NAME_____

National Chemistry Week 2024: Picture Perfect Chemistry

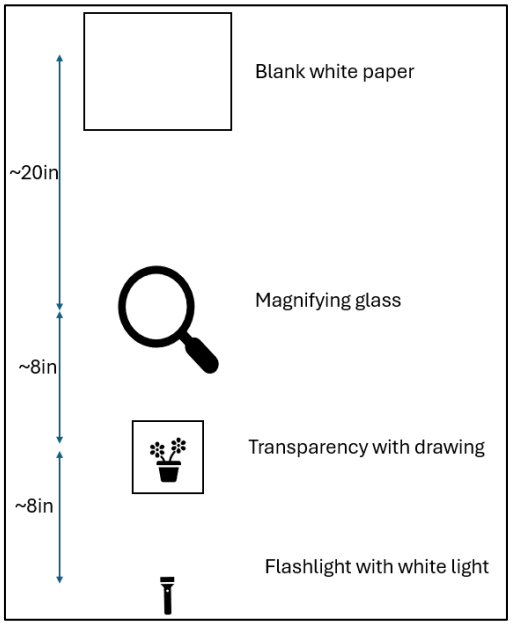
PART 1: Let's learn to focus….light!

a. Comparing Images

Take a moment to look closely at this blurry image. Who do you think it is?

b. Focusing Experiment Observations

Use the diagram on the right to set up your experiment.



Answer the following questions regarding what you see on the blank paper:

Does the image look the same as it does on the transparent paper?

What happens to the image when you move the transparent paper closer or further from the magnifying glass?

Now turn the page to see if your prediction of the blurry image was correct!

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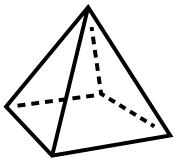
It’s Bluey!

c. Answer the questions below.

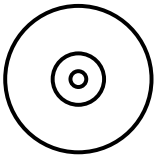
What differences do you see between the two images?

How can you relate this to the experiment you just did with a magnifying glass?

d. Describe what happens when…..



White light is pointed at a prism



A colorful CD is spun very fast

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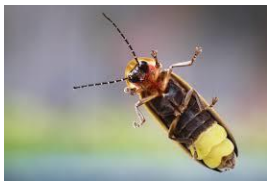
PART 2: Why do glow sticks glow?



a. The image on the right shows a firefly. Have you seen a firefly glow in the night? Why do you think fireflies glow?

b. Now let's understand the magic of colors. We have vials with a mixture of different chemicals, one of which is a special dye. What color does your group's vial look like? Write a description below.

c. Now let's understand the magic of creating light in darkness. Let's pour some "glow maker" (hydrogen peroxide) in your group's vial. What do you observe when the lights go dim?

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d. Have you ever seen a glow stick before? How a glow stick similar or different to your group's glowing vial?

e. Make final connections: what do fireflies, the glowing vial you just shook and glow sticks have in common?

PART 3: Invisible ink!

Use the cotton swabs and detergent provided to write a secret message or draw your favorite character on the black paper.

What do you think will happen when we shine a "special" flashlight on it?