaves into the air (as a *gas*) where it collects on the lid of your jar and falls back down as "rain".

### WHAT YOU'LL NEED:

- A mason jar or another type of container with a lid that can be sealed
- Sand
- Soil (that drains well)
- Activated charcoal (optional: try one biosphere without and compare the difference)
- Stones and/or small pieces of wood
- A couple of mini-beasts like worms, pill bugs, millipedes or others
- One or two slow growing plants
- Water

### WHAT TO DO

- Make sure your mason jar is really clean: scrub with dish soap and let it dry
- Add 2-3 cm of sand to the bottom of your jar
- Add 2-3 cm of activated charcoal (if using)
- Now add a layer of soil 5-6 cm deep
- Add your plants and mini-beasts
- Add enough water to dampen the sand layer but don't make the soil soggy
- Seal your biosphere and place in a location where it gets indirect light (too much direct sun will 'cook' your forest world!)
- Observe your rainforest and make notes in your nature journal

### TO THINK ABOUT AND WONDER:

Light provides energy to your biosphere. How is this energy used by the plants? What important role do the mini-beasts play? Why don't you have to add more water?

Since the amount of water on earth is constant (stays the same over time), the rain you feel on your face could include some of the same molecules of water that slid down the back of a dinosaur many, many years ago!

**The Exploration Club for Families...** NatureKids BC helps children get outdoors to play, imagine and explore in nearby nature. Join a family nature club near you or become a free-range member. Find out more at: [www.naturekidsbc.ca](http://www.naturekidsbc.ca). If you are already a member you can use this activity as part of your Action Awards Quest!

