

DAY 13: Writing Scientific Reports

CULMINATING ACTIVITY

Teams continue to make connections between their text-based inquiry and science investigations to complete work on their reports and diagrams.



ABBREVIATED STANDARDS

- ELA and Reading TEKS: 5.11(B)(i)
- CCSS: W.5.2(A)(D)
- NGSS: 5-LS2-1, 5-PS3-1
- TEKS: 5.3(A)(B)(C)

Day 13: Writing Scientific Reports

Literacy Strategy: Writing like a scientist to report on and share findings from a study with others.

Science Concept: Scientists organize their data in a way that is easily understood by others, making it easier to discuss and share.

Science and Literacy Connection: At the end of an investigation, scientists share new knowledge with others, including articulating findings to support decisions that communities are trying to make.

Culminating Activity (90 minutes)

SUMMARY OF WORK THUS FAR

Throughout the unit, learners have read about schools around the U.S. that are reducing their food waste. They have worked in inquiry circles to investigate four different methods of disposing of food waste and how matter cycles and energy is transferred within the food disposal methods and conducted science investigations to explore how microorganisms participate in the cycling of matter and transfer of energy in living systems. By this point, teams have completed their Inquiry Charts, organized their reference lists, and collected useful information in their Investigation Journals; they have started working on their reports about their food-disposal method and their ideas for reducing food waste at their school; they have also begun (or completed) a diagram detailing matter cycling and energy transfer in their food-disposal method. Together, these activities have prepared learners to complete their reports and ultimately combine our knowledge about existing solutions to food waste and will make a recommendation about reducing food waste in our school.

OVERVIEW OF THE CULMINATING PROJECT

The culminating project for this unit consists of two parts: (1) each team will create a scientific report on the food-waste disposal method they have been investigating and their ideas for reducing food waste at their school, and (2) learners will participate in a whole-class discussion to combine their knowledge about existing solutions to food waste and make a recommendation about reducing food waste in their school; they will send the recommendation letter to the school principal (or other appropriate school official).

Today, learners will continue to make connections between their text-based inquiry and science investigations to complete work on their reports and diagrams. About 90 minutes of work time is recommended for this.

GUIDING QUESTIONS FOR THE CULMINATING PROJECT

Here are some guiding questions you might want to pose for the teams to respond to:

- How are schools around the US transferring organic matter (food scraps) from the school to somewhere else so that its stored energy can be used by living things?
- What did you learn about your food disposal methods that might help reduce food waste at our school?

MATERIALS NEEDED

- Investigation Journals with all documents, notes, etc.
- team Inquiry Charts
- access to materials for handwriting or typing a report
- access to materials for drawing diagrams or creating diagrams digitally

PROCEDURE

The *italicized statements* below offer suggested wording the teacher may choose to use in the lesson.

1. *In your inquiry circle, you became experts on one method of disposing of food scraps and how matter is cycled and energy is transferred in your chosen method. Food waste is a problem at every school, including ours. After reading about how schools around the US are reducing their food waste, you are ready to write about what you've learned and about your ideas for reducing food waste at our school. Today you will finish the report you started yesterday. (If needed, review the parts of a report and the guiding questions provided in yesterday's lesson.)*
2. *As a team, you will work together to write one report. You will want to make sure that your report demonstrates what you know about your method of food disposal and how matter cycles and energy is transferred within the food disposal method. You should also plan to finish your diagram showing matter cycling and energy transfer in your food disposal method and include this in your report. Tomorrow, you will share your report, including your diagram, with the class.*
3. *Remember that scientists use technical (or scientific language) because this language allows them to be specific and accurate. Scientists also translate their expertise in ways that nonexperts can understand. One way they do this is by explaining the scientific words and concepts they include so that everyone can understand what they mean. As you write your report, think about how you can include technical language and concepts and help your reader understand what you are saying.*
4. *As you continue working on your reports, I expect you to work as a scientific team. Be sure to use the data you collected in your inquiry circles and science investigations, including your Inquiry Charts, science notebooks, and any texts you used during your investigations.*
5. *Also include your Reference List Graphic Organizer with your report. (After the project has been explained and questions have been answered, children should be working on their reports during the time remaining.)*
6. (As the children work on their reports, move among the teams to offer support and guidance as needed and ask questions about their work.)

Science Language

- A **scientific report** describes all aspects of a science investigation and research.
- Scientific **diagrams** are drawings or representations that can help us understand an object, relationship, or a process, such as the cycling of matter and flow of energy.

Expanded Standards

Reading TEKS

5.11(B) Develop drafts into a focused, structured, and coherent piece of writing by: **(i)** organizing with purposeful structure, including an introduction, transitions, and a conclusion.

CCSS

W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **(A)** Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. **(D)** Use precise language and domain-specific vocabulary to inform about or explain the topic.

NGSS

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment; **5-PS3-1** Use models to describe a phenomena.

Science TEKS

5.3(A) develop explanations and propose solutions supported by data and models; **(B)** communicate explanations and solutions individually and collaboratively in a variety of settings and formats; **(C)** listen actively to other's explanations to identify relevant evidence and engage respectfully in scientific discussion.