

## Bacterial Growth

**Topic or Concept**

Collect bacteria from different sources in the environment and find out which conditions promote the least bacterial growth and why. Using the scientific method, develop and test a hypothesis.

**Objective**

Introduce the class to ideas that bacteria are everywhere

<b>Materials</b>	<b>Enrichment Activity</b>
Available from Region 20 Living Science Materials Center	
Sterile Petri dishes with Agar	<p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Have one student kiss the agar in a petri dish and then replace the top.</li> <li>2. With a grease pencil, mark off areas on the back of another petri dish and label each area with a students name.</li> <li>3. Let each student touch the agar above his/her name.</li> <li>4. Some of the students may want to touch agar with their pencil eraser or some other object that they commonly put in their mouth.</li> <li>5. Set petri dishes aside for 24 to 72 hours and then show the bacteria colonies to the students.</li> </ol> <p><b>Variations</b></p> <ol style="list-style-type: none"> <li>1. You might let one half of the students wash their hands before they touch the agar plates.</li> <li>2. Leave the lid of one agar plate off for the day and then cover it. See the amount of growth coming from the atmosphere</li> <li>3. Let a student cough on one of the agar plates.</li> </ol>
Not Available from Region 20 Living Science Materials Center	
Grease pencil	

## Effects of Antiseptics on Bacterial Growth

### Topic or Concept

After growth has developed in the petri dishes you might use different antiseptics from the medicine cabinet to see how effective they are.

<b>Materials</b>	<b>Enrichment Activities</b>
<p>Not Available from Region 20 Living Science Materials Center</p> <p>2% tincture of Iodine or filter paper disc that has been soaked in antiseptic Alcohol Lysol Cleaner or other cleaner with germ killer Mercurochrome</p>	<p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>Using the dishes with bacterial growth, add 2% tincture of iodine or disc of antiseptic.</li> <li>To one of the infected petri dishes you may add a film of alcohol, to another dish add a film of Lysol and to another you can add the Mercurochrome.</li> </ol> <p><b>Variation</b></p> <ol style="list-style-type: none"> <li>Let the students suggest antiseptic agents that could be used on the bacteria cultures.</li> <li>Incubate all of the petri dishes at 37° C (If incubator is not available it is possible to get growth without, but the results will not be as apparent).</li> <li>Look for colonies of bacteria each day. Let the students compare the effectiveness of the different antiseptics.</li> </ol> <p><b>Questions</b></p> <ol style="list-style-type: none"> <li>Which of the chemicals were effective for 24 hours, 36 hours, and after 72 hours?</li> </ol>

**When finished with the experiments bag all petri dishes. Return to Region 20 Living Science Materials Center, for disposal.**