

OPEN RESPONSE:

#4 Waves

When fireworks explode, they create light waves and sound waves. An investigation is performed to study the differences between the two types of waves. Three cameras capable of recording audio and video are set up at safe nearby locations in clear view of the fireworks.

- Camera 1 is placed in an open field.
  - Camera 2 is placed in a vacuum-sealed glass container.
  - Camera 3 is placed behind sheets of polarizing glass that block electromagnetic waves.
- a. Identify whether audio only, video only, or both audio and video of the fireworks will be recorded by **each** camera.
  - b. Explain **each** of your answers for part (a).

Suppose a camera records both audio and video.

- c. Will the light or the sound from the fireworks be recorded first? Explain your answer.