**Time 0:00 Introduction**

You will watch a short video about a research study on elephant communication. At various points, the video will pause and you will be asked to think about the research. You will not be able to continue to watch the video, until you have answered and saved your response to the prompt.

As you answer the prompts, keep in mind that some questions do not have a "right answer." You will have the opportunity to revisit your responses at the end of the video.

**Time 0:15 Embedded Prompt**

List at least three examples of ways in which animals of the same species communicate with one another.

**Time 2:00 Embedded Question**

In a few sentences, describe how you would design an experiment to determine whether elephants can detect and interpret the calls of other elephants through the ground.

Extension Questions:
- What are the controls, independent variables, dependent variables, and manipulations you will include in your experiment?
- What is the difference between a low- and a high-frequency sound?

**Time 2:52 Embedded Questions**

What do you conclude from these results?

So far, O’Connell tested the elephants’ response to a sound traveling above the ground. Which other condition is she likely to test next as part of her experiment?

Extension Question:
- Why do you think O’Connell started the experiment by playing the alarm sound through the air?

**Time 4:11 Embedded Question**

Predict what will happen when the shaker is turned on if elephants communicate using only sound traveling through the air and not the ground.

Extension Question:
- In your own words, explain the purpose of the watering hole, the shaker, the geophone, and the microphone in this experimental design.
Time 4:42 Embedded Question

Which of the following graphs best describes the results of the experiment? Justify your answer in two or three sentences.

A)

B)

C)
D)

Time 4:59 Embedded Question
What do you conclude from the results of this experiment?

Time 5:23 Embedded Question
What is a plausible explanation for why elephants responded differently to ground and air signals?

Time 5:47 Embedded Question
How could you test the hypothesis that elephants interpreted the ground signal as being farther away than the air signal?

Time 6:20 Embedded Question
Communication requires several components:

- a signal with information
- transmission of the signal
- receipt of the signal
- interpretation of the information within the signal

Provide an example of each of these components from the study.

Extension questions:

- Thinking about your own experiences, how do you use different forms of incoming information to interpret your environment?
- What do you do when the different forms of information are consistent with one another?
- What do you do if they are not consistent?