**SCIENCE**

**THE SCIENTIFIC METHOD**

A FOURTH GRADE SCIENCE PROJECT

**The steps of the scientific method are to:**

* **Ask a Question**
* **Do Background Research**
* **Construct a Hypothesis**
* **Test Your Hypothesis by Doing an Experiment**
* **Analyze Your Data and Draw a Conclusion**
* **Communicate Your Results**

A **terrarium**is a collection of live plants, usually in a glass or plastic container, with a balance of light and air that allows them to grow without needing the usual care house plants need. Small shade and water-loving plants are the best kind for terrariums.

**What You Need:**

To make your own terrarium, you will need a large glass or plastic [**jar**](https://mail.bcps.k12.md.us/owa/redir.aspx?C=bBmk9nXEmk2UEVdjf5-MjGaD_dvnQdJIBHVxJ1FQmA52tYPbcdQ5L05Z7L0pV_rd2UxWjiAOrt0.&URL=http%3a%2f%2fwww.hometrainingtools.com%2fjar-1-gallon-clear-plastic%2fp%2fBE-JAR1GAL%2f) or a small aquarium or other clear [**container**](https://mail.bcps.k12.md.us/owa/redir.aspx?C=bBmk9nXEmk2UEVdjf5-MjGaD_dvnQdJIBHVxJ1FQmA52tYPbcdQ5L05Z7L0pV_rd2UxWjiAOrt0.&URL=http%3a%2f%2fwww.hometrainingtools.com%2fterrarium%2fp%2fBE-TERRAR%2f) that has a lid. The lid keeps water vapor from escaping so that the terrarium stays moist. You'll need a vent, though, (poke small holes, if your lid does not have one) to allow some air into the terrarium.  The only other thing required to make a terrarium is a small selection of plants or seeds..

**What You Do:**

1.      Cover the bottom of the jar with 2-3 inches of [**dirt**](https://mail.bcps.k12.md.us/owa/redir.aspx?C=bBmk9nXEmk2UEVdjf5-MjGaD_dvnQdJIBHVxJ1FQmA52tYPbcdQ5L05Z7L0pV_rd2UxWjiAOrt0.&URL=http%3a%2f%2fwww.hometrainingtools.com%2fpeat-moss%2fp%2fGS-PEATMOS%2f). You might also want to add some [**pebbles**](https://mail.bcps.k12.md.us/owa/redir.aspx?C=bBmk9nXEmk2UEVdjf5-MjGaD_dvnQdJIBHVxJ1FQmA52tYPbcdQ5L05Z7L0pV_rd2UxWjiAOrt0.&URL=http%3a%2f%2fwww.hometrainingtools.com%2fpebbles-fine-gravel-1-lb%2fp%2fGS-PEBBLE%2f) to the bottom for better soil drainage.

2.      When you put the plants in the soil, be sure not to crowd your terrarium with too many plants--if you want more than a few varieties, use multiple containers. You can use a spoon and fork to dig holes and set the plants in place if the mouth of the jar is too small for your hand to fit through easily.

3.      Keep your terrarium where it will receive partial sunlight rather than hot, direct light. After the first time, you will only need to water your plants very occasionally if at all. (Over-watering will cause rot!) The water vapor from the plants will stay in the terrarium and be continually 'recycled,' so there should be condensed water vapor clouding the sides of the container.

The terrarium has a moist, rainforest-like environment.

Terrariums are wonderful projects: they’re easy to plant, easy to care for and they look wonderful. They also recycle their moisture, so they rarely need to be watered, requiring almost no attention. Often, a closed terrarium can be left for a month or more between watering.

Discussing the water cycle is a great introduction for this project. What are clouds? What are they made of? What is rain? What does the sky look like when it rains? Why does it rain? Where does the rain go after it falls? What happens to puddles after it rains? These questions will start a discussion about evaporation, condensation, and precipitation. Discuss each of these things as you put your terrarium together. (You may want to check out the animated diagram of the water cycle from the US Environmental Protection Agency.)

Any clear container can be made into a terrarium; just make sure that your container is watertight. Choose something large enough to accommodate the plants, and has a cover, lid, or door to keep the moisture from escaping. Jars, bottles, and aquariums are commonly used and each works great. Whatever the container, you can now easily bring nature into the classroom.