

Investigation Two – Microorganism Multiplication

Standard 05: Students will understand that microorganisms range from simple to complex, are found almost everywhere, and are both helpful and harmful.
Objective 1: Observe and summarize information about microorganisms.
Objective 2: Demonstrate the skills needed to plan and conduct an experiment to determine a microorganism’s requirements in a specific environment.
Intended Learning Outcomes 1 – Use science process and thinking skills 3 – Understand science concepts and principles 4 – Communicate effectively using science language and reasoning

Standard
V

Objectives
1,2

Activity Two – Growing Microorganisms (Mold)

Instructional Procedures

1. Select four slices of bread, preferably from a loaf without preservatives (this will speed your mold growth). Give each piece the following treatment and then place the slice into a “treatment-labeled” locking plastic bag. Store the bags in warm, dark place for incubation.
 2. Wipe an unwashed hand (pretend you are smearing on mayonnaise with your entire hand) on both sides of the slice, then place it onto a locking plastic bag.
 3. Lick one slice on both sides with your tongue.
 4. Wipe one slice, on both sides, on the floor.
 5. **WASH YOUR HANDS.** Place the slice onto a paper towel. Moisten the slice with water from a spray/mist bottle.
- Observe the bread for microorganism growth every other day for the next week. (This may take longer if you are using bread that contains growth inhibitors, preservatives.) Ask students to record their observations. At the end of 2 weeks review the results and make some class conclusions. *Most of the growths on the bread will be fungal.*
 - Have students specially state the needs of microorganisms.

Materials

- 4 locking plastic bags
- 4 slices of bread (homemade or bread without preservatives)
- Permanent marker or pen
- Water spray/mist bottle
- Paper towel