

SUNSCREEN Lesson

Objective: Using prior knowledge from previous lessons, students will gain a better understanding of “Exposure” through Sunscreen Lab. Upon completion of the lesson, students will re-evaluate the questions posted at the beginning of the unit to identify which were answered, what questions do they still have, how will they apply this to their personal health choices.

EALR’s: 2.1, 2.3, 2.4, 3.1

Materials: Long Black Light Bulb, 2 x 4’s to create base, Various lotions with varying SPF’s, Non Latex – Powder Free Gloves, Glow in the dark clear beads, small clear containers, Posters from first lesson, Student Journals, Recording Sheet, small piece of cardboard

Engage: Students will predict the differences between the various SPF levels. They will discuss their own personal use. Reflect on the following questions:

- *Have you ever had a sunburn?*
- *Have you ever had a sunburn which caused blisters and/or peeling?*
- *How often do you pay attention to SPF levels?*

Explore: In the same small groups send a runner to the supply station. Have materials presorted to avoid wasted time. Using the Recording Sheet, have students discuss their predictions for the lotions. Students will put a small application of lotion on the clear container. Each container should have an equal amount of lotion. Each container should be placed on their cardboard (make sure you know the SPF level for each container). Taking turns, groups should place their cardboard under the black light for approximately 1 minute. Notice how the beads change colors. Remove cardboard and look at the color variations.

Explain: Students will record their results on their Recording Sheet.

- *Were your predictions correct?*
- *What does this say about “exposure”?*
- *How could you lower your cancers of certain cancers linked to excessive sun?*

As a class, students will compare and contrast their predictions and conclusions. Teacher will refer to the previous slide show to clarify vocabulary and any other questions that came as a result as the experiment.

Evaluate: Upon completion, students will revisit their group posters and personal student journals. In original groups, students will look over their questions. Analyze (past slide shows, response sheets, journal responses, etc.) what they’ve learned through the unit and apply that to their initial questions. Looking at their top 3 questions, were they answered? What do they still want to know?

Finally, students will write a 1 page, MLA – Formatted Essay on the unit answering the following:

- *How did this unit impact their choices and behaviors in regard to their health? Will they make a conscious decision to alter their purchases? Why or why not? What information had the greatest impact? Explain.*

Sunscreen lesson

Prep: dispense lotion & sunscreen on 2 paper plates.

Give each pair of teachers a (1) Ziploc w bead boxes and sharpie, and (2) a black cardboard

1. The lesson is in your binder.

You will receive the assembled Sunscreen Kit today.

Thanks to Susan's administrative assistant Robin for assembling the kits.

2. Let's spend 7 min. reading the factsheet,
Protecting Your Skin from UV Exposure

3. Take out the student worksheet and Ziploc bag.

Concept:

The beads in the small boxes turn color when exposed to UV light.

The objective is to see and compare how effectively lotion and various SPFs prevent the UV beads from being exposed to UV light

First, answer the Qs on the front side of the student worksheet (Do this)

Next, prepare the boxes: Procedure is at top of student worksheet:

(1) label boxes

(2) apply lotion

(3) line up the boxes on the black cardboard, in the order of your prediction, from most exposed to UV, to most protected.

(4) We have 2 UV flashlights, or students can go outside & place them in the sun for about 1 minute. The beads are exposed to UV and turn color even if it's cloudy.

(5) Quickly turn the boxes over to see the color of the beads.

(6) Record your observations on the grid on Q4 and answer the questions.

Protocol is on the student worksheet

When finished:

Discuss results

There are Engage Qs on the Lesson Plan:

Have you ever had a sunburn?

Have you had a sunburn that caused blisters or peeling?

Do you use sunscreen?

How frequently do you reapply?

How much sunscreen do you use?

Do you pay attention to the SPF?

What's something you learned today?

Student Worksheet - Sunscreen Activity

Name _____ Period _____ Date _____

Procedure:

1. Label the bottom of each bead box with the Sharpie: Control, Lotion, SPF 15, 30, 50
2. Apply lotion and 3 Sunscreen SPFs evenly to the clear lid of 4 bead boxes. Apply as much as you would put on your own skin. Nothing is applied to the Control box lid
3. As a group, complete Q1-3 on the Student Worksheet
4. Place the 5 bead boxes on the black poster board. It will help to put them in the order of your predictions
5. Place the poster board with bead boxes under the black light or in the sunlight for 1 minute
6. Remove the cardboard from the UV light and quickly look at the intensity of color of the beads in each box. Do it quickly as the color fades in a few seconds
7. Record your observations on the grid in Q 4 and answer Q 5-9 on the Student Worksheet
8. After the activity, thoroughly clean the lotion and sunscreen off the box lids with a paper towel. Put the 5 boxes and Sharpie pen back in the Ziploc bag

Before you do the lab, answer Questions 1 - 3:

1. How will you know whether or not the UV beads have been exposed to UV radiation? _____

2. What do you expect to see in each box after you place it under the black light or in the sun? Fill in the grid below with your predictions:

Box #	Box 1	Box 2	Box 3	Box 4	Box 5
Lotion type:					
Prediction:					

3. Explain your predictions: _____

4. Now do the lab and record your observations on this grid:

Box #	Box 1	Box 2	Box 3	Box 4	Box 5
Lotion type:					
Observations:					

5. Were your results the same or different from your predictions? How? _____

6. How well does sunscreen protect the beads from UV exposure? _____

7. Does lotion protect from UV exposure? _____

8. Does the sunscreen SPF make a difference for how much UV radiation exposure the beads receive? _____

9. What did you learn about the skin's exposure to UV radiation from this exercise?

9. What else do you want to know about sunscreen and UV radiation? _____



Sunscreen Activity

Kit Contents:

13 ziploc bags (for groups of 2-3 students)

Each ziploc bag contains:

- 5 small boxes of UV beads
- Sharpie pen

One bottle each:

- Lotion
- SPF 15 sunscreen
- SPF 30 sunscreen
- SPF 50 sunscreen

Needed:

- Sunlight or UV light or flashlight. See Sunscreen lesson for instructions.

Curriculum materials:

- Sunscreen lesson
- Fast Facts about Protecting Your Skin from UV Exposure
- Student worksheet
- Kit contents & resupply list
- Download at:
<http://deohs.washington.edu/ceeh/sites/deohs.washington.edu/ceeh/files/Sunscreen%20and%20UV%20Radiation.pdf>

Resupply list:

- lotion
- SPF 15 sunscreen
- SPF 30 sunscreen
- SPF 50 sunscreen
- Copy *Fast Facts about Protecting Your Skin from UV Exposure* for each student
- Copy Student Worksheet (one per student group)

