

Grades: 4-5

SciGirls, “Butterfly Diaries”

This series showcases bright, curious real girls putting science and engineering to work as they answer questions and make unexpected discoveries in the world around them. In this episode Mimi and her friends explore a Minnesota milkweed patch, counting monarchs to help scientists track the butterfly population. These SciGirls then raise monarch caterpillars and use a video diary to capture their metamorphosis into butterflies.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- What is the author trying to say through the TV program? What from the text makes you believe this?
- What evidence does the TV show director give to support his or her central idea?
- What is this program “saying”? Cite evidence to support your analysis.
- What are the program’s supporting claims or reasons that support the central message?
- What is the author trying to say through the TV program? What from the text makes you believe this?

Setting the Stage:

- What is the Monarch Larva Monitoring Project?
- How do the girls participate in this project?
- What is the purpose of this project?

Data Collection:

- What data are the girls asked to collect?
- When researching a science question, why is it important to learn more about what you are studying?

Research & Brainstorm

- What do the girls learn about monarch caterpillars?
- What question do the girls decide to further research?
- What specimens do they bring home to study?

Data Analysis

- What patterns do the girls begin to see from the data they collected?
- What does the data collected help the girls to understand?
- Why do the girls think the data they collected will be valuable for scientists and researchers?

Mentor Moment

- What do the girls learn from their mentor?

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- Why is having a mentor important?
- What other data does the mentor suggest the girls look for after reviewing their original data?
- How do they continue their research?
- What conclusion do the girls reach about the caterpillars and milkweed?

Question Box 2

- What would you change about this program?
- If a part 2 of this program was created, what you like them to focus on?
- What would you like to research for extra credit? Why?
- What might you want next year's teacher to know about this program?
- Now that it's over, what are my first thoughts about this program? Are they mostly positive or negative? Explain?
- Why is research important? Why is it important to research, analyze data and repeat the process multiple times?

Box 3 (Tasks)

- It takes each girl 4 minutes to check a plant for monarchs. How many plants can they check in one hour? If the 3 girls and 12 university volunteers count monarchs for 1 hour, how many plants can they check all together? Explain your reasoning.
- Draw a model of the life cycle of the Monarch Butterfly.
- Draw a life cycle of the Milkweed plant.
- View the [Life Stages Cards](#). Compare and Contrast the animals on each card.

Box 4 (Enrichment)

- Describe how the Monarch Butterfly and the Milkweed plant help each other survive.
- List the steps the SciGirls used to raise the Monarch caterpillars.
- Watch [Butterflies: They Taste With Their Feet | Science Trek](#). Compare and contrast butterflies and moths. Write a poem or story to help a younger student understand the similarities and differences.

Box 5 (Extend/Real-Life)

- Describe how scientists track the Monarch Butterfly population.
- Think like a scientist. Watch [Live WebCam](#). Count how many different types of butterflies you find. Draw a sketch of each. Then try to identify the name of each butterfly you observed.