



Grain on the Move

This lesson and its partner lesson, *What is in my Bread?*, are informed by the big idea of Community. Students learn that grain, a basic human need, travels through the port community of Prince Rupert to communities in other parts of the world.

CLASSROOM TIME REQUIRED

One 45 – 50 minute session

LEARNING OBJECTIVES AND OUTCOMES

Students will:

- Learn that grain arrives at the Prince Rupert port by train and leaves by ship
- Demonstrate how grain moves through the main parts of a grain handling/marine terminal

MATERIALS REQUIRED

- Photographs of the Port of Prince Rupert grain elevators, a covered rail hopper car, a dry bulk carrier, rail yard, conveyor, marine terminal, and berth
- Video of grain being unloaded and loaded at the Port of Prince Rupert
- KWL chart
- Whiteboard, blackboard or flip chart

TECHNOLOGY RESOURCES REQUIRED

A computer and projector (or Smart Board) to display the photographs

TEACHER PREPARATION

- Set up projector or Smart Board so pictures and video can be accessed during lesson.
- Create a KWL chart on the board or on chart paper.

CRITICAL VOCABULARY (see Glossary for definitions)

Barley	Grain
Berth	Grain elevator/vertical silo
Conveyor	Marine terminal
Covered hopper car	Rail yard
Dry bulk carrier	Wheat

LESSON DEVELOPMENT

Activity 1:

- Show the class the photographs of:
 - A covered rail hopper car
 - Rail yard
 - The grain elevator/vertical silo at the Port of Prince Rupert
 - Conveyor
 - Marine terminal
 - Berth
 - A dry bulk carrier
- Lead a discussion with the class about the objects in the photographs. Through the discussion, and with as much teacher input as necessary, the students should learn the names of the objects and understand that they are connected with the Port of Prince Rupert. Questions could include:
 - Do you know what this is?
 - Have you seen any of these things in or around Prince Rupert?
- Write the name of each object on the KWL chart and use the chart to record what the students **already know** and what they **want to know** about the grain elevators, the hopper car, and the dry bulk carrier.

Example of a KWL Chart

What I know?	What I want to know?	What I learned?

- Show students the video of grain being unloaded and loaded at the Port of Prince Rupert.
- Prompt a class discussion about the video. Questions could include:
 - What was the most interesting thing that you learned from the video?
 - What was the most surprising thing that you learned?
- Complete the **learned** section on the KWL chart.

Activity 2:

- Referring to the video and to the pictures of the hopper car, the grain elevators, and the dry bulk carrier, lead the identification of the key stages in the journey of the grain through the port.
- Demonstrate the sequence of the stages.
- Have the students work in small groups to sequence and to represent the journey of the grain through the port. The journey may be represented (according to teacher or student choice) using one of the following methods:
 - Drawing
 - Acting it out through a short skit or play
 - Creating a puppet show (with images stuck to popsicle sticks)
 - Making a comic strip

MODIFICATIONS

Vary the number of stages in the sequence according to students' age/ability (from a minimum of 3 to 5 – 7).

ASSESSMENT

- Assess students' ability to demonstrate the correct sequence of the stages in the journey of the grain through the port in the small group activity.
- Use the KWL chart to map and record students' learning about the main parts of a grain handling/marine terminal.
- Evaluate students' work by pre-determining the following evaluation criteria with students:
 - Includes 3 – 7 stages in the journey of the grain through the port
 - Stages are in the correct sequence
 - Demonstrates an understanding of how grain moves through the port of Prince Rupert

LESSON PLAN RESOURCES

- Photographs of the Port of Prince Rupert grain elevators, a covered rail hopper car, and a dry bulk carrier
- Video of grain being unloaded and loaded at the Port of Prince Rupert