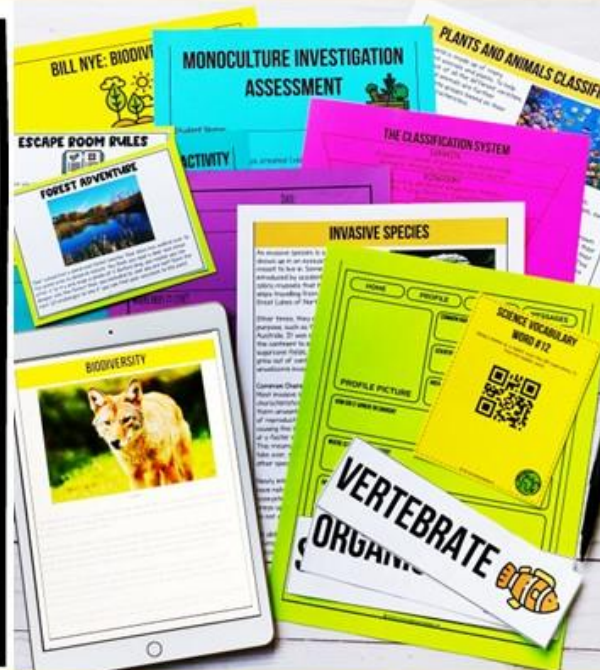


GRADE 6 SCIENCE BUNDLE PDF & DIGITAL FORMATS

Bundle

- ✓ 4 Units
- ✓ 58 Lessons
- ✓ MP3 Audio Files
- ✓ Hands-On Labs
- ✓ Inquiry Activities
- ✓ Print & Digital



**2022 ONTARIO
CURRICULUM**

RESOURCE INCLUDES

1. 4 Units
2. 58 Lessons
3. MP3 Audio Files
4. Hands-On Labs
5. Inquiry Activities
6. Print & Digital Formats
7. Student Choice
8. Detailed Lesson Plans
9. Quizzes & Unit Tests
10. Assessment Rubrics
11. 4 Digital Escape Rooms
12. Aligned to the 2022 Ontario Science Curriculum



2 Peas and a Dog

Middle School Teaching Resources

WHAT ARE TEACHERS SAYING

“Incredible science resource for grade six. This was a great investment to purchase the bundle. Well worth it. Always impressed with this TPT seller and highly recommend any of the products from this seller.” – Catherine C.



“Great resource to support the grade 6 Ontario curriculum!” – Sarah W.



“Teaching a grade 5/6 class this year, this product has saved me! It includes everything you would need to teach the grade 6 science units. Thank you for making this product!” – Raquel H.

WHAT'S INSIDE?



Electricity Lessons

- ✓ Introduction: Safety Rules
- ✓ Introduction: Vocabulary
- ✓ Lesson 1: Current and Static Electricity
- ✓ Lesson 2A: Static Electricity
- ✓ Lesson 2B: Static Demonstration
- ✓ Lesson 3: Conductors and Insulators
- ✓ Lesson 4: Energy Conversions
- ✓ Lesson 5: Electrical Device Creation
- ✓ Lesson 6: Energy Transformations
- ✓ Lesson 7: Electrical Energy Transformation Device
- ✓ Lesson 8: Electrical Circuits
- ✓ Lesson 9: Series and Parallel Circuits
- ✓ Lesson 10: Creating Series and Parallel Circuits
- ✓ Lesson 11: Electricity Changes Over Time
- ✓ Lesson 12: Electricity Inquiry
- ✓ Lesson 13: Energy Conservation Project
- ✓ Lesson 14: Unit Test
- ✓ Lesson 15: Unit Review/Sub Plans
- ✓ Lesson 16: Electric Cars Article
- ✓ Lesson 17: Digital Escape Room

Biodiversity Lessons

- ✓ Introduction: Safety Rules & Unit Vocabulary
- ✓ Lesson 1A: Classifying Plants and Animals
- ✓ Lesson 1B: The Classification System
- ✓ Lesson 2: Biodiversity
- ✓ Lesson 3: Biodiversity Within Species
- ✓ Lesson 4: Biodiversity Within Ecosystems
- ✓ Lesson 5: Interrelationships
- ✓ Lesson 6: Everyday Products
- ✓ Lesson 7: Invasive Species
- ✓ Lesson 8: Comparing Organisms
- ✓ Lesson 9: Biodiversity and Climate Change
- ✓ Lesson 10: Biodiversity in Agriculture
- ✓ Lesson 11: Monoculture
- ✓ Lesson 12: Local Issues
- ✓ Lesson 13: Biodiversity Unit Test
- ✓ Lesson 14: Sub Plans
- ✓ Lesson 15: Dangerous North American Snakes Non-Fiction Article
- ✓ Lesson 16: Biodiversity Digital Escape Room

WHAT'S INSIDE?



Flight Lessons

- ✓ Introduction: Safety Rules & Unit Vocabulary
- ✓ Lesson 1A: The Properties of Air
- ✓ Lesson 1B: The Properties of Air Demonstration
- ✓ Lesson 2: Compression and Insulation of Air
- ✓ Lesson 3: Four Forces of Flight
- ✓ Lesson 4: Unbalanced Forces
- ✓ Lesson 5: How The Four Forces Can Be Altered
- ✓ Lesson 6: Characteristics And Adaptations That Enable Living Things To Fly
- ✓ Lesson 7: Paper Airplane Lab
- ✓ Lesson 8: Air Travel Inquiry
- ✓ Lesson 9: Flight Unit Test
- ✓ Lesson 10: Sub Plans
- ✓ Lesson 11: Drones Article Independent Work
- ✓ Lesson 12: Flight Digital Escape Room

Space Lessons

- ✓ Introduction: Safety Rules & Unit Vocabulary
- ✓ Lesson 1: Solar System Components
- ✓ Lesson 2: Light in Space
- ✓ Lesson 3: Humans in Space
- ✓ Lesson 4: Space Exploration Tools
- ✓ Lesson 5: The Earth, Moon, and Sun
- ✓ Lesson 6: Sun Dial Creation Lab
- ✓ Lesson 7: Canadian Contributions To Space
- ✓ Lesson 8: Space Exploration
- ✓ Lesson 9: Mission To Mars Inquiry
- ✓ Lesson 10: Space Unit Test
- ✓ Lesson 11: Sub Plans
- ✓ Lesson 12: Space Digital Escape Room

WHAT'S INSIDE?



DETAILED LESSON PLANS

INTRODUCTION



Unit Vocabulary

Lesson Overview:

Students will work on reviewing vocabulary for this unit.

Materials Needed:

- Video: [Solar System 101 – National Geographic](#)
- Photocopy a class set or use the provided Google Slides version of the following:
 - Vocabulary sheets (QR Code or Non-QR Code option)
 - Vocabulary graphic organizer
 - Definitions (For IEP and ESL students)
 - Definitions Google Slides

Teacher Instructions:

1. Watch the video [Solar System 101 – National Geographic](#) to introduce this topic.
2. Hang the vocabulary words up around the classroom or hallway using the QR code or non-QR code format.
3. Divide the class into groups of 4.
4. Have students walk around the classroom or hallway and find the vocabulary sheets. Students need to scan the QR code with their phones to uncover the mystery word. Once they have uncovered the mystery word, have them write it on the vocabulary graphic organizer.
5. Once students have completed this activity, discuss the definitions as a class using the provided slideshow or definitions sheets.

LESSON #8



Components of Electrical Circuits

Lesson Overview:

Students will learn about the essential parts of an electrical circuit.

Materials Needed:

- Computer with projector/speakers
- Video #1 – [Circuit diagram – Simple circuits – Electricity and Circuits – Don't Memorise](#)
- Photocopy a class set or use the provided Google Slides of the:
 - Understanding Electrical Circuits article
 - Drawing Electrical Circuits worksheet

Teacher Instructions:

1. Watch the video, [Circuit diagram – Simple circuits – Electricity and Circuits – Don't Memorise](#).
2. Then, hand out the article and read it out loud.
3. After, hand out the worksheet and have students complete it individually. You may use the sample answer sheet to provide them with an example, or you can use it after to take-up answers.
4. Have students share the different circuits they created by describing or showing (using a document camera) their drawings to the class.

LESSON #1A



Properties of Air

Lesson Overview:

Students will learn about the properties of air that make flight possible.

Materials Needed:

- Computer with projector/speakers
- Video: [Exploring Air & Air Pressure](#)
- Photocopy a class set of or use the provided Google Slides version:
 - Properties of Air article
 - Properties of Air Checklist Activity

Teacher Instructions:

1. Watch the [Exploring Air & Air Pressure](#) video.
2. Hand out article and read it out loud as a class.
3. Hand out Checklist Activity and have students complete it individually or in pairs.
4. Take-up answers using the provided answer sheet.

WHAT'S INSIDE?



READINGS

STUDENT READINGS COME WITH MP3 AUDIO FILES

COMPRESSION AND INSULATION OF AIR

Air has practical uses, such as compression and insulation. Air is being used every day in homes, transportation, clothing, and other applications for compression and insulation purposes.



Compression of Air
Compressibility is the measurement of how much an object decreases its volume when it is under pressure. For example, if you take a balloon and squeeze it with your hands, you will observe that it shrinks in size. This is because the air that filled the balloon is compressed when you press it with your hands.

Compressed air is used in various areas, including transportation, diving, and healthcare. For example, the compressed air inside the tires of vehicles provides a smoother ride because it is able to change to road conditions. However, a solid tire has limited compressibility, resulting in a rougher ride for passengers.

Compressed oxygen is routinely used in hospitals to help patients breathe. In addition, airplanes use a pressurized cabin to allow passengers to breathe sufficiently at high altitudes where the air is thin. Likewise, scuba divers must carry a supply of compressed air with them at all times to breathe underwater.

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ELECTRICITY CONDUCTORS AND INSULATORS

Electrical wires can be found in various electrical gadgets, such as televisions, mobile chargers, and table lamps, among others.

If you observe the wires, you will see that they are usually made of two materials: an inner metal core and an outside covering made of rubber or plastic. Each component of the wire plays a critical purpose that cannot be overlooked.

The behaviour of various materials change when electrical energy is applied to them. Certain materials allow electrical current to flow freely, while others prevent the flow of electricity. These objects can be divided into two types: conductors and insulators.

The conductor and insulator ensure electricity flows efficiently and safely to power your electrical appliances, lights, and other electrical equipment.

The inner metal core acts as a conductor, allowing electricity to flow through the wire. Whereas, the outer covering functions as an insulator, protecting humans from electrical shock.

Conductors

A conductor is an object that allows electrons to move freely through it, resulting in the flow of electricity.



Electrical Cords

In some materials, such as metals, the outermost electrons are weakly bonded and can flow freely between the atoms. As a result, metals are frequently used to construct electrical wires and components.

Metal is used in plugs and wires to allow electricity to transfer from the wall socket into an electric device.

Examples of conductors include: Metals (aluminum, brass, bronze, copper, gold, iron, mercury, silver, steel, and platinum), the human body, and graphite, a non-metal substance.

What About Water?

Pure water does not conduct electricity. However, water containing a high concentration of dissolved minerals, like seawater, is a good conductor.

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BIODIVERSITY

The word "biodiversity" comes from combining the two words "biological" (which refers to living organisms), and "diversity" (which is another word for variety). When we talk about biodiversity, we mean all the different kinds of life that exist on Earth.



Biodiversity is divided into three types: species diversity, genetic diversity, and ecosystem diversity.

Species Diversity is the variety of different species that live in a community. For example, if you look at how many different species of fish live in a particular forest. It refers to how many different species of fish are found in one lake.

Genetic Diversity is the variety of genes found in different populations of animals, fungi, and microorganisms, which means that these genes are responsible for different traits. An example is all the different breeds that exist in the dog species (e.g., Labrador Retriever, Husky).

Ecosystem Diversity is all the different habitats that exist in the world. Examples of different ecosystems include tropical or temperate forests, coral reefs, deserts, and mountains.

CHARACTERISTICS OF ORGANISMS

With so many different organisms on Earth, it's only natural people would compare them. Comparing different organisms for similarities and differences helps us understand each one better.



Fish vs. Mammal Characteristics

Both fish and mammals are considered members of the animal kingdom. They do have some characteristics in common, such as both being vertebrates. Yet, they are very different from each other. There are many more species of fish than there are species of mammals, but mammals have evolved more than fish have.

Mammals can adapt to different environments, while fish generally are only suited to living in the water. Some mammals also live in the water, such as whales and dolphins. Bats developed wings to fly. Primates, such as apes and humans, developed large brains to help them better live on land, hunt for varieties of food, and create social relationships.

Fish have scales on their flat bodies and have fins to help them move around. Mammals typically have hair on their bodies, are certainly not flat, and have two or four legs to get around.

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Coniferous vs. Deciduous

You've likely noticed that trees lose their leaves in the fall until spring, where they all year round.

Trees that lose their leaves are called **deciduous trees**. They come in many shapes and sizes and change colours in the fall. They drop their leaves onto the ground. Deciduous trees lose their leaves once the weather turns cold. Coniferous trees keep their leaves on for months by conserving water, which would otherwise cause their leaves to become dry and unhealthy.

Coniferous trees

Coniferous trees have needles instead of leaves and are often called evergreens.

LIFE IN SPACE

Space Sleeping

The ISS is not a quiet place, so many astronauts wear earplugs and a sleep mask when they sleep. Each person is allotted 8.5 hours a day to sleep, but many feel rested after 6 hours.

Sleeping is different in space due to the lack of gravity. Each person has a sleeping compartment that has a sleeping bag, pillow, air vent, and space for their personal belongings. This sleep station keeps the astronauts from floating around when sleeping.

The Bathroom

Going to the bathroom in space is different than on Earth. The toilet in space looks like toilets on Earth, but it doesn't use water. Astronauts strap themselves to it and use a device that sucks away urine. For solid waste, there is a special bag in the toilet and a vacuum that mimics Earth's gravity. The bag is sealed and disposed of in a waste compartment.

Saving Water

Water is limited in space. Astronauts must change some hygiene practices, so they are not using water. For example, using electric razors allows for shaving and hair cutting while using no water. To collect the hair, a special tool is used that has a built-in vacuum for collection before hair floats away.



Many astronauts choose to use edible toothpaste while in space.

Astronauts can use the same toothpaste as on Earth, but because it needs to be rinsed with water, most choose to use an edible toothpaste.

When astronauts clean their faces and hands, they use a wet towel that contains liquid soap or alcohol (similar to hand sanitizer). The shampoo they use is waterless, so it does not need any water for rinsing.

There is no way to wash laundry on the ISS. Instead, astronauts wear their clothes until they are dirty and then throw them out.

Space Life

There's no doubt living in space is very different from living on Earth. However, thanks to some innovative thinking, those living in space can continue to do the things they do at home, just with some special space changes.

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58 LESSONS

WHAT'S INSIDE?



ASSIGNMENTS, LABS & GRAPHIC ORGANIZERS

**58
LESSONS**

PAPER AIRPLANE LAB



Instructions: You are going to create two paper airplanes and test their properties of flight.

- Materials Needed:
- 8.5" x 11" Paper
 - Scissors
 - Rulers
 - Metrestick or tape measure

- What do I need to do?
1. First, watch the videos provided by the teacher.
 2. Then, practice folding The Basic Dart paper airplane several times. Once you feel that you can fold a final copy paper airplane, tell your teacher.
 3. Create your final copy of The Basic Dart paper airplane.
 4. Then, design a second paper airplane. You can use the Lock-Bottom fold design or your own.
 5. Practice folding several times. Once you feel that you can fold a final copy paper airplane, tell your teacher.
 6. Create your final copy of your second design paper airplane.
 7. Your teacher will let you know when it is time to test your paper airplanes.
 8. Complete the Procedure section of your graphic organizer.
 9. After you have tested your two paper airplanes, complete the Observations & Reflections section of the Paper Airplane Lab graphic organizer.
 10. Then complete the lab report write up and submit the Paper Airplane Assessment sheet to your teacher.
 11. Submit the graphic organizers, your paper airplanes, the Paper Airplane Assessment sheet to your teacher when you have completed all of the requirements for this lab.

PAPER AIRPLANE LAB	
Observations & Reflections	
<ol style="list-style-type: none"> 1. Test out each paper airplane design three times. 2. Record the distance in centimetres or metres of each flight. 	
Paper Airplane Design #1	Paper Airplane Design #2
Test Flight 1	Test Flight 1
Test Flight 2	Test Flight 2
Test Flight 3	Test Flight 3
How do you think the design differences affected the flight of your paper airplanes?	
What design differences did you make between the two paper airplanes?	
Why did you make those changes?	

SERIES OR PARALLEL CIRCUITS?

Using the article to help you, explain each diagram in the chart.

Electrical Circuit Diagram	Name	Explain Why It Is This Type Of Circuit

RELATIONSHIPS AMONG SPECIES

After the lesson, list at least one example for each.

Species Working Together	
Mutualism	
Commensalism	
Parasitism	
Species In Competition	

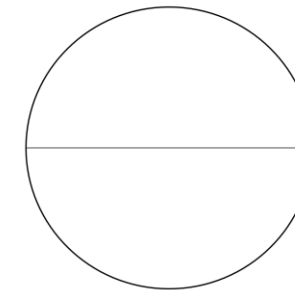
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THE EARTH, MOON, AND SUN

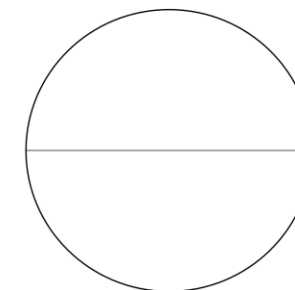
Earth's Seasons

Instructions: Draw where the Sun will be in each month below. Label each of the Earth's hemispheres with winter or summer.

DECEMBER



JUNE



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WHAT'S INSIDE?



Asteroid	A rock in space that ranges in size, which orbits the Sun
Comet	An object in space that consists of a dust and ice, which lights up when close to the Sun and begins to move away from it
Earth	Third planet in orbit around the Sun in the solar system
Moon	A natural satellite that orbits the Earth that can be seen at night
Meteoroid	A small rock in space becomes a meteor
Orbit	The curved movement of planets, stars, etc.
Planet	A circular body that orbits a star

SAMPLE ANSWERS

Answers for this activity will vary, but students should note any special observations, difficulties, or concerns.

Some examples:

1. The parallel circuit appeared to make a stronger light.
2. The series circuit appeared to make a weaker light.

VOCABULARY QR CODE ANSWERS

CARD NUMBER	VOCABULARY WORD
1	Centre of Gravity
2	Combination Structures
3	Compression
4	Dynamic Load
5	Ergonomics
6	External Force
7	Force
8	Form
9	Frame Structure
10	Function
11	Gravity
12	Internal Force
13	Load
14	Point/Plane of Application
15	Shear
16	Shell Structure
17	Solid Structure
18	Stability
19	Static Load

Procedure

1. Did the light from LED appear brighter in the series circuit or the parallel circuit? Explain.
2. Which step in the procedure was the most challenging for this experiment? Why?

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ENERGY CONSERVATION ASSIGNMENT



Your Task: Create an engaging and informative visual presentation (video, brochure/pamphlet, advertisement, social media video, post, infographic, etc.) to showcase energy saving information to students at school.

Energy Conservation Assessment

	Level 1	Level 2	Level 3	Level 4
Science Content	Visual presentation explains one way that people	Visual presentation explains two ways that	Visual presentation explains at least three different	Visual presentation explains at least four different

MONOCULTURE INVESTIGATION ASSESSMENT



Student Name: _____

SUNDIAL LAB ASSESSMENT

When you build your sundial, you are going to write the lab report about your understanding of the science behind a sundial.

Students will create graphic organizers about the accuracy of your sundial, which you expected the shadow to move, and the impact of the tilt on a sundial.

Questions:
 Did you enjoy this lab? Why or why not?
 What problems did they encounter?
 Were there any surprises?
 Would you recommend this lab to future students?



The student's work (video, poster, brochure, etc.) about monoculture was shared with the class. The student's information about monoculture is complete.

Level 2	Level 3	Level 4
Content is brief, but contains accurate information.	Content is complete and accurate.	Content is very detailed and demonstrates extensive research.
Visual project is mostly complete, but requires more colour/images.	Visual project is complete and meets all requirements.	Visual project demonstrates extensive information and creativity.

ANSWER KEYS & RUBRICS

Criteria	Level 1	Level 2	Level 3	Level 4
Sundial Lab	Student was unprepared during sundial lab. Student did not actively participate in the lab.	Student had some of the materials required for the sundial lab. Student participated in the lab, but did not take on an active role.	Student had the required materials for the sundial lab. Student participated in the lab, and took on an active role.	Student had the required materials for the sundial lab. Student took on a leadership position during the lab.
Sundial Lab Report	Lab report is incomplete. Several required elements are missing.	Lab report is missing key elements. Some elements are complete.	Lab report is complete. Some elements could use more detail.	Lab report is well-written and organized. Attention to detail is demonstrated.

FREE UP YOUR WEEKENDS

THIS RESOURCE IS FOR GRADE 6 SCIENCE TEACHERS WHO

- ✓ Want their students to enjoy what they are learning
- ✓ Want their evenings and weekends free from lesson planning
- ✓ Want to ensure that they are covering the curriculum expectations in a meaningful yet engaging way

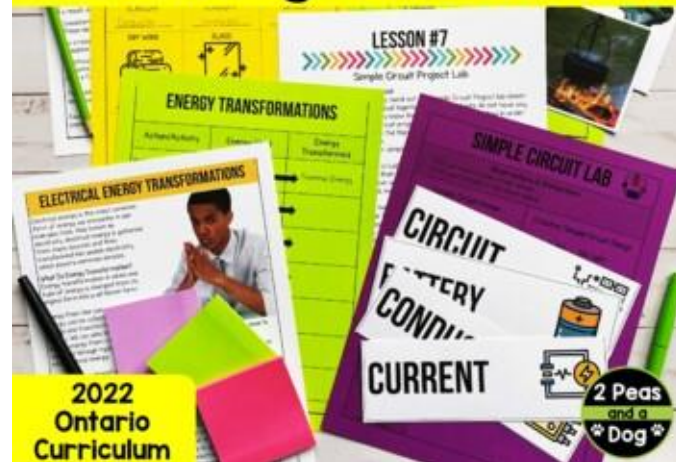
Grade 6 Space Science Unit

PDF & Digital Formats



Grade 6 Electricity Science Unit

PDF & Digital Formats



Grade 6 Flight Science Unit

PDF & Digital Formats



Grade 6 Biodiversity Science Unit

PDF & Digital Formats



LESSON FORMATS



PDF

✓ Individual & Whole Unit



DIGITAL

✓ Google Slides

RESOURCE CAN BE USED IN-PERSON OR ONLINE