

Get a Life!

Teacher's Guide

The Initial View (Introducing the Activity)

It seems very easy to tell a living thing from a non-living one. Have the students make predictions about what they think will happen to the test tubes and paper cups during the activity. Use soap/warm water to be sure the sand is clean and dry before doing the activity, otherwise there may be life in the sand that will use the sugar and confuse the results for the kids! You may have to add extra water to make the "grow creature" "grow" by soaking up water!

Take a Deeper View! (More Science)

What is **Life**? What makes something living? That's not as easy as it appears. Living things must use food for **Energy**, also called **Metabolism**. To be alive they must **Reproduce**, **Respond** to what is happening around them, and **Adapt** as their **Environment** changes. All in all, a very complicated set of requirements!!! The sand looked like the yeast, but couldn't use the sugar like the yeast did. Perhaps the cork was even pushed from yeast's test tube as it used energy and reproduced! The "grow creature's" growth was just **Absorbing** or soaking up the water. A plastic sponge can absorb water and get bigger or heavier, but it didn't grow like a living thing does! Living things take in some form of energy, **Assimilate** the energy and material (make it part of themselves, like the seeds did). Sunlight is the ultimate "food" for all the living things that the kids would be familiar with. The plants used this sunlight to start making food for themselves and others by **Photosynthesis**.

More and Bigger Views! (Additional Classroom Ideas)

1. Make a list of observations of what living things do which are proof of life.
2. Ducks and geese fly south during the winter. This is an **Adaptation** to help them survive. Make a list of other adaptations living things do when their environment changes.
3. Failure to adapt means death to living things. Find examples of living things who failed to adapt. (Birds flying into buildings, whales beaching themselves, etc.)
4. Find other examples of things that appear to be alive, but are not. A computer would be an example, it does things that some would think it's alive. List the characteristic and why the object isn't alive. For example; the computer uses energy, but it doesn't turn this energy into more computer parts or **Heal** itself!
5. List the materials living things need. (water, sun, soil, etc.)
6. A new house being built has similarities and differences to a living thing. Tell how building a new house is like a living thing. (boards being sawed/changed, etc.)
7. Tell how building a new house is not like a living thing. (can't reproduce, etc.)
8. List some of your favorite living things. List what they do that makes them living!
9. List some non-living things. Tell why they are not alive!
10. Find out why sunlight is so important to all living things. Show examples of how plants supply energy to all animals through photosynthesis.
11. Make a list of foods we eat that are originally plant materials.
12. Make a list of foods we eat that are originally animal materials.

Answers

1. (it gets bigger, but just by adding more ice to itself, not changing anything)
2. (both are using energy, but the ball is just responding to gravity pulling it down)