

PO-TATO, PO-TENTIAL

Grades 1-4 | 1 Class Period



OVERVIEW

In this lesson, students will explore how energy is released in the body and the costs and benefits of fast and slow release carbohydrates. They will develop some nutritional vocabulary, and understand how potatoes grow.

ESSENTIAL QUESTIONS

- Why does my body need energy, and where do I get energy from?
- What is a carbohydrate? What are the different kinds?
- What choices can I make to help my body do things and have energy over a long period of time?
- What are: metabolism, energy and carbohydrates?
- What is the meaning of fast & slow release?

MA STATE FRAMEWORKS

Physical Activity and Fitness [PK.2.PF]

2. Identify and describe strengths related to physical activity and movement skills and those for which extra effort is needed to experience success
5. Identify physical activity as a health-promoting habit that contributes to overall health and wellbeing, as well as the benefits of these habits on physical well-being (e.g., heart health, muscle building) and mental health (e.g., stress management).

MATERIALS

- Construction paper
- Image print-outs
- Coloring tools
- Envelopes (or more paper & tape)

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PROCEDURE

Warm Up

Understanding Energy Use

Students will explore the concept of carbohydrates by thinking about how and when they use energy. Ask the question: "I use energy when..." and record their responses on the chalkboard. Then, ask the students to imagine choosing foods that provide either 5 minutes or 60 minutes worth of energy. Refer back to their list of energy-using activities and ask students to consider:

- Which activities are better suited to 5 minutes of energy?
- When would 60 minutes of energy be more helpful to you?
- What activities on the list do you think require more or less energy?

These questions will help students begin to think about the difference between quick and sustained energy sources.

Main Activity

Fast vs. Slow Energy Sorting Game

Students will play a sorting game. On the board, label two columns: "Fast Energy" and "Slow Energy". Hand out images of different foods—ranging from candy and chips to potatoes, sweet potatoes, beans, and brown rice and ask students to sort the foods into the appropriate columns based on whether they provide a quick burst or sustained energy.

Use questions like these to spark discussion:

- What do you notice about the foods in the "fast" column vs. the "slow" column?
- Which group do you usually prefer? Why?
- Do you notice a difference between what you eat and what your grown-ups eat? Why?

Explain to students that simple carbohydrates like those found in fruits and sugary snacks break down quickly and flood the body with sugar which gives a short burst of energy. For sustained energy, complex carbohydrates, proteins, and healthy fats from foods like whole grains, legumes, and sweet potatoes are digested slower. While potatoes are a complex carbohydrate they do break down faster than others complex carbohydrates.

EXTENSIONS & VARIATIONS

To help students connect with the concept of slow release and patience, create a time capsule. Tell students that it takes 90–120 days for a potato to grow, and ask students to write or draw something meaningful to them and seal it in an envelope. Keep the envelopes hidden until later in the school year, when the capsules are returned. This delayed reveal reinforces the idea that good things—like lasting energy and a growing potato—take time. Optionally, you can add a surprise inside each envelope to make the reveal even more rewarding.

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HANDOUT



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