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**Topic 1: Apply the Characteristics of Life**

*All living things(Biotic) share six characteristics. In the space provided, determine which characteristic of life is being described in each situation.*

1. Jennifer carefully cuts a thin slice of an acorn and observes it under a microscope. She sees that the acorn is actually made of a great number of tiny units. What characteristic of life has Jennifer observed?

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1. Sam plants an acorn in the soil outside of her school. After a week or so, Sam notices a small green shoot emerging from the ground where she planted the acorn. A few weeks later, the shoot is twice as tall as it first was and has produced a number of leaves. What characteristic of life has Sam observed?

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1. Justin performs experiments with an oak seedling and finds that the leaves of the oak seedling absorb sunlight and carbon dioxide. Justin determines that the oak tree uses the sunlight and carbon dioxide to produce chemicals that give the oak seedling the energy it needs to live and grow. What characteristic of life has Justin observed?

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1. As autumn approaches and the air grows cooler, Maddy observes that the leaves of an oak tree turn brown and then fall to the ground. As spring arrives and the air gets warmer, she sees new green leaves emerging from the branches of the oak tree. What characteristic of life has Maddy observed?

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1. Zack notices that in the spring, the oak trees in his neighborhood are covered with tiny flowers and the air is filled with oak pollen. Zack observes that after a week or two, tiny acorns have begun to develop from the flowers. Zack knows that these acorns might one day become new oak trees. What characteristic of life has Zack observed?

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