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GREAT JOB!

Exciting Careers in Science, Technology, Engineering, and Math

EDUCATOR GUIDE

Segment Topic: Forensic Artist

Ohio Academic Content Standards/Benchmarks Grades 6-8

2002 Ohio Science Standards:

Scientific Ways of Knowing

Benchmark C. Give examples of how thinking scientifically is helpful in daily life.

Life Sciences

Benchmark A. Explain that the basic functions of organisms are carried out in cells and groups of specialized cells form tissues and organs; the combination of these cells make up multicellular organisms that have a variety of body plans and internal structures.

Science and Technology

A. Give examples of how technological advances, influenced by scientific knowledge, affect the quality of life.
B. Design a solution or product taking into account needs and constraints (e.g. cost, time, trade-offs, properties of materials, safety, and aesthetics).

Scientific Inquiry

A. Explain that there are differing sets of procedures for guiding scientific investigations and procedures are determined by the nature of the investigation, safety considerations and appropriate tools.

2010 Ohio Science Standards:

Grade Band Theme: (Grades 6-8) Order and Organization

This theme focuses on helping students use scientific inquiry to discover patterns, trends, structures and relationships that may be described by simple principles. These principles are related to the properties or interactions within and between systems.

Pre-viewing Activity:

1. Tell students that they will be learning vocabulary words for an upcoming video. The video features a career that combines science and art (forensic artist). Provide students with the vocabulary words and have assigned small groups research definitions for the words.

   Vocabulary words:

   zoology
   biological anthropologist
   anatomical position
   skeletal biology

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2. Based on the definitions, have each student predict what science job they think the video might be about. Have students share their predictions.

Active Viewing Procedures:

1. Provide students with a **FOCUS FOR MEDIA INTERACTION** by asking the class to carefully listen and raise their hand when they hear the job tile of Dr. Linda Spurlock. **PLAY** the video to the scene of Dr. Spurlock in front of the door at the 00:15 mark and **PAUSE**. Check for student comprehension (Job Title: Director of Human Health at the Cleveland Museum of Natural History).

2. Provide students with a **FOCUS FOR MEDIA INTERACTION** by asking them to listen for what the Police Department periodically asks Dr. Spurlock to do. **PLAY** the video to the scene of the skull at the 00:26 mark and **PAUSE**. Check for student comprehension.

3. Tell students that for the next couple minutes they are going to view the video of Dr. Spurlock in action. Provide a **FOCUS FOR MEDIA INTERACTION** by asking students to listen for what a biological anthropologist does, steps followed by a forensic artist, and what is needed for a "positive ID." **PLAY** the video and **PAUSE** at the 3:18 mark at the sketch of a human mouth. Check for student comprehension.

4. **FOCUS FOR MEDIA INTERACTION** by telling students that they are going to watch the remainder of the video and they should listen for the answers to the following questions.

   *What caused the wound in one of the skulls Dr. Spurlock used?
   * What Ohio University did Dr. Spurlock study skeletal biology?
   * What two fields did Dr. Spurlock blend into a rewarding career?

   PLAY the remainder of the video. Check for student comprehension.

5. Tell the students that Dr. Spurlock stated that, "You don't know until you try" when it comes to careers. Let the students know that they are going to try being a Forensic Scientist by participating in an online game.

Post-Viewing Activity

Additional Post-Viewing Questions (Check for Comprehension/Understanding)

1. How did Dr. Spurlock use her knowledge of science principles to help her in reconstructing facial features of the skulls?
2. What were some of the key parts of the skull that Dr. Spurlock examined in order to recreate the facial features?
3. How are patterns and data important to Dr. Spurlock's work?

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CSI: Web Adventures

1. Show students CSI: Web Adventures http://forensics.rice.edu/index.html. Tell students that this award winning educational game will give them a chance to apply their skills as a forensic scientist. Allow students adequate time to play the game (30+ minutes).

2. After completing "CSI: Web Adventures," have students share their experiences, successes and challenges. Make comparisons between "CSI: Web Adventures" and the video featuring Dr. Spurlock.

3. Encourage students to keep their eyes open for a "Great Job!" in careers that involve science, technology, engineering and math!

Additional Web Sites

Ohio University: Forensic Science Career Information
http://www.ohio.edu/chemistry/forensic/career_information.htm

Cleveland Museum of Natural History
http://www.cmnh.org/site/Index.aspx

Kent State University: Department of Anthropology
http://dept.kent.edu/anthropology/undergrad/program.html

Forensic Files on truTV
http://www.trutv.com/shows/forensic_files/index.html

Sloan Career Cornerstone Center
http://www.careercornerstone.org/

WVIZ/PBS ideastream "Imagine"
http://www.ideastream.org/imagine

PBS Teachers: STEM Education Resource Center
http://www.pbs.org/teachers/stem/

Career Day: Exploring Careers in Science, Technology, Engineering, and Mathematics
http://www.fcps.edu/fairfaxnetwork/career_day/index.html

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