

TEACHER GUIDE

PERFORMANCE TASK LESSON 32



Driving Question: *How can milk help athletes recover from physical exercise?*

What We Figure Out:

Students return to answer the Driving Question, *How can milk help athletes recover from physical exercise?* Students work together in groups to create final presentations of what happens in the body during exercise and how the milk that athletes consume after physical activity can help them recover.

3D Learning Objective:

Students **use multiple formats to communicate** how the **internal conditions of the human body change** in response to changes in external conditions (exercise, drinking milk).

Time estimate:

100 minutes

Materials:

Lesson 32 Student Guide
Lesson 32 Teacher Resource Rubric
Lesson 32 Student Handout Feedback Review
Lesson 32 Student Handout Peer Feedback Form

Targeted Elements

SEP:

INFO-H5:

Communicate scientific and/or technical information or ideas (e.g. about phenomena and/or the process of development and the design and performance of a proposed process or system) in multiple formats (including orally, graphically, textually, and mathematically).

DCI:

LS1.A-H1:

Systems of specialized cells within organisms help them perform the essential functions of life.

LS1.A-H3:

Multicellular organisms have a hierarchical structural organization, in which any one

CCC:

SC-H1:

Much of science deals with constructing explanations of how things change and how they remain stable.

SC-H3:

Feedback (negative or positive) can stabilize or destabilize a system.



	<p>system is made up of numerous parts and is itself a component of the next level.</p> <p>LS1.A-H4: Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and function even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (through negative feedback) what is going on inside the living system.</p> <p>LS2.B-H1: Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes.</p>	<p>SPQ-H4: Using the concept of orders of magnitude allows one to understand how a model at one scale relates to a model at another scale.</p>
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Directions



Part 1: Revising Presentations (Not Assessed)

Introduce the Performance Task by sharing with students that they will use what they have learned in the unit to complete a final performance task. Explain to students that they will now take everything they've learned throughout the entire unit and work with their group to revise their existing presentation components and create one presentation to fully explain to their chosen audience what happens in your body during and after exercise and how drinking milk assists with exercise recovery.

Review the list of presentation format requirements with students. Remind students that this is their final opportunity to revise and improve their presentations based on feedback. Share with students that they will now review the feedback provided by you and their peers in

Lessons 7, 14, 24, and 31 and implement any suggestions they choose in their final presentation. Encourage student groups to reflect on the feedback received and the revisions they can make to their script or written report. Reinforce the importance of incorporating feedback from perspectives other than their own to improve on their presentation, and that even if students disagree with the feedback, try to find the best intent in how that feedback can help them. Share that students can use any of the resources in any of the modules to support them in this final performance assessment task.

Start by having students carefully review the feedback received from their peers. Allow students time to work in their groups to analyze their feedback. Students can record their brainstormed ideas about how they want to implement feedback from the teacher and from their peers on the Lesson 32 Student Handout Feedback Review. As students work, circulate the room to support students in interpreting the feedback. Ask questions such as:

- What were some common themes in the feedback you received?
- What were some recurring feedback points across the feedback from different peers?
- How will you prioritize implementing the feedback you received?
- What feedback seems most critical? What feels most relevant? What feedback feels like you should implement first?

Help students identify additional resources or supports as needed to implement their feedback and complete their final presentations. This could include providing access to relevant materials, support from you, or additional collaboration time with peers. Regularly check in with students to monitor their progress in implementing the feedback. Provide guidance and encouragement as needed to keep them on track.

STUDENT SUPPORT

The scaffold table for preparing a presentation previously included in Lessons 7 and 14 is intentionally not included in the Lesson 32 Student Guide. This is to allow students to develop their scripts independently. You have the option to share the scaffold table with any students who may still need additional support.

Direct students to the Look Fors on their Lesson 32 Student Guide Part 2: Communicating Scientific Information in a Presentation as a checklist or outline to help draft their presentation. Explain to students that these are the same Look Fors they used in each module's mini-presentation. Read the Look Fors together, and share that students can use these Look Fors as a guide on how to achieve proficiency on the task. You can use the Lesson 32 Teacher Resource Rubric to assess students' performance on this task.

Give students time to develop and complete their presentations.

CCSS SUPPORT

SL 9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Through their work on their final presentations, students are working to improve their work. Students should consider organization, audience, and the requirements of the task when developing their presentations.

Conclude this part of the lesson by having students reflect on the growth and improvement students have demonstrated throughout the process of receiving feedback and making revisions. Most importantly, ask students to reflect on how respectful the feedback process was, how useful the feedback from their peers was, and how to take different kinds of feedback and find the most meaningful pieces to implement.



Part 2: Communicating Scientific Information in a Presentation (Assessed)

After students have implemented their revisions, each group should share their presentations with their chosen audience, either in person or digitally. Allow time for each group to present, which may necessitate allowing students time to do so over the course of a few days. If students present to each other in class, you can ask students to assess each other's presentations as well. If you do so, direct them to use their Lesson 32 Student Handout Peer Feedback Form. Students may also ask their chosen audience to provide an assessment of their work. Finally, here you can collect student presentations and scores and assign a summative grade.

TEACHER SUPPORT

You can use the Lesson 32 Teacher Resource Rubric to assess students' performance on this task. Because this is the second opportunity for grading these artifacts, you can consider replacing the grade and acknowledging growth from students' first grades that were given at the end of each module, assigning a new cumulative grade, or grading the task separately. No matter your choice, share your grading approach to the final performance task with students so that expectations are clear.

STUDENT SUPPORT

Give students the opportunity for self-assessment by having them complete Lesson 32 Student Handout Self-Assessment, which includes the SEP Engagement Self-Reflection and Presentation Self-Reflection. This is an **optional activity** to help students reflect on their learning in this unit and their engagement with the communicating information SEP. This is the same optional assessment tool from Lessons 7, 14,

24, and 31. This self-assessment can give insight into how students feel engaging with this SEP. It also offers insights into how the students improve on this practice throughout each module. After completing this form, students may share their responses with an elbow partner or submit them directly to the teacher.



Part 3: Reflections

Share with students that they have now completed the unit. Take some time to congratulate students on their progress and for students to engage in a metacognitive reflection about how their thinking about the human body has changed since the start of the unit. To guide students through a brief self-reflection experience about their learning in the unit, consider asking students the following:

- Ask students how their ideas about exercise recovery with milk have changed since the start of their learning.
- How does what you learned in this unit make you think differently about your body?
- How does what you learned in this unit make you think differently about the exercise you do? About your choices for recovery? About nutrition generally?
- How do you think you can use the science practices (eg, analyzing scientific literature, creating presentations using multiple sources of evidence) you engaged in this unit in school or outside of school?

In addition, you can have a celebration share-out in which you encourage students to give a shout-out to their peers about something they did well in preparing and delivering their presentations.