

➤ Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

➤ Objective(s):

- *Understand how polarization filters affect the electrical field of light waves.*
- *Calculate the intensity of light that passes through a polarization filter based on the original intensity of the light and the orientation of the filter to the light wave.*

➤ Notes:

During the video segment, use words, phrases, or drawings to take notes.

➤ Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. Which field of light is the focus of polarization?

2. How are the electric field vectors oriented relative to the direction of motion of the light wave?

3. Describe what it means for light to be unpolarized.

4. When light is polarized, the electric field vectors point in _____ direction.

5. When a filter points upward, what kind of polarized light passes through it?

6. When a vertically oriented filter overlaps with a horizontally oriented filter, how much light passes through the filters?

7. Complete the equation for Malus's law: $I_{outgoing} =$ _____

8. By what factor does a polarization filter reduce the intensity of unpolarized light?

9. By how much does a filter angled at 45° to polarized light reduce its intensity?
