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3

Magnificent Machines at My Port

This lesson on transportation modes is informed by the big idea of Community. Students demonstrate, through drama, the skills of cooperation and collaboration as they learn about the transportation technologies in the port community of Prince Rupert. The lesson is suitable for Grades K-3. As an extension, students can learn about nautical terminology as they play *Cargo Ship*.

(The images made in the K-3 Work and Home lesson may also be used in this lesson.)

CLASSROOM TIME REQUIRED

40 – 50 minutes

LEARNING OBJECTIVES AND OUTCOMES

Students will:

- Acquire an understanding of transportation modes in the context of transporting goods and people through participating in drama activities on the machines and equipment used in types of work related to the Port of Prince Rupert
- Identify effective work habits (e.g., staying on task, being prepared, co-operating with others)
- Demonstrate willingness to participate, cooperate, collaborate, share ideas and engage actively in drama explorations
- Reflect on classroom drama experiences

MATERIALS REQUIRED

Materials (books, hand out, paper and pens, art supplies) needed by teacher and students.

TECHNOLOGY RESOURCES REQUIRED

- Computer and projector or Smart Board
- Copy of *Persistence and Change: A History of the Ts'msyen Nation*
- *Brainstorming Web Graphic Organizer*
- Video of the Fairview Container Terminal, the Ridley Coal Terminal and the Prince Rupert Grain Terminal (on the Learning Gateway site)
- Painted images from Work and Home, K-3 The Port in My Town
- *Team Work Self-evaluation Rubric*
- Slide show images (see Resources):
 - Cargo handling equipment

- Fork lift
- Gantry crane
- Log grappler
- Top lift
- Trucks and Chassis
 - Bomb cart
 - Freight truck
- Ships
 - Coast Guard vessel
 - Container ship
 - Dry bulk ship
 - Tug boat
- Rail
 - Container
 - Hopper car
 - Train engine

TEACHER PREPARATION

Computer and projector or Smart Board for sharing visual resources

CRITICAL VOCABULARY (see Glossary for definitions)

Bomb cart	Freight truck	Starboard
Bow	Gantry crane	Stern
Coast Guard vessel	Hopper car	Top lift
Container	Log grappler	Railway locomotive
Container ship	Midships	Tug boat
Dry bulk carrier	Port	
Fork lift		

LESSON DEVELOPMENT

Activity 1

- Read the following quote from page 72 of *Persistence and Change: A History of the Ts'msyen Nation* and have students guess what the subject of the riddle or puzzle is:
“There is a creature living. It has one foot, one hand, two cords, a big belly and is the strongest thing in the world.” (Sidney Campbell)

Give the students hints, such as “it moves a boat”. The answer is “a sail used on a canoe”. A puzzle is a *gulyeey’ik* (meaning “guess what it is”).

- Explain to the students that in small groups they will create a frozen image puzzle using their bodies and faces, and that their classmates will guess what they are being and doing. The images will depict transportation machines and equipment that are used in types of work related to the Port of Prince Rupert.
- Brainstorm with the students the items that they use for transportation and are familiar with in their community (for example: car, canoe, walking, bicycle) and make a list.
- Describe to the students the drama process of creating a frozen image and bringing it to life:
 - Students are given time to create their frozen image
 - The teacher counts down, 3, 2, 1, *freeze* and the students freeze in position and hold their pose for 30 seconds (or so)
 - Then the teacher counts down, 3, 2, 1, *come to life* and the students bring their image to life (with or without sound) for 30 seconds (or so)
 - The teacher ends the drama by asking students to freeze and then relax
- Having described the drama process, model it for the students by freezing in position as someone using a transportation mode (e.g. riding a bicycle or driving a car) and bringing your image to life for a few seconds. Have the class guess what you are doing.
- Choose a transportation mode from the brainstorm list and ask all the students to create individually a frozen image of someone using that form of transportation. When students are ready with their frozen images, go through the drama process described above.

(As the students work on their frozen images and mimes, help them to think carefully about how their faces and bodies and actions are communicating what they are doing. Ask them to think about their facial expressions, for example. What are they feeling as they travel and how is their face communicating that?)

- Ask students how they might work in pairs to create a frozen image of riding in a car. What roles are needed?
- In pairs, students choose for themselves a form of transportation from the brainstorm list and create a frozen image depicting people in that form of transportation.
- In turn, the pairs of students share their frozen images and bring them to life (using the drama process described above). The rest of the class guess which form of transportation they are representing.

Activity 2

- Focusing now on the main modes of surface transportation – road, rail, ocean – lead the class in a brainstorm of the types of equipment and machines associated with each mode. Use a *Brainstorming Web Graphic Organizer* for each mode of transportation to record student’s answers on the board.
- Watch the videos of the Fairview Container Terminal, the Ridley Coal Terminal and the Prince Rupert Grain Terminal and/or play the slideshow of transportation machines and equipment at the port.
- Put students into groups of four and then review with them how to work effectively in groups:
 - Listen carefully
 - Make sure everyone has a turn to speak and has a part to do
 - Be positive – no “put downs” or discouraging words

- Give reasons for your opinions
- Speak softly
- Using the painted images from the K-3 Work and Home Lesson, *The Port in My Town*, as scenery, students work in groups of four to create a frozen image of a piece of transportation equipment or machine of their choice. Students can use their own bodies to create the transportation equipment or machine as well as being the people who would use it. Give the groups enough time to discuss and develop their image and to practise bringing it to life. Provide support to the groups as necessary. Students may include sounds and sound effects, at your discretion.
- When the time allowed has elapsed and all students are ready to share their drama work, prepare the groups to take it in turns to show their frozen images and mimes. Review with the class the rules of being a good audience:
 - Pay attention – watch, listen and think about what your classmates are performing
 - Be quiet – keep your questions or comments until the end
 - Ask questions that help the performers explain their roles
 - Give positive feedback
 - Take ownership of your statement, use an ‘I’ statement
- Group by group, with the rest of the class acting as audience, the students form their frozen images and then bring them to life (following the drama process described above). After each group has performed, you and the rest of class may ask questions and give positive feedback.
- At the end, debrief with students about the drama experience ask:
 - What did you enjoy about this experience?
 - What was challenging / difficult about this experience?
- How did it help you understand about the transportation equipment and machines used in work in your community?

ASSESSMENT

Lead students through the evaluation rubric at the beginning of or during the lesson where they decide what cooperating with others, participation and collaboration looks like. The process of developing the rubric with the students could include:

- Students brainstorm criteria;
- Teacher and students negotiate criteria;
- Using student language, co-develop standards, or a rubric outlining the how the students will work together.

Cooperation and collaboration in drama includes all of the elements for the group work in Activity 1. In addition, the following behaviours are important:

- Sharing ideas by using ‘I’ statements
- Staying on task

Being a good audience member includes:

- Paying attention – watching, listening and thinking about what classmates are performing
- Being quiet – keep questions or comments until the end

- Asking questions that help the performers explain their roles
- Giving positive feedback

Students can use a self-evaluation rubric to reflect on/assess their participation/contribution. (See *Attachments* below.)

Some possible reflections on group or teamwork include:

- Successful teams make decisions together
- Successful teams have shared goals everyone knows and agrees on
- Successful teams have trust and openness
- Team members can express a new idea without the fear of being embarrassed or criticized
- Successful teams promote a sense of belonging. Everyone feels valued
- In successful teams, differences of opinions, ideas and experiences are valued

MODIFICATIONS

Categorize slide show images by transportation mode using the *Brainstorming Web Graphic Organizer*.

EXTENSIONS

Drama activities:

- For Kindergarten students, put a hard hat, gloves, and tools in the drama centre.

Physical Education:

- Play *Cargo Ship* based on the game *Battleship*. This game can be played on a field, in the gym or a large room. No equipment is required.
- Identify where the bow, starboard, port side and stern will be located in the playing area. The starboard and bow could be identified with the colours of their corresponding navigational lights.
 - Bow: the front of the ship
 - Starboard: the right side of the ship when facing the bow. At night, the starboard side of a ship or channel is identified by a green navigational light.
 - Port side: the left side of the ship when facing the bow. At night, the port side of a ship or channel is identified by a red navigational light.
 - Stern: the back of the ship
- The players start in the middle of the ship (called midships) and the captain calls out commands. For example, if *bow* is called, everyone runs to the bow.
- Other commands that can be called are:
 - Man the lifeboats: each player grabs a partner and sitting feet to feet they join hands and rock back and forth. You can sing *Row, Row, Row your Boat* (optional).
 - Scrub the decks: players get down on their hands and knees and scrub
- Students could act out the equipment and machines that they learned about in the lesson (for example, gantry crane, forklift, coal conveyer).

LESSON PLAN RESOURCES

- The three terminal videos on the Learning Gateway website:
 - Fairview Container Terminal Video
 - Ridley Terminal Video
 - Prince Rupert Grain Terminal Video
- Slideshow images of transportation machines and equipment at the port (see Resources)

Persistence and Change: A History of the Ts'msyen Nation (2005), The Tsimshian Chiefs and Matriarchs for the Tsimshian Children Present and Future, First Nations Education Council, Prince Rupert, BC.

ADDITIONAL RESOURCES

Barnyard Bedlam & 149 Others: Group leader's handbook of games & activities for children & youth (1987), Dr. C. Denholm, School of Child and Youth Care, University of Victoria, Victoria, BC.

ATTACHMENTS (below)

- *Team Work Self-evaluation Rubric*
- *Brainstorming Web Graphic Organizer*

Team Work Self – Evaluation Rubric

As a team member I:

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Did all of my work	Let my partners do some of my work	Let my partners do all of my work	
Helped my partners and let others help too	Only helped my partners when they asked me	Did not help my partners	
Listened carefully to my team's ideas and use their ideas to help get new ones	Listened carefully to my team's ideas	Did not listen to my team's ideas	
Asked questions of my team to help us figure out what to do and create new ideas	Asked questions of my team to help us figure out what to do	Did not ask questions or asked questions that did not help the team	
Exchanged ideas using 'I' statements and tried to explain my thinking to my team	Exchanged a few ideas with my team	Did not contribute any ideas to my team	
Respected the opinions of my team by offering encouragement and support for new ideas	Respected the opinions of my team and supported new ideas	Did not respect the opinions of my team and did not support new ideas	
Participated in each activity enthusiastically to the best of my ability	Participated in each activity	Did not participate	

