**Student Worksheet: AI in bioacoustics research**

**Directions**: Read the *Science News* article “[This bird hasn’t been seen in 38 years. Its song may help track it down](https://www.sciencenews.org/article/birdsong-track-rare-birds-purple-winged-ground-dove)” and answer the questions as directed by your teacher.

**Listening to the environment**

1. Based on your understanding from the article, define bioacoustics.

2. Explain how the study referenced in the article is an example of bioacoustics.

3. Name another use of bioacoustics referenced in the article. Find an article in the [*Science News*](https://www.sciencenews.org/) or [*Science News Explores*](https://www.snexplores.org/) archives that gives another example of bioacoustics.

4. What’s an animal or environment that you would like to study using bioacoustics? What would bioacoustics help you learn about the animal’s behavior or the environment? Come up with a scientific question.

**AI assistance**

1. What does AI stand for, and what does it do? Why do you think AI got the name that it did?

2. How did the scientists in the article use AI to help them answer their scientific question? Why was their scientific question particularly difficult to answer using common AI-bioacoustic methods?

3. Based on what you read in the article, how was AI useful in helping to answer this scientific question? If used in a similar way, how could AI be useful in helping to answer your bioacoustics-related scientific question posed above?

4. In addition to identifying trends in large data sets, AI can use data to predict outcomes or simulate complex scenarios. What is a research area where AI could be used in this way to benefit science research? With a partner, determine a specific research question that AI could help with. What role would AI tools play in investigating this research question? What challenges might researchers encounter when using AI in this way? What are some potential limitations of this use of AI tools?