

Lancaster FM159 (Avro Bomber):

A Virtual Tour for Students - EDUCATION PACKAGE -

Learning Objectives:

Upon completion of this four-part education module, students will:

- ✚ Describe a Lancaster Bomber and its purpose during the Second World War
- ✚ Tell of a Navigator's experience aboard a Lancaster, examine at least two differing situations that a navigator would face, and hypothesize which character traits a successful navigator must possess.
- ✚ Examine how Lancaster FM159 has been memorialized and whether those efforts have been effective

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Our most sincere thanks!

- Valour Canada

Instruction Guide for Valour Canada's "Lancaster Bomber FM159 Virtual Tour"

Program Description

Valour Canada and the Bomber Command Museum of Canada (Nanton, AB) are proud to collaborate on the creation and presentation of this educational virtual tour (VT) of the Bazalgette Lancaster Bomber (FM159). There are three parts to this program, plus a fourth that is a culminating discussion. Parts 1, 2, and 3 can be presented simultaneously or as stand-alone activities to meet classroom needs.

Part 1: Virtual Tour and Fill-in-the-blank worksheet (20 minutes)

A fill-in-the-blank worksheet will be provided to the students before they access and navigate the VT using a virtual reality headset, laptop, or mobile device. The virtual environment can be found at the "*Lancaster*" link (www.valourcanada.ca/vr/Lancaster/). To complete the task, students must complete the worksheet (see p. 5. The answer key is on p. 4) as they navigate through the VT.

Part 2: Diary Entry (20 minutes)

Each student will imagine themselves being one of the airmen assigned to a Lancaster Bomber and will write a diary entry that describes what they would have experienced during their time in the RCAF during the Second World War. Students should be prompted to include what their character found to be the most challenging, the most frightening, and the most uplifting (if possible). If students are having a difficult time getting started, prompt them with a specific scenario, e.g. their diary entry writing follows the D-Day landings or a "Dambuster" run, etc., or a specific role, e.g. they are the pilot, a radio operator, a gunner, etc. The length of the diary entry is determined by the teacher. There is not a handout for this activity.

Part 3: Independent Research (30-60 minutes online; 30-60 minutes writing)

Working individually, students will perform an internet and/or library search on Ian Bazalgette or Harlow "Terry" Taerum (www.youtube.com/watch?v=12aIXaRIFd4). Each student will write 3 or 4 paragraphs that include an introductory description of the person they chose, and at least one positive and one negative situation that their airman faced during his time flying in a Bomber. The student must finish their writing by choosing one the character trait that they see as most important for a successful airman to have and explain why they think it is so. At least 3 sources must be referenced at the bottom of the page in a referencing format appropriate for the learning level of the student.

Part 4: Culminating Activity: Group Debrief (10-15 minutes)

A discussion will occur within the group. Students should be prompted with statements like:

- What did you like/dislike about the tour?
- During completion of the tasks which piece(s) of information had the most impact on you? Explain.
- Having completed these tasks, what will you remember one month from now about _____? (e.g., the tour, one of the RCAF missions, Bazalgette/Taerum, your diary entry, etc.)
- What do you think would have been the most intimidating/surprising/disappointing event for the airmen of FM159 on/at _____? (e.g., Operation Chastise, D-Day, etc.) Explain.
- In your opinion what would be the best part and worst part of working aboard a Lancaster Bomber? Explain.

General Information and Recommendations

- **Vocabulary:** Basic terminology is used, but young or English-as-a-second-language learners may need some additional support with some words (e.g., Luftwaffe, heartland, friendly-fire . . .).
- **Preparation:** Computers, tablets, headsets, and other devices should be tested prior to beginning the tour portion of the program.
- **Adaption/Scaffolding Options:** Parts 2, 3, and 4 can be adapted on the fly at the discretion of the teacher.
- **Debrief:** The primary goal is for the learning outcomes (shown on the title page) to be verbalized by the students during the culminating debrief with minimal prompting.
- **Logistical Demands and Suggestions:**
 - Space: Standard classroom size, with access to computers, tablets, and/or VR headsets
 - Group Size: Standard class size
 - Age: 11 years and up (Gr. 6 +)

If lacking an adequate number of computers, tablets, or headsets, the class can be divided into three groups that can then be cycled through parts 1, 2, and 3. Then all students can be brought back together for the Culminating Debrief/Discussion Activity (i.e., Part 4).

Tether-points between Provincial Curricula and the Program's Content

Note: Depending on the province/territory, identical topics may be found under entirely different subjects. For example, *Canada in the First World War* is covered in MB's Gr.11 Social Studies, SK's Gr. 10 History, and ON's Gr. 10 Canadian History since WWI.

History (and Civics)

- Conflict: World War II; D-Day; Operation Chastise; Fortress Europe
- Citizenship; Heritage

Social Studies/Sciences (and Human Geography)

- Canadian Identity; Nationalism
- International Relations, 19th, 20th century; Alliances and Rivalries
- Canadian 20th century contributions to global stability

Character (or Values) Education

- AB's *Caring, Respectful, and Safe Schools*, ON's *Finding Common Ground*, MB's *Safe and Caring Schools*, BC and YK's *Core Competencies*, NB's *Inclusive Education*, et cetera, all communicate traits held by productive citizens. These include collaboration, empathy, respect, communication, responsibility, leadership, community, appropriate behavior, fairness, and personal development.

Positive Character Traits Modeled during this Program

Communication, Cooperation, Courage, Resilience, Responsibility, Thoughtfulness

Fill-in-the-Blank Answer Key:

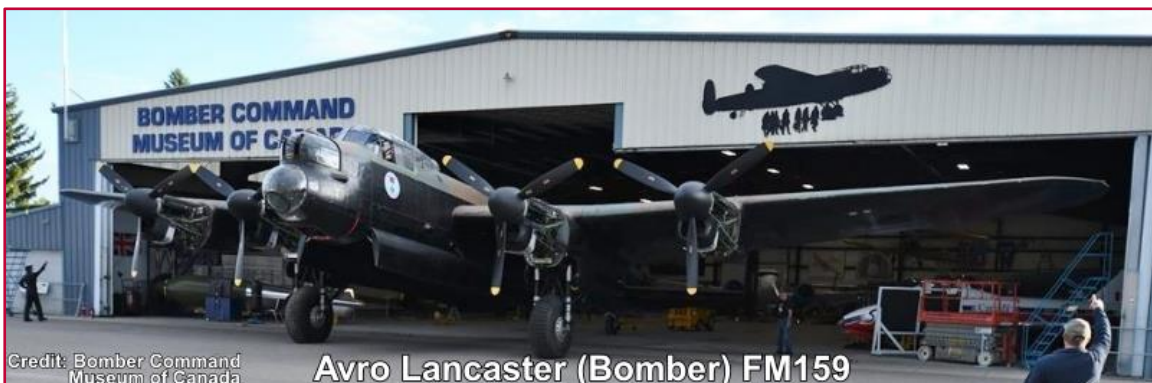


- Bomber Command Badge -

During the virtual tour of Bomber FM159 (www.valourcanada.ca/vr/Lancaster/), please review the following questions and answer by filling the blanks:

1. FM159, a Lancaster Bomber, is currently hosted in Nanton, AB, by the Bomber Command Museum of Canada. Nanton's Bomber has operational engines and was active during the Second World War.
 2. Canada began manufacturing Mark 10 Avro Lancasters in 1941 (year). Eventually factories were producing 1 Lancaster per day.
 3. One quarter (fraction) of the Lancaster factory workers in 1944 were women.
4. Regarding question #3, in your own words using the space below provide one possible reason why these ladies were employed to build Lancasters.
Many of the men were overseas fighting and the industries needed capable employees to
take up the slack
5. The Dambuster Raid (Operation Chastise) occurred in May (month) of 1943 and aimed at a series of river dams in Germany's industrial heartland, the Ruhr River valley. The goal was to disrupt the enemy's water supply.
6. The operation relied on a type of bomb called "Upkeep" that was designed to be dropped by a Lancaster only meters above a river or lake. The released bomb would skip along the water surface and come to rest beside the dam where it would sink and then explode.
7. During armed conflict, friendly-fire incidents inevitably occur. In one video a veteran gives two explanations how a Lancaster might hit an ally. Please list them below.
 a- Lancasters, often flying higher than others, would sometimes accidentally bomb lower aircraft .
 b- Mistaken identity (i.e., an ally is mistakenly thought to be an enemy) .
8. The veteran navigator lists many things that a good navigator must do. List 4 character traits that a navigator should possess to best ensure a successful mission (open ended).
 a. _____ b. _____
 c. _____ d. _____
9. The British Commonwealth Air Training Plan (BCATP) trained over 130 000 aircrew in Canada. 72835 of these were Canadian. Canada was chosen as the ideal location for training because it had three things: (1) ideal weather, (2) large open spaces, and (3) lack of threat from the enemy.

BONUS: The Lancaster FM159 in Nanton, AB, is dedicated to the memory of Ian Bazalgette, V.C.



Credit: Bomber Command Museum of Canada

Avro Lancaster (Bomber) FM159

Lancaster Bomber: Worksheet

Name: _____



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During the virtual tour of Bomber FM159 (www.valourcanada.ca/vr/Lancaster/), please review the following questions and answer by filling in the blanks:

1. FM159, a _____ Bomber, is currently hosted in Nanton, AB, by the _____ of Canada. Nanton's Bomber has operational engines and was active during the _____ World War.
 2. Canada began manufacturing Mark ___ Avro Lancasters in _____ (year). Eventually factories were producing ___ Lancaster per day.
 3. _____ (fraction) of the Lancaster factory workers in 1944 were _____.
4. Regarding question #3, in your own words using the space below provide one possible reason why these ladies were employed to build Lancasters.
- _____
- _____
5. The Dambuster Raid (Operation Chastise) occurred in _____ (month) of 19___ and aimed at a series of river dams in Germany's industrial heartland, the _____ River valley. The goal was to disrupt the enemy's _____ supply.
 6. The operation relied on a type of bomb called "_____ " that was designed to be dropped by a Lancaster only meters above a river or lake. The released bomb would _____ along the water surface and come to rest beside the dam where it would sink and then explode.
 7. During armed conflict, friendly-fire incidents inevitably occur. In one video a veteran gives two explanations how a Lancaster might hit an ally. Please list them below.
 - a- _____.
 - b- _____.
 8. The veteran navigator lists many things that a good navigator must do. List 4 character traits that a navigator should possess to best ensure a successful mission.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 9. The British Commonwealth Air Training Plan (BCATP) trained over _____ aircrew in Canada. _____ of these were Canadian. Canada was chosen as the ideal location for training because it had three things: (1) ideal weather, (2) _____, and (3) _____.

BONUS: The Lancaster FM159 in Nanton, AB, is dedicated to the memory of _Ian_ _____, V.C.



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