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**One Bite Out of Crime**

**Forensic Odontology Lab**

**Rationale:**

In this activity, students will be able to explore the world of forensic odontology, the study of teeth and bite marks, to identify bodies and other aspects of certain crimes, by solving a classroom “whodunit.” Students will observe the role of dental matching.

**Background:**

One afternoon, a teacher was about to enjoy a chocolate bar that he received as a gift. As he pulled back the wrapper, he noticed it already had a bite out of it. He knew the bar was intact before class, so he suspected someone in the room took a bite while he was in the hallway before the tardy bell. A copy of the bite mark was produced into a piece of foam for comparison. It is your job as a forensic odontologist to observe and compare various bite marks to conclude who took the bite.

**Materials:**

2 foam cups

Gloves

Stereoscopic microscope or magnifying glass (if needed)

**Procedure:**

1. Take a foam cup and divide it in half vertically. Repeat this for a second cup. \*\*\*For safety and cleanliness, always handle the foam cups with gloves.
2. Gently bite into the foam until you leave bite marks. Do not bite completely through.
3. Leave two samples blank and label each of the others with your initials.
4. Turn in all four “bite marks” to the teacher, who will set up the lab groups.
5. You will receive a sample labeled “Crime Scene” and one for each of the “suspects.”
6. Observe and compare the crime scene bite mark with the suspects, using magnification if needed.
7. Answer the following questions.



**Data:**

Sketch the Crime Scene bite marks for reference.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Upper Teeth** |  |  | **Lower Teeth** |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |  |

**Questions:**

1. What is your conclusion for this activity? Who made the bite marks? Give 3 reasons to support your answer.

2. How can bite marks be used to solve crimes?

3. What types of crimes would be associated with bite marks?

4. Who has sharper teeth: young or old people? Why?

5. Can this help you determine the age of the person who made the bite marks?

6. What other distinguishing features are on teeth that can help identify?

**Forensic Odontology Lab Key**

1. Answers will vary. Make sure you remember who belonged to the Crime Scene.
2. Bite marks are unique individuals, just like fingerprints. They can help identify a specific person.
3. Assault, sexual assault or rape, crimes involving children, etc.
4. Young people have sharper teeth because they have not “used” them as much as older people. Compare them to the “needle-sharp” teeth of puppies.
5. Yes, it can help determine at least an approximation of age.
6. Other features include chips, holes, fillings, crowns, etc. that can be evident on a bite mark.