

LIFTOFF -- QUICK START GUIDE

PLUG-INS / THIRD PARTY SOFTWARE REQUIRED:

***IMPORTANT:** In order for Liftoff to work properly, please ensure that the following software programs are installed on your computer:

- o QuickTime 4 or higher (can be found at <http://www.apple.com/quicktime/download/>)
- o Flash 5 or higher (can be found at <http://www.macromedia.com/downloads/>)
- o Shockwave 8.5 (can be found at <http://www.macromedia.com/downloads/>)
- o Acrobat Reader (can be found at <http://www.adobe.com/products/acrobat/readstep2.html>)

INSTALLATION INSTRUCTIONS:

Before you install the Liftoff software, shut down (quit) all open applications on your computer. Then follow the instructions below that apply to your computer.

WINDOWS USERS:

Insert the Liftoff CD into your CD drive. A window should automatically open and show the Liftoff files. Double-click on the icon named "Setup.exe" and follow the onscreen instructions.

If the window noted above does not open automatically, take the following steps:

- Double-click the "My Computer" icon on your computer desktop.
- Locate your CD drive in the "My Computer" directory.
- Double-click on the CD drive icon.
- Double-click on the icon named "Setup.exe" and follow the onscreen instructions.

MACINTOSH USERS:

Insert the Liftoff CD into your CD drive. A window should automatically open and show the Liftoff files. Double-click on the icon named "Setup" and follow the onscreen instructions.

If the window noted above does not open automatically, take the following steps:

- Locate the Liftoff CD icon on your computer desktop.
- Double-click on the icon to open it.
- Double-click on the icon named "Setup" and follow the onscreen instructions.

NOTES ON USING LIFTOFF:

o The Virtual Tour of the Space Shuttle contains a number of activities for users to explore. You can access these activities by clicking the small icons marked "A" or "ACT" in the Media Library in the lower-left corner of the Virtual Tour window. Most activities have a "sound off/on" button in the upper-left corner. Click on this button to toggle the sound effects off and on.

o Virtual Tour also contains a number of 3-D images of the Space Shuttle and its parts. You can access these 3-D images by clicking the small icons marked "3D" or "3-D" in the Media Library in the lower-left corner of the Virtual Tour window. By pointing at a 3-D image and holding down the mouse button (left mouse button on PC), you can spin the shuttle or part around and view it from various perspectives. Use the magnifying glass to zoom in or out on any part.

TROUBLESHOOTING / INQUIRIES:

Please refer to the "Troubleshooting" section of the ReadMe file. The ReadMe file is copied to your computer when you install "Liftoff."

TO FIND THE README FILE ON A PC:

o Left-click the "Start" button and choose "Programs." Within Programs, choose "Liftoff," then left-click on "ReadMe."

or

o Double-click on "My Computer" on your desktop, then double-click on "Local Disk (C):". Open the "Liftoff" folder, and double-click on the ReadMe file to open it. (If you chose to install Liftoff somewhere other than the default location, you may have to do a search to locate the "Liftoff" folder.)

TO FIND THE README FILE ON A MAC:

o Under the Apple menu, choose "Liftoff." Then click on "ReadMe" to open it.

or

o Double-click on the hard-drive icon (typically "Macintosh HD") on your desktop. Within the hard-drive window, locate the "Liftoff" folder and double-click on it. Double-click on the ReadMe file to open it. (If you chose to install Liftoff somewhere other than the default location, you may have to do a search to locate the "Liftoff" folder.)

If the ReadMe file does not contain the solution to your problem, contact Ingenuity Works technical support at support@ingenuityworks.com.

INSTRUCTIONAL OVERVIEW

The study of space and space exploration has always sparked the interest of people of all ages. In the program Space Simulation Series Part I: Liftoff, we have developed three features that introduce students to the amazing scientific and technological breakthroughs achieved in space exploration. The features also provide an overview of the history of the space industry. Although the activities have been developed with the grade 4 to 7 curriculum in mind, they can be modified and adapted to engage all learners.

Teachers will find this program an excellent resource to supplement their courses in mathematics, science, social studies, and career and personal planning. The program's non-linear instructional design encourages students to explore and discover. As students explore the space shuttle in the "Virtual Tour" feature, they can choose to hear narration or click on links for additional information on various subjects. Sprinkled throughout "Virtual Tour" are many pictures, videos, and interactive activities to support the content.

Working closely with Space Camp (<http://www.spacecamp.com>), we have attempted to provide students with realistic simulations. In the "Astronaut Training" feature, students receive astronaut-style training and go through a shuttle-launch procedure. Following instructions correctly and in a timely manner will result in a successful launch.

LESSON PLANS

We have included a folder on the CD with the following lesson plans:

CANADA IN SPACE

This lesson encourages students to learn about Canada's achievements in space by having them research Canada's space programs. (Grade 6)

EATING IN SPACE

This lesson encourages students to identify the components of a well-balanced diet and create a nutritional eating plan based on the food and beverage items provided for astronauts flying on space shuttle missions. Students also consider the problems associated with bringing food into space and with the health demands on astronauts in the weightless environment of space. (Grade 5)

EYES IN SPACE

In this lesson, students explore how remote-sensing imagery can be used to examine the Earth's surface and the impact that human activity has on our planet. (Grade 6)

SPACE BODIES

This lesson encourages students to learn about body systems by considering the effects of being in space on the human body. Students learn about the main components and functions of body systems and then perform a series of experiments simulating the effects of being in space. (Grade 5)

EDUCATIONAL ACTIVITIES

VIRTUAL TOUR OF THE SPACE SHUTTLE

Take a guided tour through the world's first reusable space vehicle. Learn about the shuttle's many parts and how they work together. View hundreds of photos, videos, and 3-D animations of the shuttle in action. And try out a number of engaging, hands-on activities.

Educational activities within Virtual Tour:

SHUTTLE ACRONYM TEST

In the space industry, many acronyms are used on a daily basis. This matching activity allows students to learn the meaning

of the acronyms and to develop their memorization skills. The activity has three levels of difficulty.

ASSEMBLE THE SPACE SHUTTLE

Following instructions is an important life skill. This activity incorporates this skill with learning the parts of a space shuttle. Students are then encouraged to explore the shuttle's parts to learn about their functions and importance.

SHADES OF ANOTHER PLANET

The following "Earth and Space Science" learning outcomes are covered in this activity:

- identify the names of the planets
- order the planets starting with the planet closest to the sun

FISH IN SPACE

The following "Applications of Science" learning outcomes are covered in this activity:

- predict the results of an experiment
- conduct simple tests and describe observations
- describe ways people in the community use science
- identify relevant variables in an experiment
- identify and test a prediction
- correctly state a hypothesis

CANADARM IN SPACE

The following "Mathematics" learning outcomes are covered in this activity:

- graph ordered pairs in the first quadrant, analyze results, and generalize relationships
- use coordinates to describe the position of objects in two dimensions
- identify a point in the first quadrant using ordered pairs
- create, analyze, and describe designs using translations and reflections
- draw designs using ordered pairs in different quadrants of the coordinate grid, together with slide and flip symmetry

ASTRONAUT NUTRITION

The following "Personal Development" learning outcomes are covered in this activity:

- identify factors that promote health
- classify foods into groups
- explain the benefits of good nutrition and exercise as part of a balanced life

ORDER OF WERNHER VON BRAUN

Wernher von Braun was known as the father of the American space program. In this activity students, practise their multiplication and division skills while learning about von Braun's life accomplishments.

SPACE EXPLORATION

Take a trip through the highlights of the history of space exploration--from the first rockets to the International Space Station and beyond. Meet some of the people who led the way into space, and find out about Canada's role in space exploration. Discover some of the benefits of the space program right here on Earth, and learn about space careers.

Educational activity within Space Exploration:

SPACE IMAGING

The following "Social Studies" learning outcomes are covered in this activity:

- identify and describe major landforms
- interpret aerial photos and various types of maps
- locate and describe major geographic features

October 22, 2002

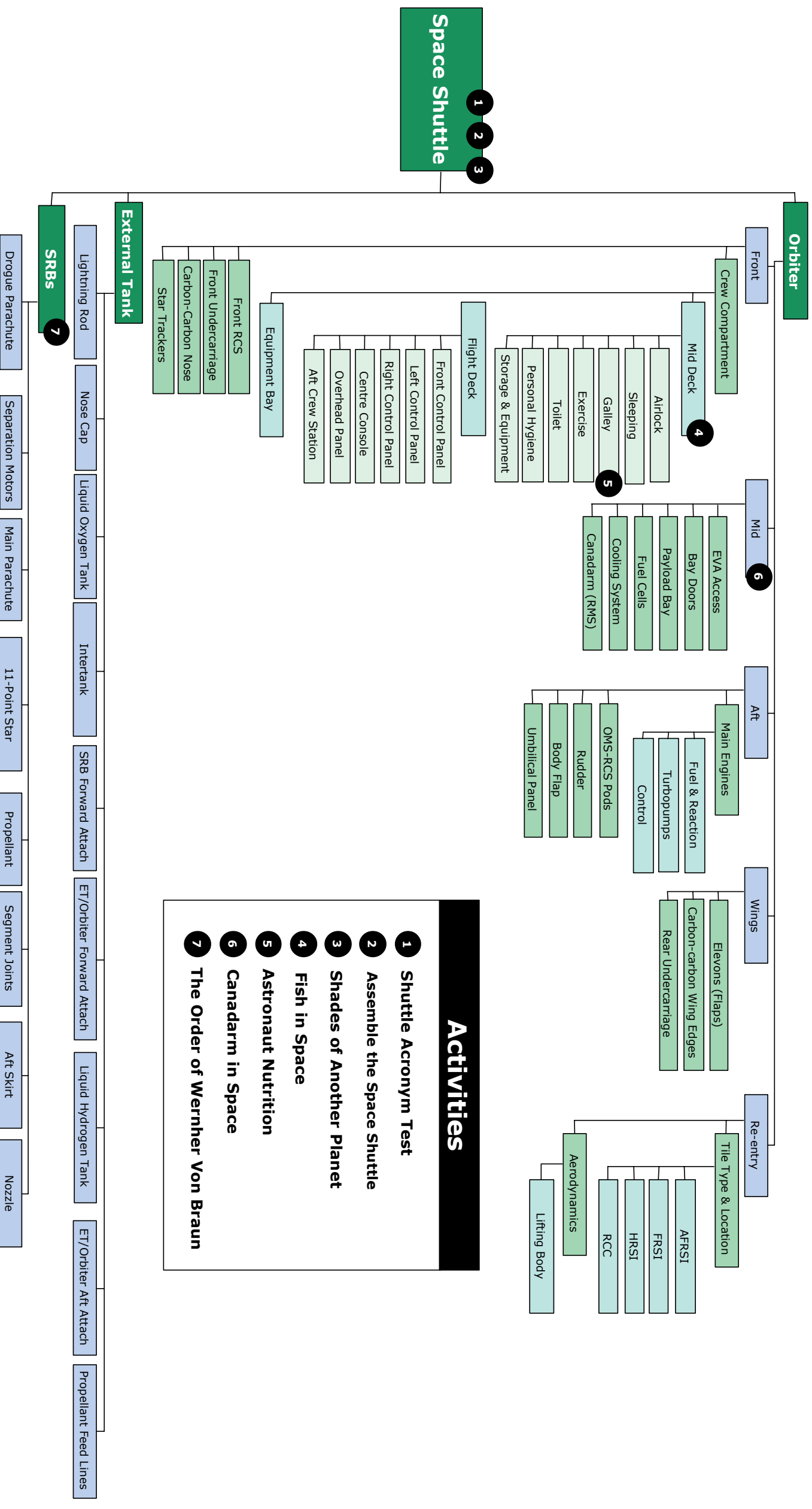
Space Simulation Series Part 1: Liftoff

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Space Shuttle Virtual Tour



Activities

- 1 Shuttle Acronym Test
- 2 Assemble the Space Shuttle
- 3 Shades of Another Planet
- 4 Fish in Space
- 5 Astronaut Nutrition
- 6 Canadarm in Space
- 7 The Order of Werner Von Braun