Name: _____ ***Date:*** _____

Classroom activities

Activity 1: Bioluminescence.

1. Hand out a light stick to each student.
2. Observe and record on the chart a description of the light stick, including color and transparency.
3. Shake the light sticks. Are there any reactions? Ask students to suggest what action is necessary in order to activate the light stick.
4. Have students bend the light stick and observe the reaction. **(Do not shake the light stick)**
5. Prediction
6. Shake the light stick and record your observations, including any changes in color and temperature.

Materials:

- Light sticks
- Objects that glow in the dark, such as stickers or plastic stars
- Flashlight
- Laundry detergent that contains whitening agents (Gain, Tide, Purex, All)
- Small transparent plastic cup
- Black light (UV light)

Activity 2: Fluorescence.

1. Hand out to each student a small transparent plastic cup filled with laundry detergent. Observe and record the color and temperature (hot, cold, warm) of the detergent. Explain.
2. Shine the black light onto a laundry detergent sample. Describe.
3. Turn the black light off and observe the laundry detergent. Record your observations and explanations.
4. Shine the black light on other objects in the room such as clothes, hands, furniture, etc. Record your observations.

Bioluminescence	
Description: Color, transparency	
Observations	
a. Shake the light sticks	
b. Bend the light sticks - **DO NOT SHAKE** - Does the light or glow spread to the rest of the stick, or does it remain focused on the part of the stick that was bent?	
Prediction	
a. What will happen if students shake the light stick?	
Observations	
a. Shake the light sticks - Any changes in color, temperature, etc.	
Fluorescence	
Description: Color, temperature	
Explain	
a. How the laundry detergent could glow?	
Describe	
a. Shine the black light and describe why does the laundry detergent appear to glow?	
b. Turn off the black light. - Does it continue to emit light? - Why do you think the laundry detergent no longer appears to glow?	
Observations	
a. Shine the black light on other objects	

in the room such as clothes, hands, furniture, etc. - What causes some of these other objects to appear as if they are glowing? - How is this type of fluorescence different from what the students observed during the prior activity?	