Historica Canada Education Portal

Joseph-Armand Bombardier

Overview

This lesson is based on viewing the Joseph-Armand Bombardier Heritage Minute, which focuses on the early years of this inventor who designed and build the first snowmobiles and Ski-doos.

Aims

In the following activities, students will imagine they are inventors. They will invent a solution to a transportation problem, and write an autobiographical account of their achievements.

Like successful entrepreneurs and businesses, students will identify needs in their community and come up with innovative and practical solutions to meet these needs. Once students have come up with an invention, they will write a business plan.

Activities

1. Building better vehicles

Young students can enjoy devising their own solutions to difficult travel

situations.

- Discuss the challenge that Bombardier decided to face in inventing the snowmobile. What must life have been like in small rural villages and on remote farms before snowmobiles? Discuss the emergencies that might arise and transportation needs that the snowmobile filled.

- Discuss transportation needs today, in their own area and around the world. Talk about urban gridlock, automobile pollution, crowded airports, etc., as well as the special conditions they might find in their local area (marshlands, mountains, many rivers and lakes, etc).

- In small groups or individually, ask students to invent a solution to one transportation problem. Ask them to draw their creations and to write an explanation of the problem, how their device (or system) would solve the problem, and other features of their invention. You may have students present their work to the rest of the class, or create a display of "transportation into the future."

- An alternative would be to present the class with a single problem (such as the actual needs for transit in your area), and give small student groups the task of solving it. Then, each group appears before the Regional Board (made up of students from another class) to "sell" their idea, using drawings, maps, charts, and arguments.

2. The inventor inside of us

Almost all children try their hands at invention. From tin-can telephones and forts, to kitchen chemistry, there seems a natural urge to experiment and create.

- In a class discussion, ask students to tell the stories of experiments they tried when they were younger, including some of the comic disasters that resulted.

- The discussion can lead to a writing assignment. Have the students imagine that they became famous inventors. Write the chapter of their autobiography in which they describe the early invention that set them on their path to fame. They can exaggerate the story for dramatic or comedic effect (as is often the case in autobiographies.

3. Starting small

One international corporation has the motto "Find a Need and Fill it." That's what Joseph-Armand Bombardier did, and it is one of the challenges for Canadian manufacturers today, especially in the global market-place.

- Generate a list of some current conditions that demand new ways of thinking. For instance, the quality and quantity of lumber is declining; landfills are reaching their limits; the ozone layer of the atmosphere is thinning, etc. Discuss implications of the problems they list.

- Now discuss some recent innovations and research by Canadian manufacturers that address some aspects of large problems. For example, one Canadian manufacturer is working on a practical battery to power electric cars. (Business magazines and the business sections of newspapers and *Macleans* can supply other examples). Have students contribute information they have heard about.

- Discuss how new problems also create new opportunities. Have students imagine that they are conscientious entrepreneurs who want to

contribute to solutions while they generate money and jobs. Look at the list of problems they have defined and create a list of "needs" for each of the problems. For instance, the shortage of lumber implies the need for alternative building materials or building methods.

- In small groups, have students choose one of the problems and the list of needs and generate a variety of ways to "fill" each need. Make it clear that the needs may require new products or new services. For example, overcrowded landfills may call for widespread composting. One solution is to manufacture efficient compost boxes; another is to collect compostables into a central location and sell the recycled material as garden soil. (You may also wish to propose the ways that local governments might make use of such ideas).

- Have each group write up their best ideas as a "business plan," which summarizes the problem, the need, and how they would solve it. If possible, the plans might indicate their equipment and labour requirements and estimates of costs and potential for profits.

Resources

- Heritage Minute: Joseph-Armand Bombardier

- The Canadian Encyclopedia: Joseph-Armand Bombardier
- The Canadian Encyclopedia: Bombardier Inc.