

Section 1

Understanding Life Systems

EXPLORATION 1

Making an Ecosystem

Make your own terrarium and learn how an ecosystem works.

An ecosystem is any area where living things such as plants, animals, and organisms living in it interact with non-living things like soil, water, temperature, and air. All the animals and plants within an ecosystem depend on one another for survival. Maintaining a well-balanced ecosystem is very important to all life forms.

Ecosystems come in different sizes. An ecosystem can be as big as an ocean or as small as a puddle. Try this activity to create a terrarium and see how an ecosystem works.



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Try exploring a miniature ecosystem by building your own terrarium.

Make sure the jar is clean for the terrarium.



After adding the things above, add some water. Then close the lid to keep the moisture from escaping and place the terrarium in a warm, sunny spot. Observe the terrarium.

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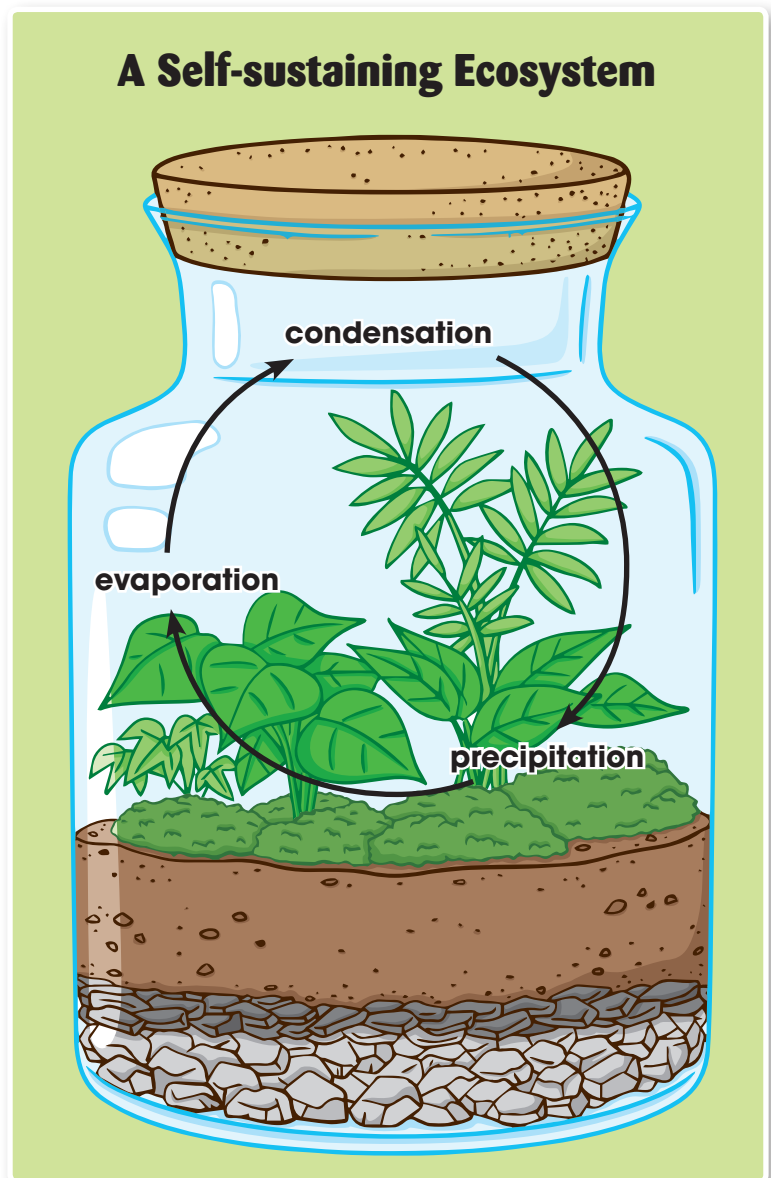
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The plant terrarium that you built is a model of an ecosystem. The rocks, like the granular soil in nature, are for drainage to prevent water-logging. The charcoal acts as a water filter to trap impurities, keeping both the water and soil clean and preventing the growth of mould. The soil, like the topsoil in nature, holds water and provides nutrients that the plants need to grow. With water and sunlight, your terrarium is self-sustaining. This means that it does not require extra care from you for the growth of the plants.

You might have noticed that a mini water cycle happens inside the jar. When heated, the water in the soil evaporates and drops of condensation form on the lid and on the wall inside the jar. As they get bigger and bigger, the collected water eventually “rains” on the plants and soil, allowing the plants to make food and grow. Since the water cannot escape, the water cycle never stops, and the plants always stay healthy in the self-sustaining terrarium.



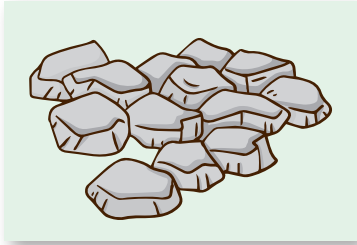
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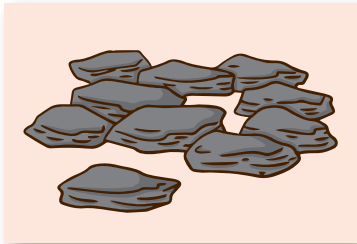
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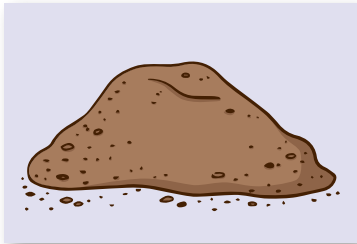
Each element in a plant terrarium plays an important role in keeping the ecosystem healthy. Write about the role of each.



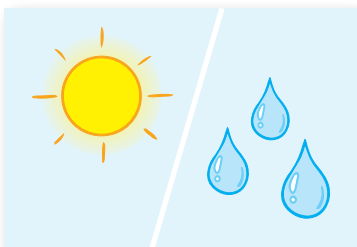
small rocks



charcoal



soil



sun and water
