

REFRACTION OF LIGHT – STUDENT ANSWER SHEET

Activity 1: Diffraction glasses and prisms

1. Describe what you see with the diffraction glasses.

2. Describe what you see with the prism.

3. What is the order of light seen through the prism?

Activity 2: Polarization

1. Define unpolarized light.

2. Explain what a polarizing filter does.

3. When your two polarizing filters are accepting light in the same direction, what do you see coming through the filters?

4. When your two polarizing filters are crossed and accepting light in different directions, what do you see coming through the filters?

5. Describe what you see when you place the mica vertically between the two sheets.

6. What happens to the color on the mica when you keep the mica vertical but rotate it slowly between the two filters or when you tilt it in or out?

7. What do you see when you place the Petri dish between the two filters and rotate or tilt it?

Activity 3: Splitting light

1. Describe or draw what you see when you place the calcite over the line.

2. Explain why the calcite crystal causes you to see two lines on the paper.

3. What happens to the lines visible through the crystal as the polarizing filter is rotated? Why is that happening?

Activity 4: Refraction of light in water

1. What appears to have happened to the pencil when it is tilted to the side of the cup with water?

2. Does the portion of the stick below the water look different from the portion of the stick above the water? How?

3. Explain why the water is causing the pencil to appear to be where it isn't. In other words, why are we seeing the refraction of light?