

# SCIENCE·3D

## CANOPY CRITTERS

In this packet, sample student answers are provided in **red** and notes to teachers are in **blue**.

During this **Mission Research** activity, students will investigate natural resources including renewable and non-renewable resources. They will explore human impacts on these resources.



Think of some of the reasons people need resources. They need space to live. They need food. They need water. They need materials for the products they use. They need energy to provide power for lights and devices. They need fuel for vehicles. The list goes on! As you learned in the **Mission Reader**, some of these resources are renewable and some are non-renewable.

1. Use the reader, books, or online resources to help answer the following questions.

Students may not identify the exact use for each resource. What is most important is the logic for why they label each as renewable or non-renewable.

Resource	What it is used for	Renewable or non-renewable	Reason it is renewable or non-renewable
Oil	Power or fuel for vehicles	Non-renewable	There is a limited amount. Once it is used it is gone.
Coal	Power for electricity	Non-renewable	There is a limited amount. Once it is used it is gone.
Solar power	Power for electricity, power for vehicles	Renewable	Sunlight is constantly available. No matter how much is used, more is available.
Wind power	Power for electricity	Renewable	No matter how much is used, more wind will be available.
Bodies of algae grown for fuel	Fuels	Renewable	No matter how much is, more algae will be available.
Minerals	Making components for cell phones and other electronics	Non-renewable	Once they are used up, there are no more being produced.
Corn and wheat	Food	Renewable	More can be grown.

Note: Some students may argue fossil fuels are renewable because they are formed by the bodies of organisms. While technically this may be the case, explain that the renewal time is vastly longer than the speed at which they are being used.

2. Some people consider forests to be renewable resources, but they can also be non-renewable. **Describe** why you think forests could be renewable or non-renewable.

If forests are not cut down too quickly, then trees can grow again. They would be renewable.

But, if forests are cleared too quickly or replaced with cities or farms, they would not be renewable.

3. Aquifers are huge underground lakes. They are used as drinking water for people and for watering crops. The water in these lakes' refills very slowly. Some people consider aquifers to be renewable resources, but they can also be non-renewable. **Describe** why you think water in aquifers could be renewable or non-renewable.

Rain could refill the aquifers if water is not used too quickly. They would be renewable. But, if water is used too quickly they would be non-renewable.

4. **Describe** ways people should change how they use non-renewable resources so they do not run out.

Good answers will include some elements of the following: Finding other resources that can be used that are renewable, reducing use of non-renewable resources (being more efficient), reusing resources as much as possible, and recycling materials that can be reused.

5. **Create** a poster or presentation that describes resources that you use in your daily life. Include at least five resources. **Describe** whether each is renewable or non-renewable. Your poster should also include ways to conserve the resources you describe.

**Extend the Lesson:** Have students research the source of the resources they listed and include them in their presentation or poster.