Web Quest: Exploring Flight

Have you ever wondered how a plane stays in the air even when it weighs thousands of pounds? Have you ever looked at birds in flight and pondered how they manage to fly when we can't? You would not be the first to ever wonder about these things.
From the beginning of time people have wondered how things fly. Primitive people wondered why birds and animals could fly. Over time our ancestors examined these things and quickly understood that if we were to study the principles of flight we might be able to fly also.
In this Quest, you will explore many of these principles of flight.
As you and your partner work through this Web Quest you will become experts in the science of flight.

For a review of the properties of air that we have studied in class, go to this website:
http://www.learnalberta.ca/content/setf/html/StudentResource/source/Welcome.html

Use the following website to learn a little more about Daniel Bernoulli and to answer the following question.
- http://www.learnalberta.ca/content/setf/html/StudentResource/source/Welcome.html
1) Who was Daniel Bernoulli?
_____
_____
_____

Keep scrolling down more is to come...

Have a look at the following websites to answer #2:
- http://www.learnalberta.ca/content/setf/html/StudentResource/source/

Welcome.html
- http://library.thinkquest.org/2819/bernoull.htm

2) Draw a diagram that illustrates the Bernoulli Principle below. When you are finished make sure to write an explanation below it.

_____
_____
_____
_____

Watch the following videos to answer questions 3,4,5 &6.
http://www.professorgizmo.com/04Bernoulli.html

3) Where there is moving air there is _____ pressure.

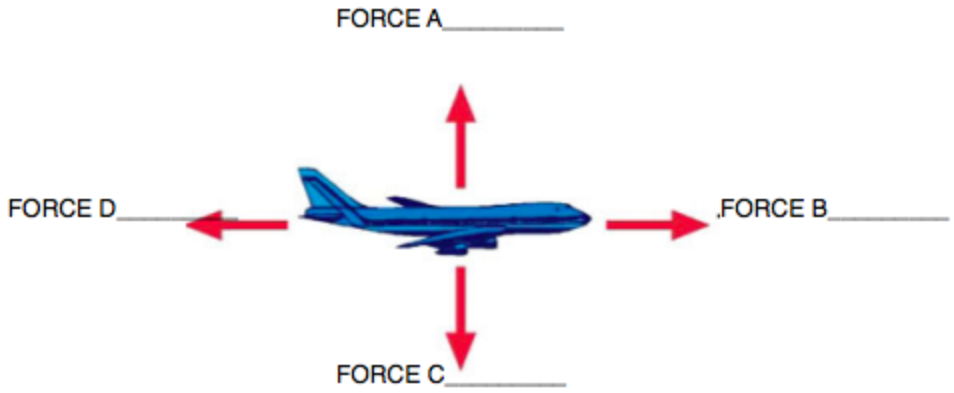
4) What is keeping the ball in the column of air in professpr Gizmo's experiment with the gold tee and plastic tube? _____pressure.

http://www.professorgizmo.com/05Bernouli%26Airplanes.html
5. Why does the paper lift when professor Gizmo blows on it?_____
_____
http://www.professorgizmo.com/06AirplanesFly.html
6) How does an airplane come down (or land)? _____
_____
_____

Now go to these websites to answer Question #7 which is all about the forces of flight
http://www.youtube.com/watch?v=ooQ1F2jb10A

http://www.mansfieldct.org/schools/mms/staff/hand/flight4forcesoverview.htmhttp://fi.edu/flights/own2/forces.html http://wright.nasa.gov/airplane/forces.html

7) What are the four forces of flight? Label them on the diagram below.



Give an explanation of each of the four forces of flight.

a)_____

_____

b)_____

_____

c)_____

_____

d)_____ _____

_____

Bonus: why do geese fly in formation:

_____

_____

Scroll down more is to come...

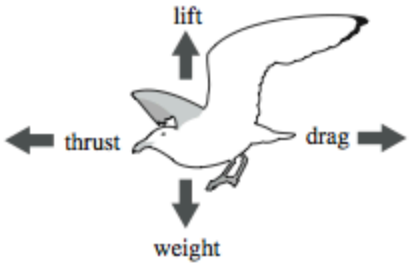
Take a look at the websites below to read about adaptations birds have that enable them to fly. Use the websites below to help you complete #8 (chart).

http://www.rspb.org.uk/youth/learn/adaptation/flight/wings.aspx

http://content.blackgold.ca/ICT/Divison2/TopicA/How%20Birds%20Fly.htm

http://fsc.fernbank.edu/Birding/skeleton.htm
http://www.all-birds.com/Anatomy.htm
http://www.ornithopter.org/birdflight/flap.shtml

What Adaptations Enable a Bird to Fly?



Complete this chart by writing down how birds have adapted in the following areas so they can fly.

Skeleton	
Body Shape	
Wing Structure	
Tail	
Propulsion	
Other	

Think about why can't penguins fly?