



## It's a Bird, It's a Plane!



Congratulations! You have been hired by the Cardston Flight Museum to help promote their new exhibit, "It's a Bird, It's a plane!" The new exhibit demonstrates how many airplane model designs have originated from nature. Your job is to develop an interesting way to show how aircraft designs have been developed to mimic a **bird or insect** of your choice.

Your submission to the Cardston Flight Museum needs to include the following information:

- Background information on your animal (bird or insect).
- A description of how your animal flies.
- A description of how your animal resembles an aircraft.

Your information may be presented in many different forms such as a poster display, a brochure, or a video clip, etc. You will share your completed project with the Cardston Flight Museum Staff (your teacher) and your classmates. Make sure your submission is interesting and creative so that you can attract visitors to the new museum!

Good Luck!

## My "It's a Bird It's a Plane" Checklist

I have....

- ☐ At least 3-5 facts (my own words) about the biology of my animal (i.e. wing span, weight, shape, habitat, migration).
- ☐ A description of how my animal flies (including wing movement, speed, distance).
- ☐ A clear diagram that illustrates how my animal flies, including labels indicating thrust, drag, lift, mass (gravity).
- ☐ A description (in my own words) of the specific flight adaptations of my animal.
- ☐ A diagram that labels specific flight adaptations of my animal (tail shape, wing shape etc.).
- ☐ A picture of an aircraft that resembles my animal including labels of similarities.
- ☐ At least two sources of my information used including author, publisher and date.
- ☐ A descriptive and catchy title for my project.
- ☐ My name and class!



## It's a Bird, It's a Plane Student Workbook

My Name:\_\_\_\_\_ My Animal:\_\_\_\_\_

Group Members:\_\_\_\_\_

Title of our project:\_\_\_\_\_

Presentation Method:\_\_\_\_\_

### Some resources I can use to get started:

Internet:

[http://www.whatbird.com/browse/objs/All/birds\\_na\\_147/38/Location/271/Alberta](http://www.whatbird.com/browse/objs/All/birds_na_147/38/Location/271/Alberta)

<http://www.talkaboutwildlife.ca/learn/birds/alberta.php>

<http://animals.howstuffworks.com/birds/owl-fly-silently2.htm>

<http://news.discovery.com/tech/should-airplanes-look-more-like-birds.html>

<http://www.livescience.com/11216-airplane-design-mimics-seagull.html>

<http://www.wonderville.ca/asset/airborne-experiment>

At least 3-5 facts (my own words) about the biology of my animal (i.e. wing span, weight, shape, habitat, migration).

A description of how my animal flies (wing movement, speed, distance).

A diagram that illustrates how my animal flies, including labels indicating thrust, drag, lift, mass (gravity).

A description of the specific flight adaptations of my animal.

Adaptation 1

Adaptation 2

Adaptation 3

Others

A diagram that labels specific flight adaptations (at least 3) of my animal (tail shape, wing shape etc.).

Diagrams of how an aircraft resembles my animal (including labels):

Aircraft Name\_\_\_\_\_

My Animal's Name\_\_\_\_\_

A description of how an aircraft resembles my animal.

Sources I used for my research (includes author, publication, date):

1)

2)

Others:

### It's a Bird, It's a Plane - Rubric

Level Criteria	4 Excellent	3 Proficient	2 Adequate	1 Limited	Insufficient / Blank *
<b>K-5 Identifies adaptations that enable birds or insects to fly.</b>	Gives at least <b>5</b> facts about the biology of the animal (i.e. wing span, weight, shape, habitat, migration)	Gives at least <b>3</b> facts about the biology of the animal (i.e. wing span, weight, shape, habitat, migration)	Gives at least <b>2</b> facts about the biology of the animal (i.e. wing span, weight, shape, habitat, migration)	Gives <b>limited</b> information about the animal's biology.	*No score is awarded because there is insufficient evidence of student performance based on the requirements of the assessment task.
<b>K-6 Describes the means of propulsion for flying animals and aircraft.</b>	Gives an <b>excellent</b> description of how the animal flies, including wing movement, speed and distance; <b>and</b> , includes a diagram of the animal that includes labels for thrust, drag, lift and mass.	Gives a description of how the animal flies, including <b>some</b> information on the wing movement, speed and distance; <b>and</b> , includes a diagram of the animal and <b>some</b> labels for thrust, drag, lift and mass.	Gives a description of how the animal flies, including <b>limited</b> information on the wing movement, speed and distance; <b>or</b> , includes a diagram of the animal and labels for thrust, drag, lift and mass.	Gives <b>limited</b> information about how the animal flies.	
<b>K-5 Identifies adaptations that enable birds or insects to fly.</b>	Gives at least <b>3 excellent</b> examples of adaptations of animal; <b>and</b> , includes a diagram with labels of adaptations.	Gives at least <b>2</b> examples of adaptations of animal; <b>and</b> , includes a diagram with labels of adaptations.	Gives <b>at least 1</b> example of an adaptation of animal <b>and</b> , a diagram illustrating the adaptation of the animal.	Gives <b>limited</b> information about the adaptations of the animal.	
<b>K-6 Describes the means of propulsion for flying animals and aircraft.</b>	Gives an <b>excellent</b> description of how an aircraft resembles their animal; <b>and</b> , includes a diagram with labels of similarities.	Gives a description of how an aircraft resembles their animal; <b>and</b> , includes a diagram with <b>some</b> labels of similarities.	Gives a description of how an aircraft resembles their animal; <b>or</b> , includes a diagram with labels of similarities.	Gives <b>limited</b> information about the animal is similar to an aircraft.	
<b>EI-1 Identifies sources of information and show skill in accessing them.</b>	Provides at least <b>2</b> references including author, publisher and date published.	Provides at least <b>2</b> references and includes <b>some</b> of the following: author, publisher and date published.	Provides at least <b>1</b> reference and includes <b>some</b> of the following: author, publisher and date published.	Provides <b>limited</b> information about the sources used for the research project.	
<b>EI-7 Communicates findings on animal effectively.</b>	Communicates findings that are supported by <b>accurate</b> and <b>persuasive</b> reasons.	Communicates findings supported by <b>accurate</b> reasons.	Communicates findings that are <b>partially</b> supported.	Communicates findings but are <b>not well supported</b> .	



## It's a Bird, It's a Plane – Student Reflection

Name: \_\_\_\_\_ Group Members: \_\_\_\_\_

**With your group members, discuss the information gathered about your animal.**

Project Strengths – What our campaign offers to the Cardston Flight Museum.

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Project Weaknesses– What we can **improve** about our campaign:

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**After completing the questions above as a group, complete the following on your own.**

My animal's adaptations for flight are important because:

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What did I do well? What am I proud of?

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What was difficult for me?

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What can I do next time to make it better?

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Using the Rubric for this project, I would give my project a \_\_\_\_/20