

Science Unit Plan

Grade 6 Topic A Air & Aerodynamics

EDUC 3601
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Table of Contents

Focusing Questions	3
Unit Summary	3
Key Terms and Concepts.....	3
Unit Rationale	4
Graphic Organizer	4
Learning Expectations	5
Assessment Plan	8
Unit Schedule	9
Daily Unit Schedule	10
Materials and Equipment	16
Learning Resources	17

Focusing Questions:

- What is air and what is it made of?
- How does air interact with the world around us?
- What gives birds and planes the ability to fly?

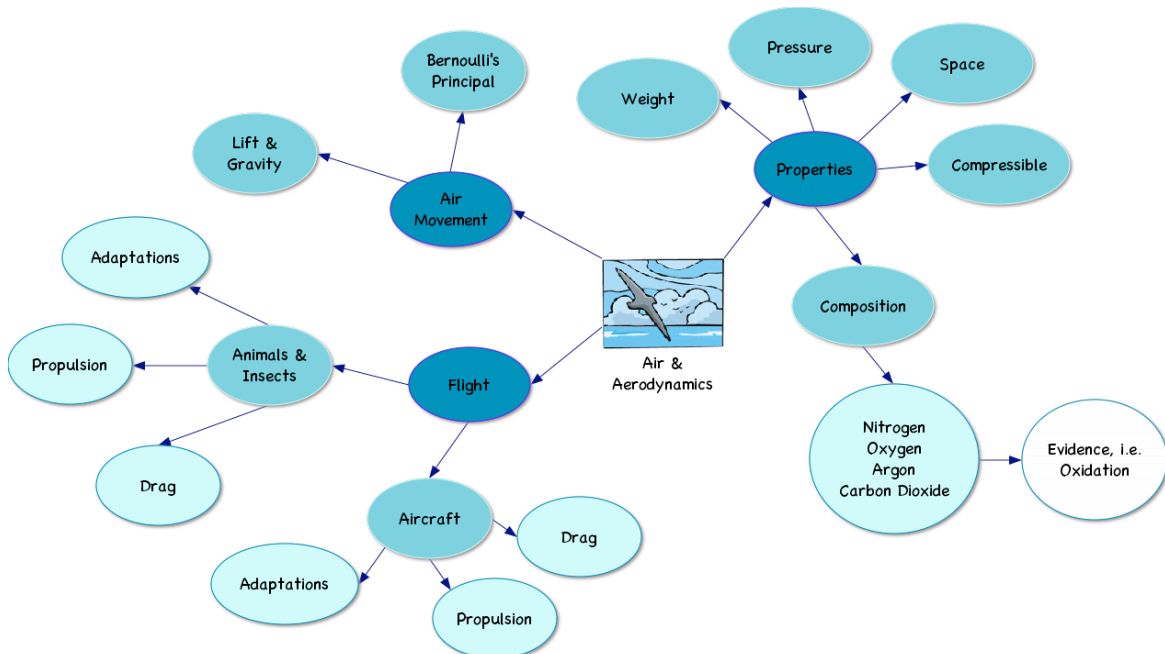
Unit Summary:

Have you ever wonder how a plane weighing thousands of pounds can stay in the air? Have you ever stood in amazement of birds in flight and questioned why they can fly but wondered why we can't? In this unit you will learn how air interacts with the world around us and how moving air can even support things in flight!

First, we will perform a series of experiments in order to prove that air really does exist. We will discover that air has weight, exerts pressure, and takes up space. Additionally, we will explore how air is used in our daily lives in tires, lifts, etc. Once we understand the basic properties of air, we will begin to learn how moving air can support materials through the concept of lift, Bernoulli's Principle. To fully understand the concepts of flight we must also investigate drag, thrust, and gravity and how those elements affect flight. You will learn how birds and insects have developed adaptations in order to be able to fly. We will complete the unit on air looking at what air is made of by completing a series of exciting experiments to prove that those gases exist in air.

Key Terms and Concepts:

- | | | |
|------------|-------------------------|------------------|
| • Pressure | • Bernoulli's Principle | • Oxidation |
| • Weight | • Propulsion | • Carbon dioxide |
| • Lift | • Compression | • Atmosphere |
| • Gravity | • Adaptations | • Nitrogen |
| • Drag | • Composition | • Oxygen |
| • Thrust | • Aircraft | • Argon |

Concept Map: Unit A – Air and Aerodynamics**Unit Rationale:**

The unit has been organized in a manner that allows for a progression in student learning that begins with the properties of air. If the student know why the air behaves the way it does, then it becomes a foundation to build on for the other components of the unit. We will explore a number of examples of how air is used in our daily lives to reinforce the concepts.

Mostly lessons take the form of an introduction to the objective and concepts to be learned in the lesson. Once the students have been given an overview of the concepts, they are given the opportunity to observe those concepts for themselves. Most student activities are hands-on activities that allow for student led inquiry learning. As we often learn better by doing it ourselves I hope that the students will be able to use the hands-on activities to reinforce the concepts learned in the lecture portion of the class. To wrap up the class we all come back together to share experiences and reinforce the connection between the concepts introduced at the beginning of class, and what was observed during the activities or experiments.

The Performance Assessment was designed to allow students do explore the process of flight in birds and aircraft independently using multiple resources. For the assessment the students have to research the flight adaptations of a bird or insect and compare those adaptations to a plane that is in the Nanton Flight Museum. The students have options in the manner they would like to present the information they collected in poster, brochure, or in a TV segment.

General and Specific Learner Expectations

Skills

Science Inquiry

General Learner Expectations:

- 6-1 Design and carry out an investigation in which variables are identified and controlled, and provides a fair test of the question being investigated.
- 6-2 Recognize the importance of accuracy in observation and measurement; and apply suitable methods to record, compile, interpret and evaluate observations and measurements.

Specific Learner Expectations:

Focus:

- F-1 Ask questions that lead to exploration and investigation
- F-2 Identify one or more possible answers to questions by stating a prediction or hypothesis.

Explore and Investigate:

- EI-1 Identify one or more ways of finding answers to given questions.
- EI-2 Plan and carry out procedures that comprise of a fair test.
- EI-3 Identify variables:
 - identify the variable manipulated
 - identify the variables to be held constant
 - identify the variable that will be observed (responding variable)
- EI-4 Select appropriate materials and identify how they will be used.
- EI-5 Modify the procedures as needed.
- EI-6 Work individually or cooperatively in planning and carrying out procedures.
- EI-7 Identify sources of information and ideas and demonstrate skill in accessing them. Sources may include library, classroom, community, and computer resources.

Reflect and Interpret:

- RI-1 Communicate effectively with group members in sharing and evaluating ideas, and assessing progress.
- RI-2 Record observations and measurements accurately using a chart format where appropriate.
- RI-3 Evaluate procedures and identify possible improvements.
- RI-4 State an inference, based on results. The inference will identify a cause and effect relationship that is supported by observations.
- RI-5 Identify possible applications of what was learned.
- RI-6 Identify new questions that arise from what was learned.

Attitude

General Learner Expectations:

- 6-4 Demonstrate positive attitudes for the study of science and for the application of science in responsible ways.

Specific Learner Expectations:

- A-1 Curiosity
- A-2 Confidence in personal ability to learn and develop problem-solving skills
- A-3 Inventiveness and open-mindedness
- A-4 Perseverance in the search for understanding and for solutions to problems
- A-5 Flexibility in considering new ideas
- A-6 Critical-mindedness in examining evidence and determining what the evidence means
- A-7 Willingness to use evidence as the basis for their conclusions and actions

- A-8 Willingness to work with others in shared activities and in sharing of experiences A-9 Appreciation of the benefits gained from shared effort and cooperation
- A-10 A sense of personal and shared responsibility for actions taken
- A-11 Respect for living things and environments, and commitment for their care.

Understandings (Knowledge)

General Learner Expectations

- 6-5 Describe Properties of air and the interactions of the air with objects in flight.

Specific Learner Expectations

Students will:

- K-1 Provide evidence that air takes up space and exerts pressure, and identify examples of these properties in everyday applications.
- K-2 Provide evidence that air is a fluid and is capable of being compressed, and identify examples of these properties in everyday applications.
- K-3 Describe and demonstrate instances in which air movement across a surface results in lift (Bernoulli's principle).
- K-4 Recognize that in order for devices or living things to fly, they must have sufficient lift to overcome the downward force of gravity.
- K-5 Identify adaptations that enable birds and insects to fly.
- K-6 Describe the means of propulsion for flying animals and for aircraft.
- K-7 Recognize that streamlining reduces drag, and predict the effects of specific design changes on the drag of a model aircraft or aircraft components.
- K-8 Recognize that air is composed of different gases, and identify evidence for different gases.

Grade 6 Science Unit A: Air and Aerodynamics

7

Unit Assessment Plan: Grade 6 Topic A – Air and Aerodynamics

Learning Expectations	Assessment	Date	Weighting
<p>Skills: F-1 Ask questions that lead to exploration and investigation EI-2 Plan and carry out procedures.</p> <p>Attitudes: A-1 Curiosity. A-8 Willingness to work with others.</p> <p>Understanding: K-1 Provide evidence that air takes up space and exerts pressure.</p>	<p>Assignment #1: Proof of Air</p> <ul style="list-style-type: none"> • Learning centers to explore the properties of air (pressure, mass, and space) • Groups of 2-3 students (Each student submits observation and conclusion sheet) 	Mar. 17	10%
<p>Skills: EI-1 Identify one or more ways of finding answers to given questions. EI-4 Select appropriate materials. EI-5 Modify the procedures as needed. EI-6 Work individually or cooperatively in planning and carrying out procedures.</p> <p>Attitudes: A-2 Confidence in personal ability to learn. A-8 Willingness to work with others.</p> <p>Understanding: K-2 Provide evidence that air is a fluid and is capable of being compressed.</p>	<p>Assignment #2: Blast Off! Building a Rocket.</p> <ul style="list-style-type: none"> • Experimental activity where students are challenged to build a vehicle using a balloon and air compression to make it move. • Groups of 2-3 students (Each student submits observation and conclusion sheet) 	Mar. 22	10%
<p>Skills: EI-7 Identify sources of information & show skill in accessing them.</p> <p>Attitudes: A-4 Perseverance in the search for solutions to problems. A-9 Appreciation of the benefits gained from shared effort and cooperation.</p> <p>Understanding: K-3 Describe how air movement results in lift (Bernoulli's Principle). K-4 Recognize that for things to fly, they must have lift to overcome gravity.</p>	<p>Webquest: Away we go!</p> <ul style="list-style-type: none"> • A webquest activity where students visit various websites to reinforce Bernoulli's Principle and Lift. • Groups 2-3 students 	Mar. 28	15%
<p>Skills: F-2 Identify possible answers to questions by stating a prediction. EI-3 Identify variables. RI-1 Communicate effectively with group members. RI-2 Record observations. RI-3 Evaluate procedures. RI-4 State an inference, based on results.</p> <p>Attitudes: A-5 Flexibility in considering new ideas. A-7 Willingness to use evidence as the basis for their conclusions.</p> <p>Understanding: K-4 Recognize that for things to fly, they must have lift to overcome gravity. K-7 Describe how streamlining reduces drag & predict the effects of specific designs.</p>	<p>Assignment #3: Flight Mission</p> <ul style="list-style-type: none"> • Experimental activity where students are challenged to build a parachute and have the slowest descent time. • Groups of 2-3 students (Each student submits observation and conclusion sheet) 	Mar. 31	10%

Grade 6 Science Unit A: Air and Aerodynamics

8

Learning Expectations	Assessment	Date	Weighting
<p>Skills: EI-7 Identify sources of information and show skill in accessing them. RI-5 Identify possible applications. RI-6 Identify new questions that arise from what was learned.</p> <p>Attitudes: A-10 A sense of personal and shared responsibility for actions taken. A-11 Respect for living things and environments.</p> <p>Understanding: K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.</p>	<p>Performance Task: It's a bird, It's a plane!</p> <ul style="list-style-type: none"> • Performance Assessment task where students are challenged to develop a poster, brochure, or presentation for the Nanton Flight Museum. Products will describe a bird or insect and compare it to an airplane model at the museum. • Groups of 3-4 students 	Apr. 12	25%
<p>Skills: F-2 Identify possible answers to questions by stating a prediction.</p> <p>Attitudes: A-6 Critical-mindedness in examining evidence and determining what the evidence means. A-7 Willingness to use evidence as the basis for their conclusions.</p> <p>Understanding: K-8 Recognize that air is composed of different gases.</p>	<p>Assignment #4: Burn Baby Burn O2 Inferno!</p> <ul style="list-style-type: none"> • Experimental investigation where students will discover that air is composed of several different gases. • Groups of 2-3 (Each student submits observation and conclusion sheet) 	Apr. 18	10%
<p>Understandings: K1-K8</p>	<p>Unit Test</p> <ul style="list-style-type: none"> • Answer Key 	Apr. 20	20%
Total			100%

Grade 6 Science Unit A: Air and Aerodynamics

9

Unit Schedule: Grade 6 Topic A–Air and Aerodynamics

Dates: March 16, 2011 to April 20, 2011 Lesson Length: 60min

M 14 Evidence and Investigation	T 15 Evidence and Investigation	W 16 Lesson #1 Air & Aerodynamics Unit <ul style="list-style-type: none">• Introduction to Unit• KWL charts (complete K & W)• Introduction to Learning Centers: Proof of Air	R 17 Lesson #2 <ul style="list-style-type: none">• Complete Learning Centers Proof of Air.• Students submit Activity #1 (10%) Rubric	F 18 No Science
M 21 Lesson #3 <ul style="list-style-type: none">• Demo Air Compression• Introduction to Challenge: Blast Off!• Planning Construction	T 22 Lesson #4 <ul style="list-style-type: none">• Blast Off! Construction and Trials• Students submit completed Activity #2 (10%) Rubric	W 23 Lesson #5 <ul style="list-style-type: none">• Lift Off: Introduction to lift and Brenoulli's Principle	R 24 Lesson #6 <ul style="list-style-type: none">• Webquest: Away We Go!	F 25 No Science PD Day
M 28 Lesson #7 <ul style="list-style-type: none">• Complete Webquest: Away We Go!• Students submit completed webquest activity (15%) Rubric	T 29 Lesson #8 <ul style="list-style-type: none">• Special Guest: Mr. Craig O'neil (pilot)• The wonders of flying!• * Thank you Gift and Card for Mr. O'neil	W 30 Lesson #9 <ul style="list-style-type: none">• It's a Drag: Introducing drag, streamlining & thrust.• Introduce Flight Mission	R 31 Lesson #10 <ul style="list-style-type: none">• Complete Flight Mission Activity• Students submit Flight Mission Activity #3 (10%) Rubric	F 1 No Science
M 4 Lesson #11 <ul style="list-style-type: none">• Introduction to flying birds and insects• Introduce performance assessment	T 5 Lesson #12 <ul style="list-style-type: none">• Begin Performance Assessment: It's a Bird, It's a Plane	W 6 Lesson #13 <ul style="list-style-type: none">• Work on Performance Assessment: It's a Bird, It's a Plane	R 7 Lesson #14 <ul style="list-style-type: none">• Work on Performance Assessment: It's a Bird, It's a Plane	F 8 No Science
M 11 Lesson #15 <ul style="list-style-type: none">• Completion of Performance Assessment: It's a Bird, It's a Plane	T 12 Lesson #16 <ul style="list-style-type: none">• Performance Assessment Presentations (25%) Rubric	W 13 Lesson #17 <ul style="list-style-type: none">• Burn Baby Burn O2 Inferno!• Composition of air and evidence of different gases	R 14 Lesson #18 <ul style="list-style-type: none">• Oxidation (fruit and rust)• * Hand out study guide for Unit Test	F 15 No Science
M 18 Lesson #19 <ul style="list-style-type: none">• Completion of Activity #4• Student Submits Activity #4 (10%) Rubric• Complete KWL Charts (Complete L column)	T 19 Lesson #20 <ul style="list-style-type: none">• Jeopardy Review of Unit• Create Study Guides	W 20 Lesson #21 <ul style="list-style-type: none">• Unit Test 30 min (20%) Answer Key• Discussion• End of Unit!• *Mark exams in pm	R Culmination Day	F

Grade 6 Science Unit A: Air and Aerodynamics

10

Daily Unit Schedule: Grade 6 Topic A–Air and Aerodynamics
 Dates: March 16, 2011 to April 20, 2011 Lesson Length: 60min

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
1	K-1 air takes up space & exerts pressure	Introduction	10	Mystery Box: Introduce Air & Aerodynamics (TLD)	Discussion & Observation
			20	Demonstration: Air is Everywhere	Discussion & Observation
			20	Discuss and complete KWLs (TLD/IW)	Student response (KWL sheet)
			10	Introduce learning centers and procedures for next class (TLD)	Discussion & Observation
2	K-1 air takes up space & exerts pressure	Properties of Air I (Pressure, Space, Weight)	10	Introduction and review of procedures for centers (TLD)	Discussion & Observation
			40	Learning centers: pressure, weight, space (SLI)	Observation & Student response (Investigation sheet)
			10	Clean up and discussion of properties of air (TLD)	Discussion & Observation
3	K-2 Provide evidence that air is a fluid and is capable of being compressed	Properties of Air II (Fluid & Compressible)	10	Introduction and review of properties of air (TLD)	Discussion & Observation
			10	Demonstration: Raise your books	Discussion & Observation
			10	Introduction to challenge: Blast Off! (TLD)	Discussion & Observation
			10	Establish groups and students begin planning design (GW)	Discussion & Observation
			10	Clean up and wrap up discussion completed Exit Slips (TLD)	Discussion, Observation & Exit Slips
4	K-2 Provide evidence that air is a fluid and is capable of being compressed	Properties of Air II (Fluid & Compressible)	10	Introduction and review of procedures & expectations (TLD)	Discussion & Observation
			40	Construction of Rockets (SG) Completion of Investigation sheet (IW)	Observation & Student response (Investigation sheet)
			10	Clean up and discussion of compression of air (TLD)	Discussion & Observation

Grade 6 Science Unit A: Air and Aerodynamics

11

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
5	K-3 Describe and demonstrate instances in which air movement across a surface results in lift (Bernoulli's principle).	Lift (Bernoulli's Principle)	5	Introduction and Demonstration: Ball Funnel Challenge (TLD)	Discussion & Observation
			5	Review of procedures & expectations for learning centers (TLD)	Discussion & Observation
			40	Learning Centers: Lift Off, Mean by Lift, Blowing in the Wind	Observation & Student response (Investigation sheet)
			10	Clean up and discussion of lift and Bernoulli's Principle (WG) Completion of Exit Slips	Discussion, Observation & Exit Slips
6	K-3 Describe and demonstrate instances in which air movement across a surface results in lift (Bernoulli's Principle).	Lift (Bernoulli's Principle)	15	Introduction and review of Lift and Bernoulli's Principle	Discussion & Observation
			10	Review instructions for Webquest Establish groups	Discussion & Observation
			30	Start Webquest Activity (SG)	Observation & Student response (Investigation sheet)
			5	Discussion and clean up	Discussion & Observation
7	K-3 Describe and demonstrate instances in which air movement across a surface results in lift (Bernoulli's Principle).	Lift (Bernoulli's Principle)	5	Introduction and review of Lift and Bernoulli's Principle	Discussion & Observation
			45	Completion of Webquest Activity	Observation & Student response (Investigation sheet)
			10	Discussion and clean up	Discussion & Observation
8	K-1 air takes up space & exerts pressure K-2 air is a fluid and is capable of being compressed K-3 air movement across a surface results in lift (Bernoulli's Principle).	Properties of air, Lift (Bernoulli's Principle), Flight	10	Introduction of Mr. O'neil to class (TLD)	Discussion & Observation
			45	Mr. O'neil (TLD, WG, SG)	Discussion & Observation
			5	Thank you and presentation of gift and card, Completion of Exit Slips	Exit Slips

Grade 6 Science Unit A: Air and Aerodynamics

12

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
9	K-4 For things to fly, they must have lift to overcome gravity. K-7 Streamlining reduces drag, and predict the effects of specific design changes on the drag of a model aircraft or aircraft components.	Gravity and Drag	5	Introduction Review of lift (TLD)	Discussion & Observation
			10	Demonstration: Paper Drag Introduction to drag, thrust and gravity (WG)	Discussion & Observation
			20	Investigating Drag and Gravity (SG)	Observation & Student response (Investigation sheet)
			10	Introduce Flight Mission and procedures (TLD)	Discussion & Observation
			10	Student Planning for Flight Plan (SG)	Observation & Student response (Investigation sheet)
			5	Clean up and discussion of progress (WG)	Discussion & Observation
10	K-4 For things to fly, they must have lift to overcome gravity. K-7 Streamlining reduces drag, and predict the effects of specific design changes on the drag of a model aircraft or aircraft components.	Gravity and Drag	5	Introduction and review procedures for Flight Mission (TLD)	Discussion & Observation
			35	Construction of Flight Mission parachutes (SG)	Observation & Student response (Investigation sheet)
			10	Trials of best design (WG)	
			10	Review results and discussion (WG)	Discussion & Observation
11	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	10	Introduction (TLD)	Discussion & Observation
			10	Movie Clip (Those Magnificent Men and their Flying Machines) (WG)	Discussion & Observation
			20	Brainstorm: Things that can fly Discussion of different adaptations to flight (WG)	Discussion & Observation
			15	Introduction to Performance Assessment: It's a Bird, It's a Plane! Create project groups	Discussion & Observation
			5	Review Completion of Exit Slips	Discussion, Observation & Exit Slips

Grade 6 Science Unit A: Air and Aerodynamics

13

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
12	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	10	Introduction and review procedures for Performance Assessment: It's a Bird, It's a Plane! (TLD)	Discussion & Observation
			45	Group work on Performance Assessment. (SG)	Observation
			5	Clean up and discussion of progress (WG)	Discussion & Observation
13	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	5	Introduction and review procedures for Performance Assessment: It's a Bird, It's a Plane! (TLD)	Discussion & Observation
			50	Group work on Performance Assessment. (SG)	Observation
			5	Clean up and discussion of progress (WG)	Discussion & Observation
14	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	5	Introduction and review procedures for Performance Assessment: It's a Bird, It's a Plane! (TLD)	Discussion & Observation
			50	Group work on Performance Assessment. (SG)	Observation
			5	Clean up and discussion of progress (WG)	Discussion & Observation
15	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	5	Introduction and review procedures for Performance Assessment: It's a Bird, It's a Plane! (TLD)	Discussion & Observation
			50	Group work on Performance Assessment. (SG)	Observation
			5	Clean up and discussion of progress (WG)	Discussion & Observation
16	K-5 Identify adaptations that enable birds & insects to fly. K-6 Describe the means of propulsion for flying animals & aircraft.	Adaptations to Flight and Propulsion for flight	5	Introduction and review of expectations for presentations (TDL)	Discussion & Observation
			50	Presentation of Performance Assessments to the class (SG/ WG)	Performance Assessment Rubric
			5	Discussion and wrap up (WG)	Discussion & Observation

Grade 6 Science Unit A: Air and Aerodynamics

14

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
17	K-8 Recognize that air is composed of different gases.	Composition of Air	10	Introduction: Composition of Air (TLD)	Discussion & Observation
			20	Demonstrations: Slow Burn. Lights Out (WG)	Observation & Student response (Investigation sheet)
				Discussion and completion of observation sheet	
			20	Explanation of next experiment, review procedures	Observation & Student response (Investigation sheet)
				Setting up experiments Fruity Oxidation and Gone to Rust (SG)	
			10	Clean up and discussion of composition of air (TLD)	Discussion & Observation
18	K-8 Recognize that air is composed of different gases.	Composition of Air	15	Introduction: Review Composition of Air (TLD)	Discussion & Observation
			20	Review Procedures (TLD)	Observation & Student response (Investigation sheet)
				Record observations from Fruity Oxidation and Gone to Rust SG	
			20	Completion of Activity #4 Observation Sheet and Questions (IW)	Discussion & Observation
			5	Discussion and clean up (WG)	Discussion & Observation
19	K1-K8	Air and Aerodynamics Concepts	5	Introduction to end of Unit (TLD)	Discussion & Observation
			15	Completion of KWLs (Learned column) (IW)	Discussion & Observation
			5	Introduction and review of rules for Jeopardy game (TLD)	Discussion & Observation
			30	Jeopardy Review Game (WG)	Discussion & Observation
			5	Class wrap up and discussion (WG)	Discussion & Observation
20	K1-K8	Air and Aerodynamics Concepts	10	Introduction and explanation of Review Guides (TLD)	Discussion & Observation
			40	Create Review Guides (IW)	Discussion & Observation
			10	Class discussion and last minute questions for exam (WG)	Discussion & Observation

Grade 6 Science Unit A: Air and Aerodynamics

15

Lesson	Learning Outcome	Concept	Time (min)	Activities & Teaching Strategies	Assessment
21	K1-K8	Air and Aerodynamics Concepts	5	Introduction and instructions for Unit Exam (TLD)	Discussion & Observation
			30	Unit Exam: Air and Aerodynamics (IW)	Observation & Exam
			10	Exam Discussion (WG)	Discussion & Observation
			10	Unit Wrap (WG)	Discussion & Observation

TLD: teacher led discussion
WG: whole group

SLI: student led inquiry
SG: small group work

SG: small group work
IW: independent work

Grade 6 Science Unit A: Air and Aerodynamics

16

Materials and Equipment List:

Date	Materials and Equipment
Mar. 16-17	Student's science duotangs (all classes), Funnel, water, glass jar, plasticine, straw, box, pop bottles, balloons, tub, glasses, paper, string, tape, pin, Handouts for Activity #1, Rubric for Activity #1
Mar. 21-22	Balloons, pencils, straws paper clips, string, milk cartons, plastic syringes, Handouts for Activity #2, Rubric for Activity #2
Mar. 23	Paper, pencil, tin cans, straws, candle, matches, cardboard, balls, funnel, vacuum, Handouts for Webquest Activity
Mar. 24-28	Computers, Handouts for Webquest, Rubric for Webquest
Mar. 29	Materials to be determined by Mr. O'neil. Gift and thank you card for Mr. O'neil.
Mar. 30-31	Paper, paperclips, string, washers, tape, plastic bags, tissue paper, Handouts for Activity #3, Rubric for Activity #3.
Apr. 4-13	Paper, poster board, colouring tools, pencils, computers, library books (flight and birds), Performance Assessment Handout, Performance Assessment Rubric
Apr. 14-15	Fruit, steel wool, test tubes, glasses, tape, candle, matches, water, food colouring, glass jar, fish tank (large clear container), Handouts for Activity #4, Rubric for Activity #4
Apr. 18	Jeopardy Smartboard Game KWL Papers to complete
Apr. 19	Paper for review booklets
Apr. 20	Unit Exam and Rubric

Learning Resources

Print

Campbell, S., Gooley, D., Herridge, D., Kydd, G., Maitson, S., Moore, N., Williams, B., and Wortzman, R. (1993). Addison-Wesley Publishers Limited, Don Mills, Ontario, Canada.

Cooke, D., Herrin, B., Purkis, B., Roitberg, C., Stief, V., Williams, P. (1996). Innovations in Science, Process and Inquiry. Harcourt Brace, Toronto, Ontario, Canada.

Cross, G., Fazio, X., Kelly, D., Lake, J., MacDonald, D., Martin, S., Rosborough, K., Stewart, W., Veitch, B., Wall, B., Wilson, J. (2000). The Sky's the Limit. Scholastic Canada Ltd. Markam, Ontario, Canada.

Edmonton Public Schools. (1996). Topic A: Air and Aerodynamics Grade 6. Edmonton Public Schools.

Nilsson, C., Chiswell, L., Goodyear, J. (2000). Science & Technology Activities Resource: Matter and Materials, Air and Flight. GTK Press, Toronto, Ontario, Canada.

Rose, D. Up, up and away: an intergrade unit for flight, air and aerodynamics grade 6. Edmonton Regional Consortium, University of Alberta, Edmonton, Alberta.

Web Resources

http://www.blackgold.ab.ca/ict/Divison2/gr6science/topic_a.htm

http://schools.cbe.ab.ca/curriculum/library/elementary/sci_6_air.html

<http://www.learnalberta.ca/content/setf/html/StudentResource/source/Welcome.html>

<http://www.youtube.com/watch?v=RCmaxzH6JhI>

http://schools.cbe.ab.ca/curriculum/library/elementary/sci_6_air.html

AV Media Resources

Those Magnificent Men and Thier Flying Machines