

# **Is it alive?**

(Concept: Characteristics of living things)

**Goal:** To determine if bread a wind-up toy is living or nonliving.

**Material:**

- Wind-up toys

**Procedure:**

1. Your teacher will give you and your partner a wind-up toy.
2. One of you will look for evidence that the toy is alive.
3. The other will look for evidence that the toy is NOT alive.

**Observation:**

1. Observe the wind-up toy.
2. Record the characteristics of the toy that support your position about whether or not the toy is alive.
3. Share your lists of living and nonliving characteristics with your classmates.

**Analysis and Conclusion:**

1. Students could say that the toy is alive because it moves or that it is not alive because it does not eat, grow, or reproduce.

# Please Pass the Bread!

(Concept: Needs of living things)

**Goal:** To determine if bread mold needs water to grow.

## Material:

- Paper plates
- Plastic dropper
- Bread without preservatives
- Sealable plastic bags
- Tap water
- Packing tape

## Procedure:

1. Predict what factors might affect the growth of bread mold. Record your ideas.
2. Place two slices of bread of the same size and thickness on separate, clean plates.
3. Add drops of water to one slice of bread until the whole slice is moist. Keep the other slice dry. Expose both slices of bread to the air for one hour.
4. Put each slice into its own sealable bag. Press the outside of each bag to remove the air. Seal the bags. Then use packing tape to seal the bags again. Store the bags in a warm, dark place.
5. Copy the data table into your journal.
6. Every day for at least five days, briefly remove the sealed bag from their storage place. Record whether any mold has grown. Estimate the area of the bread where the mold is present.

**CAUTION:** *DO NOT unseal the bag. At the end of the experiment, give the sealed bags to your teacher.*

## Observation:

DATA TABLE				
	Moistened Bread Slice		Unmoistened Bread Slice	
Day				
1				
2				

## Analysis and Conclusion:

1. The moistened bread became moldy. The unmoistened bread remained almost the same.
2. Mold grew on the moistened bread because it had the right conditions to grow – water, food (the bread), and living space (dark, warm place).
3. The manipulated variable was moisture. If the other variables are not controlled, the experimenters cannot be sure which variable caused a specific change.
4. Mold spores are found in the air and grow when environmental conditions are suitable.