

Name _____ Period _____ Date _____



Fuzzy Teeth

eClinic

Lesson 1: The Likelihood of Cavities

Some people fear going to their dentist as a result of their experiences with cavities and fillings. A clinical laboratory test can indicate how susceptible a patient is to dental caries. Are you ready to drill down and determine how likely patients are to have to face the dentist's drill? Open wide and begin this investigation.

Doing the Science

1. Open the Fuzzy Teeth Sim.

Practice Mode

2. Select the "Practice Mode" button.
3. Select a Snyder agar deep tube and move it to the left hole of the two-holed rack on the tabletop.
4. Select a patient sample from the top shelf and move it to the right hole of the two-holed rack on the tabletop.
5. Select the pipette and move it to the patient sample.
6. Click the plunger on the pipette two times to withdraw 0.2 mL from the patient sample.
7. Move the pipette to the Snyder agar tube in the left hole and click the plunger to dispense the sample.
8. Move the pipette to the waste area to remove the used tip.
9. Move the pipette to the new tips area.
10. Move the Snyder agar tube to the tube roller on the tabletop.
11. Move the Snyder agar tube to the incubator on the top shelf.
12. Repeat steps 3–11 until all four patient samples and the control have been placed into the incubator.
13. Select the "Start" button on the incubator.
14. After the results screen appears, move the Bromocresol green color chart next to each tube. Select the "Evaluate" button next to each sample to evaluate the likelihood of dental caries for each patient sample.

Test Mode

14. Repeat steps 3–13 for the four patient samples and control.
15. Record in Table 1 the patient ID number of each sample.
16. Move the Bromocresol green color chart next to each tube.
17. Record in Table 1 the pH of each patient sample.
18. Select the "Evaluate" button next to each sample to evaluate the likelihood of dental caries for each patient sample. Record in Table 1 your evaluation of each patient sample.

Table 1. Results and Evaluation

| Patient ID Number | pH | Patient Evaluation |
|-------------------|----|--------------------|
| | | |
| | | |
| | | |
| | | |
| Control | | |

Do You Understand?

1. The likelihood of dental caries is related to the pH of a saliva sample. Is the relationship between susceptibility to dental caries and pH a direct or inverse relationship? Provide a possible explanation why this relationship leads to an increased likelihood of dental caries.
2. List two types of bacteria when present in high enough concentrations that are associated with an increased susceptibility to dental caries in a patient.
3. How does the Snyder test “recognize” these two types of dental caries associated bacteria?