# *Changing Perspectives*
# Teacher's Guide for
# Theme 4: European Sailing Technology
## Video "What were the vessels like that Captain Vancouver sailed in?"

### Overview:
Students will learn more about the vessels that Captain Vancouver and his crew used to sail to the Pacific Northwest Coast. This lesson introduces students to the materials and design challenges of ship building, the evolving technology of sails, as well as the crew and vessels selected for Captain Vancouver's expedition.

This lesson plan is suitable for Grades 4-12 Social Studies (see the BC Curriculum Connections Chart for further details). Teachers are invited to review and customize the suggested lesson plan based on curriculum, grade and student needs.

### Resources:
- Video "What were the vessels like that Captain Vancouver sailed in?"
  - 0:00-0:56 What materials were used to construct the vessel?
  - 0:56-1:06 What propelled European vessels in the late 1700s?
  - 1:06-1:20 What were European vessels based on?
  - 1:20-1:32 Why were square sails used for long ocean crossings?
  - 1:32-1:48 How were the sails changed?
  - 1:48-3:05 How many vessels were on Captain Vancouver's voyage?
  - 3:05-3:26 Were the vessels outfitted with large guns?
  - 3:26-3:52 How many crew members journeyed with Captain Vancouver?
  - 3:52-4:45 Why are square sails uncommon today?
- Review questions worksheet for students

### Thematic Question:
- What were the vessels like that Captain Vancouver sailed in?

### Learning Objectives:
- Describe the various roles of crew members on Captain Vancouver's ships.
- Explain late 1700s European ship design, and detail how improvements allowed Captain Vancouver to cross the ocean.
- Compare Captain Vancouver's vessels to other ships.

## Key terms:

- ***HMS Discovery:*** the lead ship on Captain George Vancouver's 1791-1795 expedition to the Pacific Northwest Coast. The ship was named after one of the ships on Captain Cook's voyage. The ship is 100 feet long (about the length of a basketball court) and 28 feet wide (about half the width of a basketball court), and had a crew of 100.
- ***HMS Chatham:*** a smaller royal navy survey brig that accompanied the *HMS Discovery* on Captain George Vancouver's 1791-1795 expedition to the Pacific Northwest coast.

# Sample Lesson Plan

**Part 1: Activate Prior Knowledge**

*Intended audience: Grades 4-12*

Begin this activity by asking students to form small groups. Ask each group to make a list of different types of seagoing vessels — something that could transport people across water. Challenge students to think of examples from various cultures and periods of time (for e.g., cruise ship, ferry, canoe, kayak, junks, coracles, raft, cargo shift, or oil tanker).

Then, ask students to analyze their lists using one or several of the following prompts:

- ➢ How could you group the vessels in your list? Is there an alternative way they could be categorized? (for e.g., by size, material, purpose, time period).
- ➢ Which vessel from your list do you think Captain Vancouver and his crew would have sailed on and why? Are there any disadvantages to this type of vessel?
- ➢ If you were to cross the ocean today, which vessel would you use and why?

**Part 2: Watch *Changing Perspectives* Video**

*Intended audience: Grades 4-12*

Watch the video "What were the vessels like that Captain Vancouver sailed in?" as a class: https://changing-perspectives.grmdgs.com/en/technologies/

**Part 3: Review Questions**

*Intended audience: Grades 4-12*

Ask students to answer the following questions, as written answers using the worksheet or as think-pair-share. These questions build from direct recall to active critical thinking. Possible answers in red.

1. What makes these ships move? Wind
2. List three materials described in the video, and why the shipbuilder would choose them.

| **Material** | **Purpose** |
|---|---|
| White Oak | For strength; resistance to rot |
| Sitka Spruce | Masts could bend without breaking in heavy winds |
| Copper Sheathing | Prevent against pest teredo worm. |

| | |
|---|---|
| | Helps ship sail faster. |
| Tar Covered Hemp Rope | Waterproofing |

3. Take a look at the timeline of ships in timestamps 1:06 and 1:20. How did the technology change over time?
    - More masts and sails over time, bigger vessels, enclosed decks.
4. a) Name and describe both vessels on Captain Vancouver's voyage.
    - *HMS Discovery* and *HMS Chatham*. *HMS Discovery* was a larger fully-rigged ship. The *HMS Chatham* was a smaller brig. Both were 'sloops of war'

    b) Why do you think they sailed with two ships?
    - In case one sank, back-up vessel, to bring more crew, smaller *HMS Chatham* could go on smaller waterways
5. Why did these vessels have large crews? Do you think all the crew members were necessary for the voyage?
    - Needed carpenters for repairs, seamen had to climb up the masts to change the sails, sailmakers to repair sails.
6. Why do you think Vancouver brought ships with large guns and crew to operate them?
    - Possible answers: anticipating conflict; scare others; display of power
7. Why are square sails uncommon today? What additional reasons can you think of that the video does not mention?
    - Not as fast as triangular sails, and require more crew.
    - Additional reasons: Options of generators and engines to power ships instead of sails that require even less crew and are faster.

**Part 4: Analysis Questions**

*Intended audience: Grades 8-12*

These additional prompts expand on the review questions above, and ask students to further analyze what they've learned from the video, either as written responses or discussion. These questions ask students to reflect on the practice of history and incorporate evidence to justify their claims. In some cases, students may benefit from further resources to explore these questions. Expansion ideas: have students debate opposing views, think/pair/share, or write in-depth essays.

1. These ships cost a lot of money to build and operate. Why do you think the Europeans were willing to pay for these expensive ships? What were they hoping to get out of these voyages?

2. Captain Vancouver's ships were both outfitted with guns. Argue for or against bringing these guns on their expedition.
3. Brainstorm types of "exploration" both historical and modern. What kinds of vessels are needed in exploration today? How are these vessels similar or different to Captain Vancouver's vessels?
    - Examples of 21st century exploration: space exploration; deep sea exploration; Arctic and Antarctic explorations; mountains; deserts; etc.
4. a) For Captain Vancouver's expedition, what do you think are the three most important qualities of the ships' design? What strategies could a ship builder use to build these into the design?
   b) Name a type of modern vessel. What do you think are the three most important qualities of this vessel's design? Compare these answers to your response for Captain Vancouver's ships.
5. Argue for which 3 crewmember roles were the most important.

**Part 5: Wrap Up Discussion**

*Intended audience: Grades 4-12*

Wrap up your lesson with a reflective discussion. Ask students to give answers to the following questions either as a class, in small groups, or as an independent writing exercise.

- ➢ Draw a picture that shows 3 things you learned in this lesson.
- ➢ What is something you learned that surprised you?
- ➢ How has this video changed your understanding of maritime ships?

# Further Learning Activities (Beyond the Video)

**Creative Activities**

Explore the following creative activities with your students, either as written answers, group discussion, or projects:

- ➢ These ships were incredibly large and stood out on the horizon. Write a description about what you think it would have been like in the late 1700s to see one of these for the first time.
- ➢ Name the different roles that crew members had on Captain Vancouver's ships. Which role would you most like to have, and why? Which role would you least like to have, and why?
- ➢ Design and draw a ship. Describe your expedition's purpose, and give your ship a name. Identify some features of your ship's design.

**Inquiry Projects**

Expand on learning with an inquiry-based project, such as:

- ➢ Research another ocean-crossing vessel that is in use today. Compare and contrast the vessel with the *HMS Discovery*. For example, think about the size of the crew, the energy sources needed to move the vessel, the purpose of the vessel, the size and material of the vessel, etc.
- ➢ Research a famous vessel and the history of its namesake.
    - If you are local to BC, you could look at the BC Ferries fleet: https://www.bcferries.com/on-the-ferry/our-fleet