BUILDING MINERAL LITERACY THROUGH STEM EDUCATION
EST. 94
mining MATTERS

Unearth It!

Activity Booklet

ages 9-13

Activity List

Welcome to

Unearth It!

Get ready to dig into the incredible story of our planet!

Earth science helps us explore everything from the rocks beneath our feet to the water we drink and the energy we use every day. Canada's geology is full of amazing stories, powerful natural processes, and important resources that help shape our lives.

In this book, you will explore water, hazards, energy, resources, and the environment. These connected topics help us understand how the Earth works, how natural resources are used, and how we can care for our planet.

Along the way, you will:

- Solve puzzles and challenges
- Explore maps, minerals, rocks, and resources
- Investigate natural hazards and Earth systems
- Discover how Earth science connects to everyday life
- Learn about exciting Earth science careers

Flowerpot Island
in Fathom Five National Marine Park,
Georgian Bay, Ontario, Canada

Whether you are tracing the path of water, exploring for resources, or designing your own Earth science career, this book is your chance to think like a scientist and explore the world around you.

Why It Matters

The materials we use every day, from phones and buildings to energy systems, all connect back to the Earth.

By learning about geology and Earth science, we can better understand our planet, make informed choices, and help build a more sustainable future.

So grab a pencil, get curious, and start exploring. There is a whole world waiting to be unearthed!

Activity 1

Time Travel Through Earth's History

Earth's history is divided into units of time that help scientists understand major changes in life and the environment.

Read to Learn

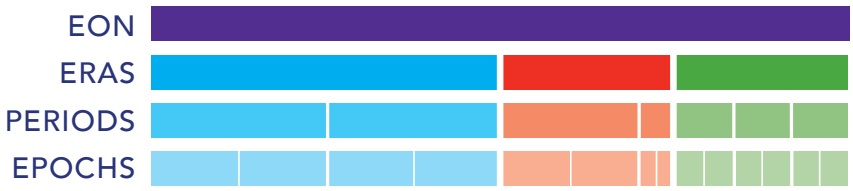
Earth is about 4.6 billion years old. Scientists divide this long history into smaller sections to better understand how Earth has changed over time.

These sections are called:

- **EONS** – the largest divisions of time
- **ERAS** – subdivisions of eons
- **PERIODS** – subdivisions of eras
- **EPOCHS** – smaller divisions of periods

Each level represents important changes in Earth's environment and the life that existed at that time.

How Geological Time is Organized:



Did you know?

Earth's history is so long that humans have only existed for a very small part of it.

Activity Geological Time Foldable

Follow the steps on the next page to create your foldable. Use the diagrams to guide you.

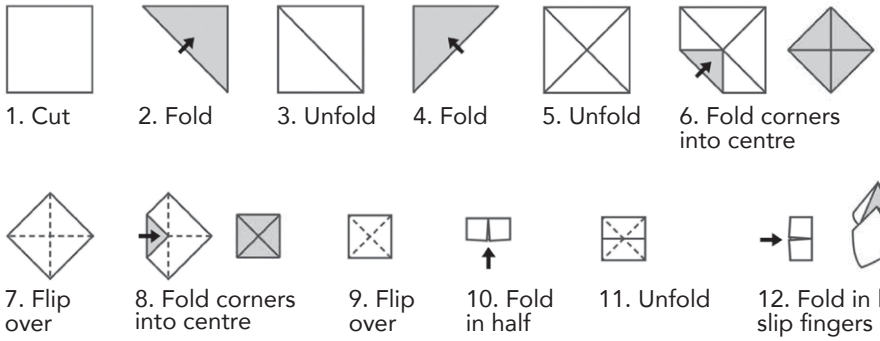
How to Use Your Foldable:

1. Choose one of the words on the outside (Eon, Era, Period, or Epoch).
2. Spell the word out loud, opening and closing the foldable with each letter.
3. Stop when you finish spelling.
4. Choose one of the visible sections.
5. Open the flap to reveal a fact about that time in Earth's history.

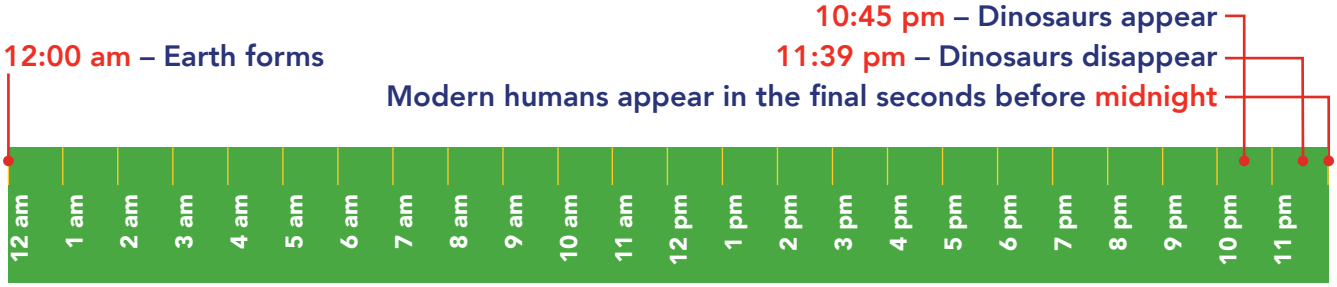
Roll out Earth's history!

Scan to create a **Toilet Tissue Timeline** and explore 4.6 billion years of Earth's story.

How to make your foldable:
Cut out the square along the outer edge and follow the diagrams on how to fold the paper. Your foldable is now ready to use!



If Earth's history were squeezed into a single day, modern humans would appear only seconds before midnight.



EON	APPROX. TIME (*mya = millions of years ago*)	ERA	PERIOD	EPOCH
PHANEROZOIC	11,700 years ago–present	CENOZOIC	QUATERNARY	Holocene
	2.6 mya–11,700 years ago			Pleistocene
	5.3–2.6 mya		NEOGENE	Pliocene
	23–5.3 mya			Miocene
	34–23 mya		PALEOGENE	Oligocene
	56–34 mya			Eocene
	66–56 mya			Paleocene
	145–66 mya	MESOZOIC	CRETACEOUS Modern seed bearing plants Dinosaurs	
	201–145 mya		JURASSIC First Birds	
	252–201 mya		TRIASSIC Cycads, First Dinosaurs	
	299–252 mya	PALEOZOIC	PERMIAN First Reptiles	
	323–299 mya		PENNSYLVANIAN First Insects	
	359–323 mya	CARBONIFEROUS	MISISSIPPIAN Many Crinoids	
	419–359 mya		DEVONIAN First Seed Plants Cartilage fish	
	444–419 mya		SILURIAN Earliest Land Animals	
	485–444 mya		ORDOVICIAN Early Bony Fish	
	541–485 mya		CAMBRIAN Invertebrate animals, Brachiopods, Trilobites	
PROTEROZOIC	2,500–541 mya		Bacteria, Algae, Jellyfish	
ARCHEAN	4,000–2,500 mya		Earth's crust had cooled enough to allow the formation of continents and life started to form	
HADEAN	~4,600–4,000 mya		Formation of the Earth	

Activity 2

Exploration — How Do We Find Resources?

Earth scientists use a process called exploration to find valuable resources underground. They use maps, observations, tools, and data to decide where to look.

Did you know?

Exploration can take many years before a resource is confirmed.

Read to Learn

Before resources can be mined, Earth scientists must first find them. This process is called exploration.

Exploration involves studying the Earth to identify areas that may contain valuable minerals. Earth scientists use maps, collect rock samples, and analyze data to make decisions. Exploration is an important step that helps ensure resources are found safely and responsibly.

The Exploration Process:

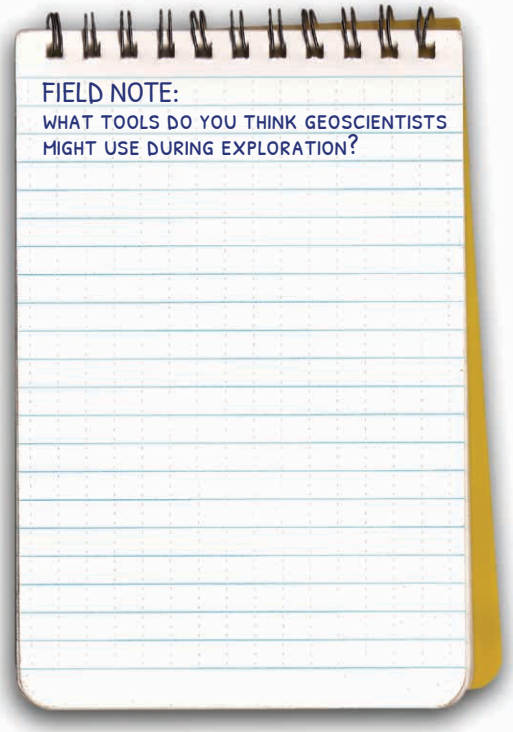
1. **Study the Land**
   Earth scientists look at maps and learn about the geology of an area

2. **Explore on the Surface**
   They visit the area to observe rocks and collect samples

3. **Collect and Analyze Data**
   They study samples and data to identify potential targets

4. **Drill Below the Surface**
   They drill into the ground to test what is underground

5. **Make a Decision**
   They decide if the resource is worth developing



Activity Put the Steps in Order

Look at steps (above) used during mineral exploration and match the numbers below from 1 to 5 in the correct order.

A. ____ Collect rock and soil samples
B. ____ Study maps and previous data
C. ____ Analyze results and identify targets
D. ____ Drill into the ground to test what is underground
E. ____ Visit the area to observe and investigate

Activity 3

Rock Cycle Maze

Rocks change over time through a continuous process called the rock cycle.

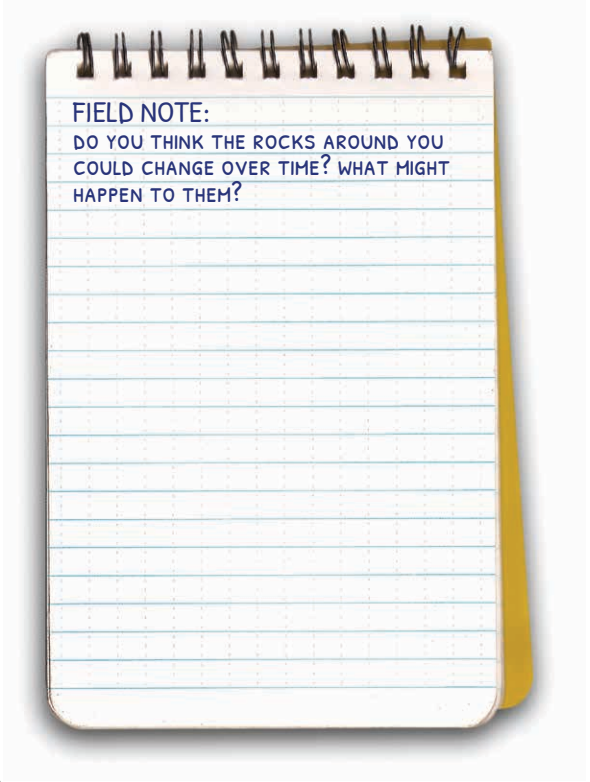
Read to Learn

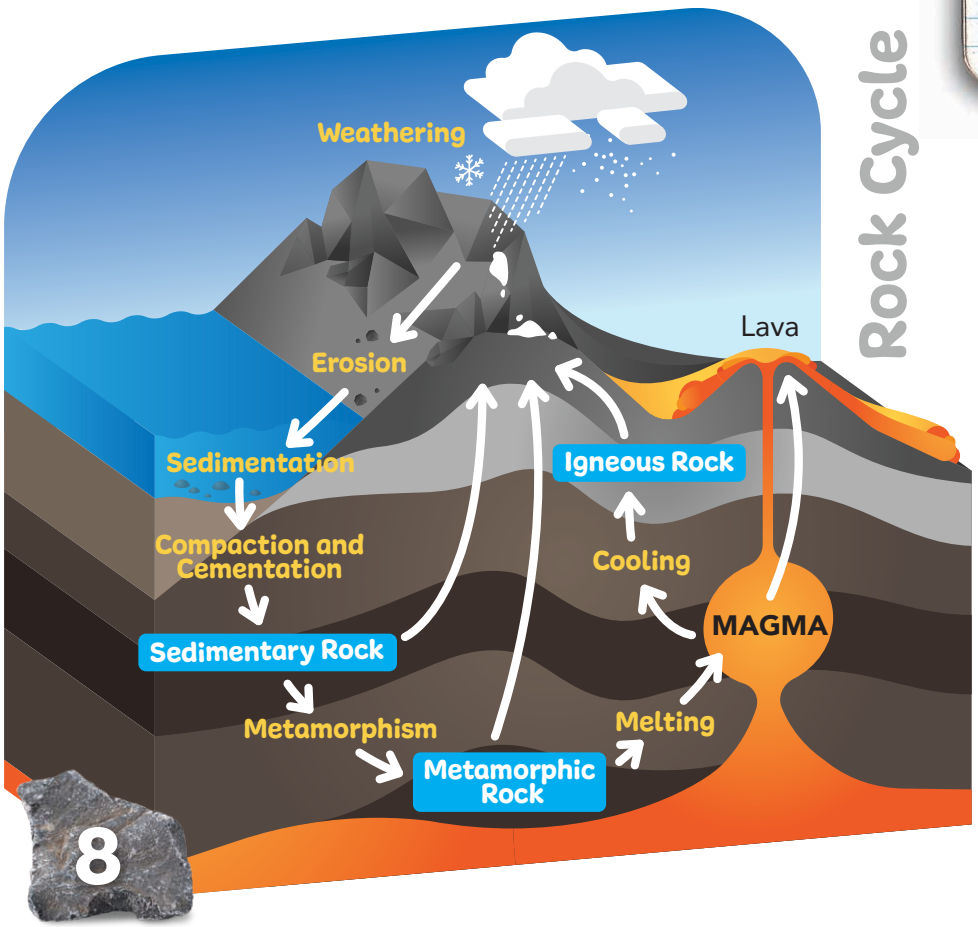
Rocks are always changing. Over time, heat, pressure, and surface processes can transform rocks from one type to another.

There are three main types of rock:

- **IGNEOUS** – forms when melted rock cools
- **SEDIMENTARY** – forms from compacted and cemented sediments
- **METAMORPHIC** – forms when existing rock changes under heat and pressure

These changes happen over millions of years in a repeating process called the rock cycle.





Rock Cycle

Key Vocabulary

- **WEATHERING:** Breaking down rock into smaller pieces
- **EROSION:** Movement of rock and sediment
- **COMPACTION AND CEMENTATION:** Pressing sediments together
- **METAMORPHISM:** Change caused by heat and pressure

Activity Find the Correct Path

At each step, choose the correct process to move to the next stage.

1. Start at **Lava**.
2. If you choose correctly, continue through the maze to reach the end at **Magma**.

If you choose incorrectly, you will reach a dead end or loop. Use the diagram to help guide your choices. Can you make it all the way through the rock cycle?

Rock Cycle Challenge!

Scan to create your own edible rock cycle using Starburst® candy and discover how rocks change over time.

LAVA

Melting

Lava is already melted rock

Cooling

Igneous rock forms when melted rock cools

Igneous Rock

Compaction and Cementation

Sediments go through compaction and cementation

Sediments

Heat and Pressure

Sediments must form rock first

Compaction and Cementation

Sediments form rock

Sedimentary Rock

Rocks break into smaller pieces

Weathering and Erosion

Sedimentary Rock

Weathering happens to solid rock

Cooling forms igneous rock

Heat and Pressure

Rocks change without melting

Metamorphic Rock

Cooling

This rock is formed through heat and pressure

Melting

Rock turns into magma

MAGMA

Did you know?

The same rock can change types many times over millions of years.

Activity 4

Quartz Crystals: Shape and Colour

Minerals form crystals with specific shapes, and their colour can vary depending on what they contain.

Read to Learn

Minerals are made of tiny particles arranged in repeating patterns. These patterns form crystal shapes.

Quartz is one of the most common minerals on Earth. Quartz crystals usually grow in a hexagonal (six-sided) shape with pointed ends, making them easy to recognize in nature. It is naturally clear, but it can form in many different colours caused by small amounts of other elements called impurities that are mixed into the mineral as it forms.

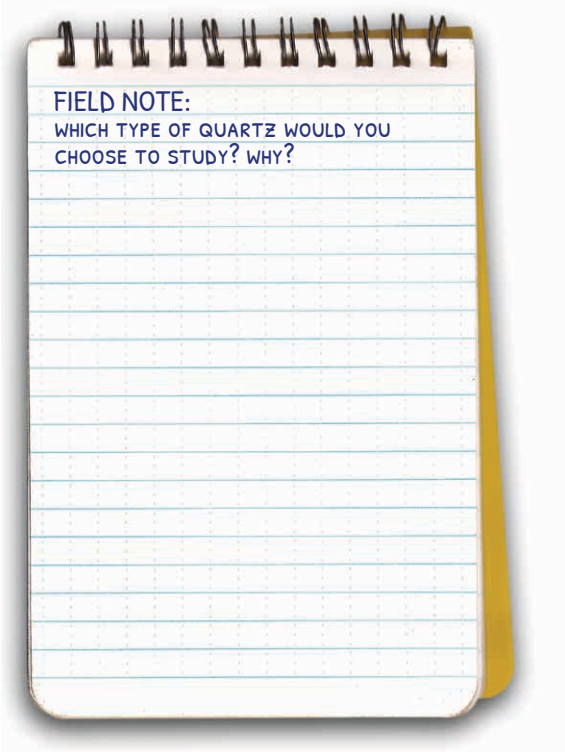
For example, quartz can be:

- **Colourless to white** (Milky Quartz)

- **Purple** (Amethyst)
- **Pink** (Rose Quartz)

- **Yellow to orange** (Citrine)
- **Grey to brown** (Smoky Quartz)

Even very small amounts of impurities can change the colour of quartz. The shape and colour of a mineral can help scientists identify it.



Crystal Builder Challenge!

Scan to create a 3D quartz crystal cluster and discover one of Earth's most common and fascinating minerals.

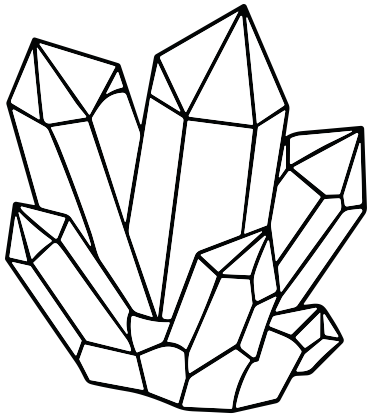
Activity Colour the Quartz Crystals

Look at the quartz crystals below.

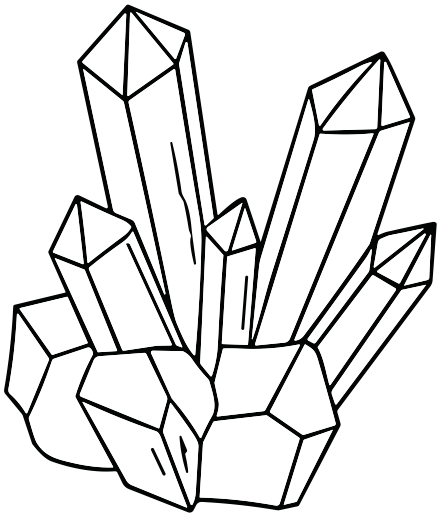
1. Colour each crystal to match a different type of quartz listed using realistic colours and label each one.
2. Use shading or different tones to show the flat crystal faces.

Did you know?

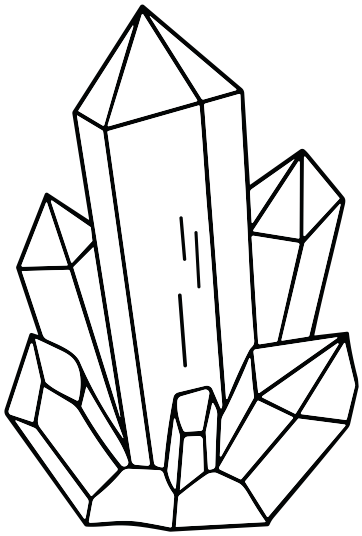
The same mineral can look very different depending on how it forms and what elements are present.



Milky Quartz



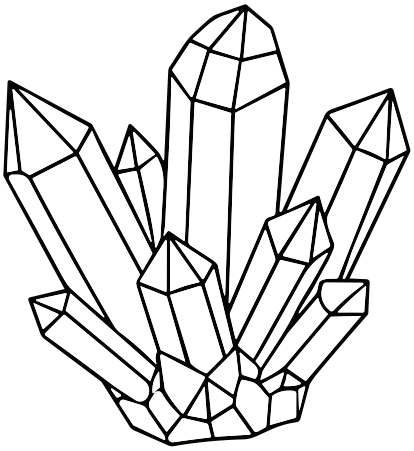
Citrine



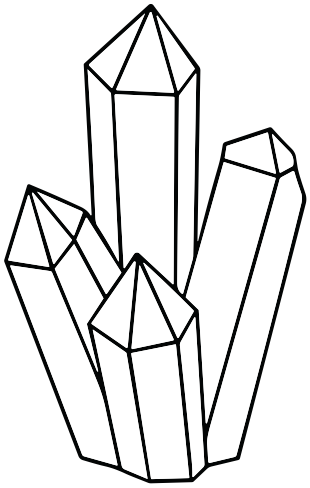
Amethyst

THINK LIKE A SCIENTIST

Why might colour alone not always be enough to identify a mineral?



Smoky Quartz



Rose Quartz

Activity 5

From Ore to Object

Metals come from minerals found in rocks called ore and must be processed before they can be used.

Read to Learn

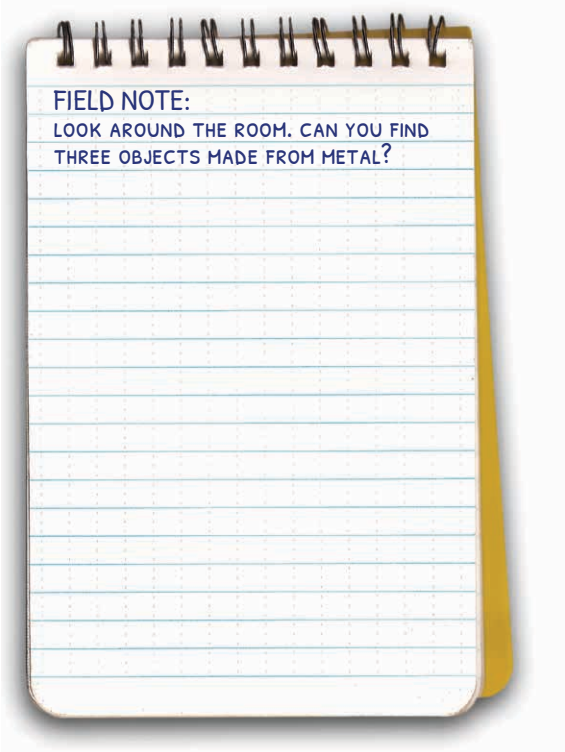
Many of the objects we use every day are made from metals. These metals come from minerals found in rocks called ore. Ore forms in the Earth's crust and is usually mixed with other rocks and materials.

To get the metal, the ore is mined from the ground. It is then crushed into smaller pieces so the useful material can be separated from the waste rock.

Sometimes the ore is heated in a process called smelting to remove the metal.

Different ores contain different metals. For example, chalcopyrite is an ore that contains copper, and sphalerite is an ore that contains zinc. Metals can also be mixed together to create a stronger material called an alloy.

These metals are then used to make many of the objects we use every day.

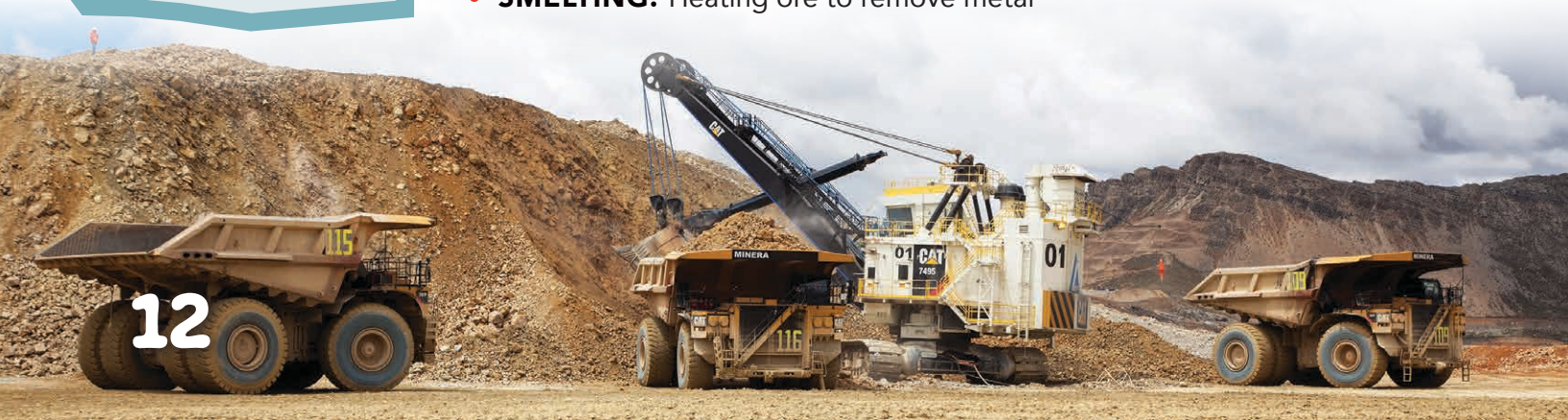


Did you know?

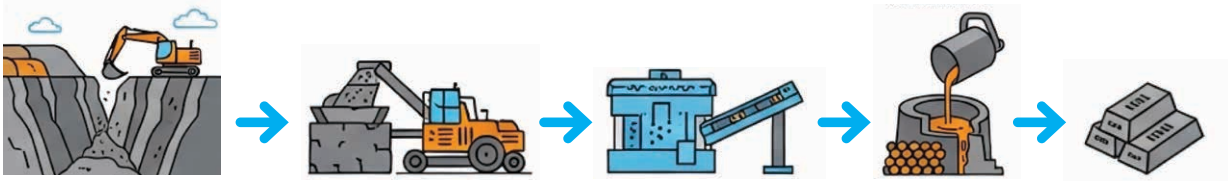
Some ores contain more than one valuable metal.

Key Vocabulary

- **ORE:** A rock that contains valuable minerals
- **METAL:** A material made from elements that can be shaped and used for many purposes
- **SMELTING:** Heating ore to remove metal



How It Works



Rock (Ore) → **Crushing** → **Separation** → **Heating (Smelting)** → **Finished Object**

Activity Fill-in-the-Blanks

Read each sentence about how metals are made from ore. Use the word bank to fill in the missing words.

THINK ABOUT IT:
Why do you think metals need to be processed before they can be used?

Word Bank:

Smelting	**Rocks**	**Zinc**	**Separated**
Crushed	**Mining**	**Alloy**	**Chalcopyrite**
Metals	**Crust**	**Objects**	

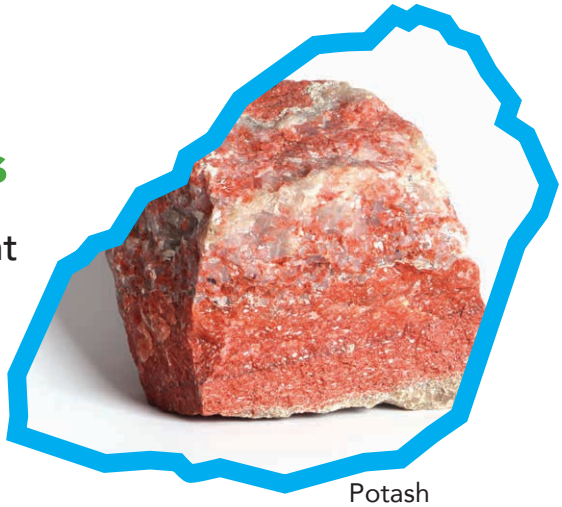
Fill in the Blanks:

1. Ore is a type of rock that contains minerals containing valuable _____ .
2. Ore is usually mixed with _____ and other materials in the _____ .
3. _____ is an ore that is a main source of copper.
4. Sphalerite is an ore that is a main source of _____ .
5. The ore is removed from the ground by a process called _____ .
6. The ore is broken into smaller pieces by being _____ .
7. The useful material is _____ from unwanted material.
8. _____ is a process where ore is heated to remove the metal.
9. The metal may be mixed with other substances to make an _____ .
10. Metals from ores are used to make many everyday _____ .

Activity 6

Canada's Rocks and Resources

Canada's geology influences where different natural resources are found across the country.



Potash

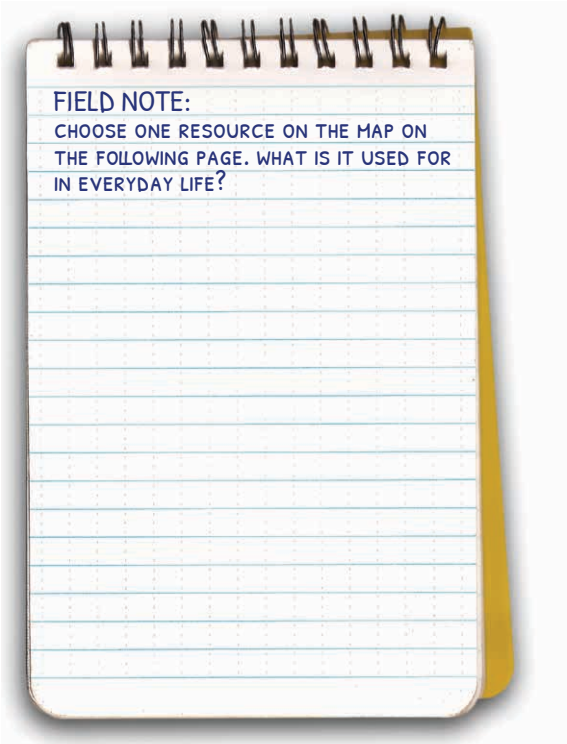
Read to Learn

Canada has many natural resources because of its geology. Different parts of the country formed in different ways over billions of years.

Because of this, certain resources are found in specific regions. For example, the **Canadian Shield** is one of the oldest parts of the Earth. It contains many metals like gold, nickel, and copper.

Other regions, such as sedimentary basins, are more likely to contain oil, natural gas, and potash.

Understanding geology helps scientists and engineers know where to explore for different resources.



Key Vocabulary

- **GEOLOGY:** The study of the Earth and how it formed
- **RESOURCE:** A natural material that people use
- **DEPOSIT:** A concentration of a resource in one place

Did you know?

Canada is one of the world's leading producers of many important minerals and energy resources.

Activity Colour and Explore

Use the map and legend to explore where different resources are found in Canada.

Canada produces many different mineral, metal, and energy resources. This map highlights just one example resource from each province and territory and shows one way it is used in everyday life.

1. Colour each resource on the map
2. Label the resources clearly on the map

Legend

RESOURCE	EXAMPLE PRODUCT OR SERVICE
Silver	Water purification
Diamond	Gemstones
Gold	Jewelry
Copper	Electrical wiring
Oil	Fuel
Potash	Fertilizer
Hydro-electricity	Electricity
Nickel	Electric vehicles
Lithium	Batteries
Zinc	Rust prevention
Salt	Table salt
Sand & gravel	Roads
Iron	Buildings and bridges

Mining Knowledge Challenge!

Scan to test your knowledge of Canada's mining industry, minerals, and careers with the Mining Needs You online quiz.

Quiz provided by MiHR's Mining Needs You program.

Activity 7

Renewable or Non-Renewable?

Natural resources can be classified as renewable or non-renewable based on how quickly they can be replaced.

Read to Learn

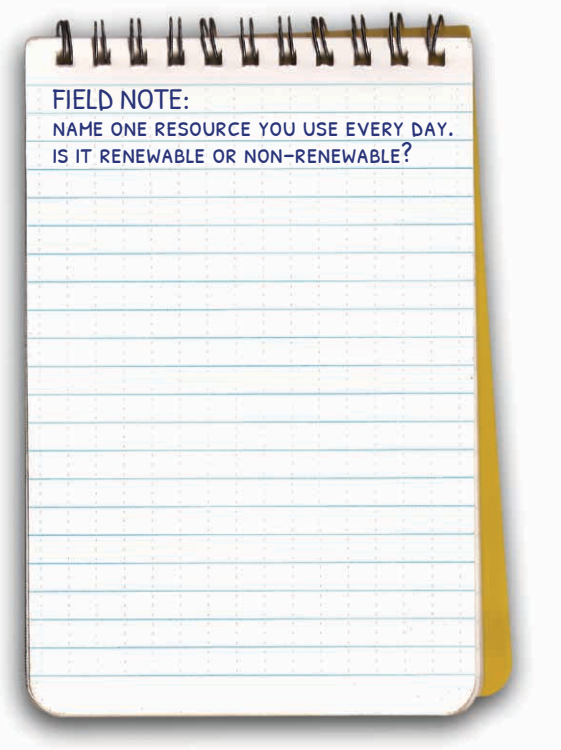
Natural resources are materials we get from the Earth that we use every day.

Some resources are **renewable**, which means they can be replaced naturally in a relatively short amount of time. For example, trees can regrow, and water is constantly moving through the water cycle.

Other resources are **non-renewable**, which means they take millions of years to form and cannot be replaced quickly once they are used. Many materials from the Earth, including metals, fossil fuels, and some energy resources like uranium, are non-renewable.

Some resources are also used to produce energy, such as wind, sunlight, water, and biomass. Biomass includes materials like plants and other organic matter that can be used for energy.

Understanding the difference between renewable and non-renewable resources helps us make informed choices about how we use them.



COMPARE THE TWO

Renewable

Can be replaced quickly. Some examples are trees, water, sunlight, wind, and biomass.

Non-renewable

It takes millions of years to form. Some examples are oil, coal, natural gas, metals, minerals, and uranium.

Key Vocabulary

- **RESOURCE:** A natural material that people use
- **RENEWABLE:** A resource that can be replaced naturally in a short time
- **NON-RENEWABLE**: A resource that takes a very long time to form and cannot be quickly replaced
- **BIOMASS:** Plant and animal material that can be used for energy

THINK ABOUT IT:
Why are some resources considered renewable while others are not? Can a renewable resource become limited if it is overused?

Activity Sort the Resources

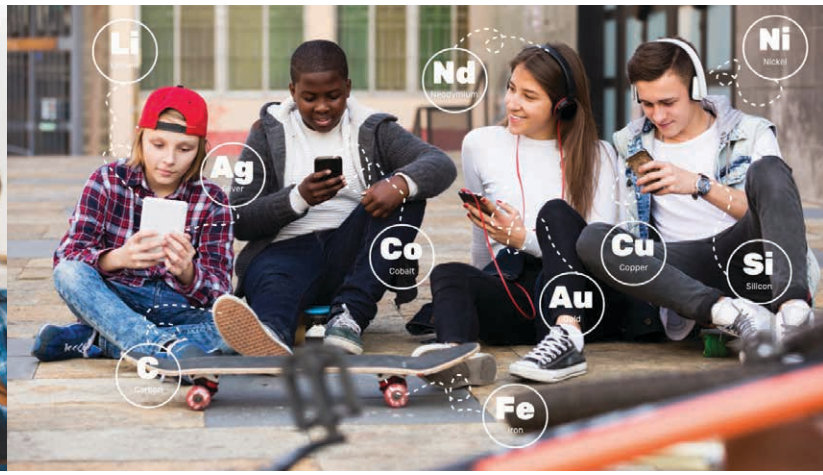
Look at the list of resources below. Write each one in the correct column.

Resources Word Bank:

- Oil
- Wind
- Trees
- Coal
- Solar Energy
- Metals *(Such as iron and copper – used to make materials)*
- Water *(Hydropower)*
- Natural Gas
- Biomass *(Plants and organic material)*
- Uranium *(Used for energy)*

Renewable	Non-renewable

DID YOU KNOW?
Even renewable resources must be managed carefully to ensure they are not used faster than they can be replaced.



Activity 8

Critical Minerals: Powering Our World

Critical minerals are essential materials used in modern technology and clean energy systems.

Did you know?

Electric vehicles, renewable energy systems, and many everyday devices all rely on critical minerals.

Read to Learn

Many of the technologies we use every day depend on materials from the Earth. These materials come from minerals that are mined and processed before they can be used in products.

Some minerals are called **critical minerals** because they are essential for modern life and may be difficult to replace or supply. These minerals are used in technologies such as rechargeable batteries, smartphones, wind turbines, and electric vehicles.

Critical minerals help generate, store, and transfer energy. For example, batteries store energy using materials like lithium, nickel, and graphite, while copper is used to carry electricity through wires.

Canada is an important source of many critical minerals used around the world. Understanding how these materials are used helps us see how Earth science connects to everyday life and more sustainable energy systems.

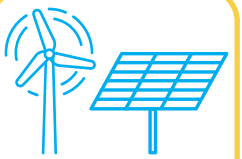
Key Vocabulary

- **MINERAL:** A naturally occurring solid found in the Earth
- **CRITICAL MINERAL:** A material important for technology and energy systems
- **TECHNOLOGY:** Tools and systems used to solve problems or make life easier
- **SUSTAINABLE:** Using resources in a way that protects the future

THINK ABOUT IT:
Why are critical minerals important for clean energy technologies? What might happen if these materials were not available?

Activity Follow the Energy

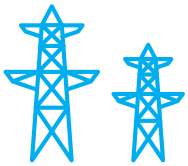
Look at the images below representing the order in which energy is generated, stored, transmitted and used. Match the correct phrase to each image.


Wind turbine & Solar panel

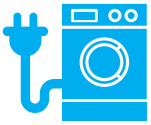
1


Battery

2


Power lines

3


Washing machine

4

- Transmit electricity
- Uses electricity
- Generates electricity
- Stores energy

Activity Make the Connection

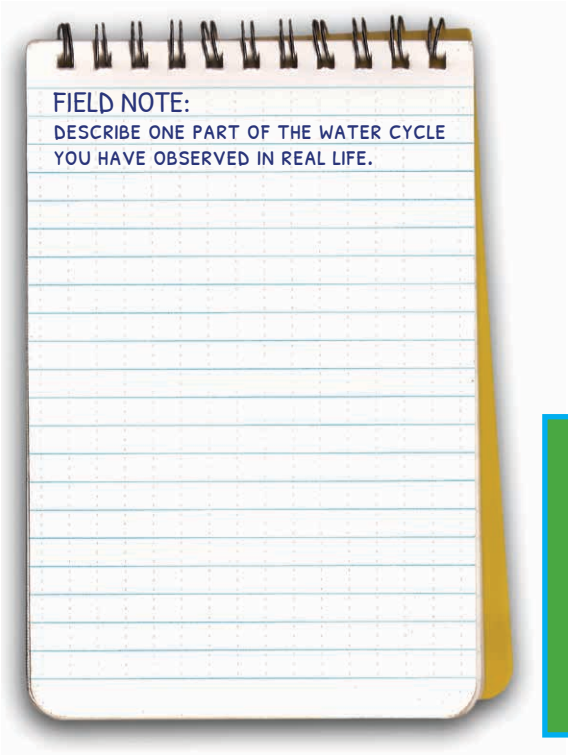
Match each mineral to how it is used in everyday technology.

Minerals	Uses
Lithium	Used in electrical wires to carry electricity
Copper	Used in rechargeable batteries for phones and electric vehicles
Graphite	Used to help batteries store and release energy
Nickel	Used in pencils and as part of battery materials

Activity 9

Water on the Move

Water moves through the Earth in a continuous cycle called the water cycle.



Read to Learn

Water on Earth is always moving. It travels between the land, oceans, and atmosphere in a repeating process called the **water cycle**.

The sun provides the energy that drives this cycle. When water is heated, it evaporates and rises into the air as water vapour. As it cools, it condenses to form clouds. Water then returns to the Earth as precipitation, such as rain or snow.

After reaching the ground, water can follow different paths. It may flow over land, soak into the ground, or return to the atmosphere through plants. These pathways are all part of the water cycle.

The water cycle is important because it distributes water around the planet and supports all living things.

THINK ABOUT IT:
Why is the sun important in the water cycle?
Why can water follow different paths after it reaches the ground?

Key Vocabulary

- **EVAPORATION:** Liquid water changing into water vapour
- **CONDENSATION:** Water vapor cooling and forming clouds
- **PRECIPITATION:** Water falling from the atmosphere
- **RUNOFF:** Water flowing over land into rivers and lakes
- **INFILTRATION:** Water soaking into the ground
- **TRANSPIRATION:** Water released from plants into the air

DID YOU KNOW?
The water you use today may have been part of the water cycle for millions of years.

Activity Follow the Water's Path

Follow the journey of a drop of water through the environment. Using the Word Bank and the numbered prompts, fill in the labels of each step on the graph.

Word Bank:

Evaporation	**Precipitation**	**Runoff**
Condensation	**Transpiration**	**Infiltration**

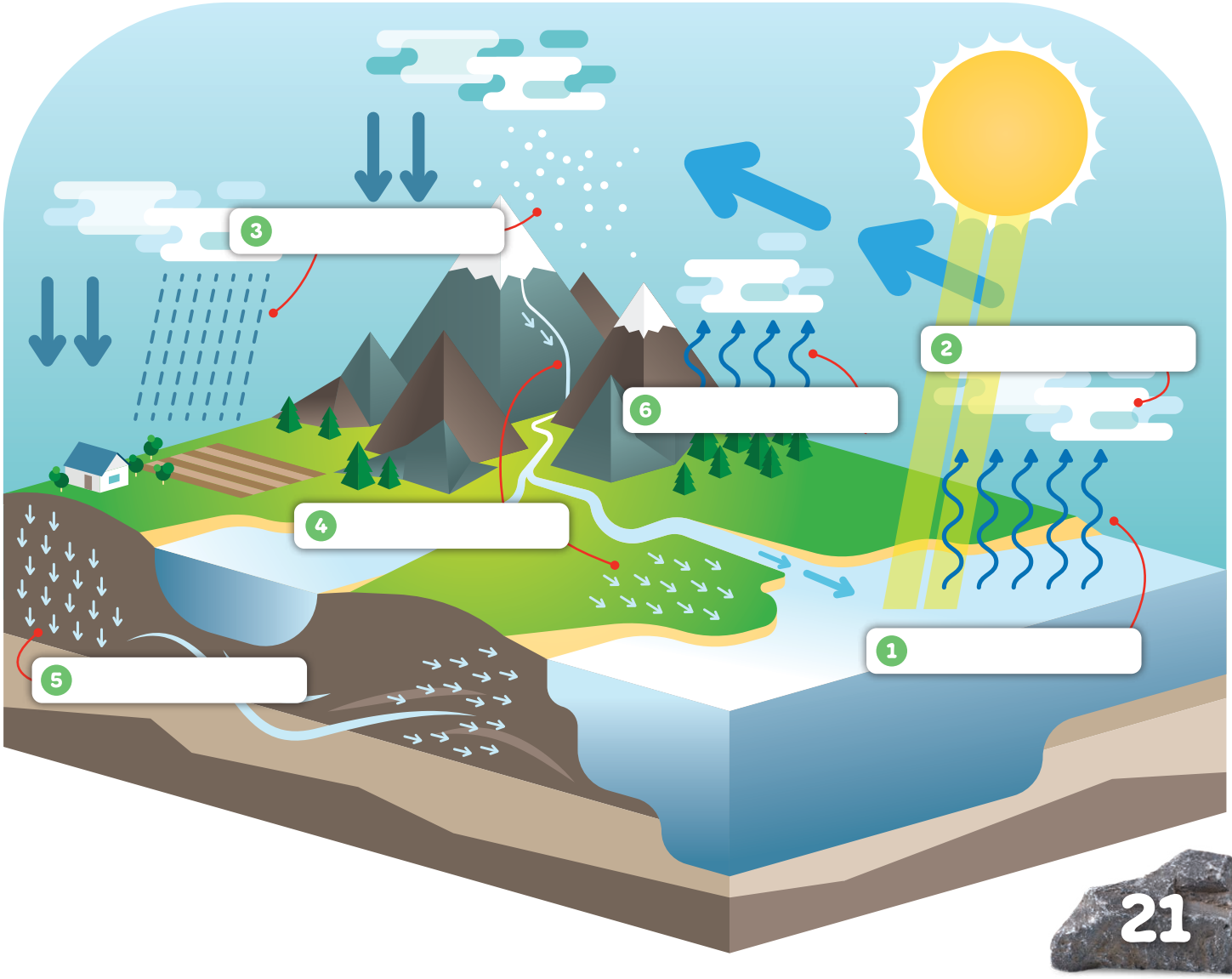
Water Droplet Challenge!

Scan to become a water droplet and discover the many paths water can take through Earth's water cycle.

1. Water is heated by the sun and turns into water vapour
2. Water vapour cools and forms clouds
3. Water falls as rain or snow

From here, water can move in different ways:

4. Water flows over the land into rivers and lakes
5. Water soaks into the ground
6. Plants release water back into the air



Activity 10

Reclaimed Mine Site: Spot the Difference

Land is restored after resource development through a process called reclamation.

Mine and Reclaim Challenge!

Scan to simulate a surface mining operation and discover how mined land can be reclaimed and restored.

Read to Learn

When natural resources are developed, the land can be changed. This may include removing soil and rock, building roads, or using equipment to access the resource. After this work is finished, steps are taken to restore the land. This process is called **reclamation**.

Reclamation can include reshaping the land, replacing soil, planting vegetation, and restoring habitats for wildlife. The goal is to return the area to a safe and stable condition.

Key Vocabulary

- **RECLAMATION:** Restoring land after it has been used
- **HABITAT:** The natural home of plants and animals
- **VEGETATION:** Plants growing in an area

Did you know?

Reclaimed land can be used for parks, wildlife habitats, or other community spaces.

Activity Spot the Differences

Look at the two images below; one shows a site during resource extraction, the other shows the same site after reclamation.

What are the differences between the two images. Can you find all 11?

Activity 11

Understanding Geological Hazards

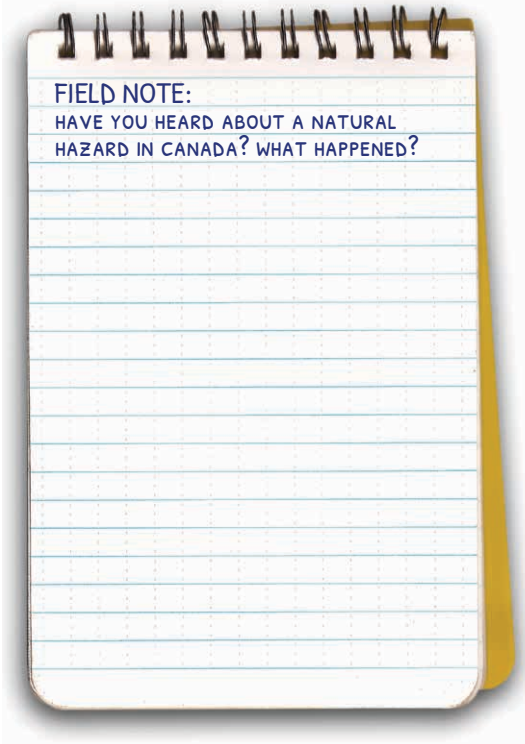
Geological hazards are natural events that can change the Earth's surface.

Read to Learn

Geological hazards are caused by processes happening inside the Earth, on its surface, or through interactions with water and weather.

Some hazards, such as earthquakes and volcanoes, are caused by movement within the Earth. Others, like landslides, avalanches, and floods, can be influenced by weather, gravity, and the landscape.

These events can happen suddenly or develop over time. Scientists study geological hazards to better understand how they occur and to help reduce their impact on people and the environment.



Did you know?

Canada experiences many types of natural hazards, including floods, landslides, and earthquakes.

Key Vocabulary

- **HAZARD:** A natural event that can cause change or damage
- **EARTHQUAKE:** Shaking of the ground caused by movement in the Earth
- **LANDSLIDE:** Movement of rock or soil down a slope
- **VOLCANO:** An opening where molten rock reaches the surface

Activity Identify the Hazard

Read each scenario and identify the geological hazard being described.

Scenarios:

1. The ground shakes suddenly due to movement deep underground.
2. A large wave rushes inland after an underwater disturbance.
3. Snow and ice rapidly slide down a mountain slope.
4. Heavy rain causes water to overflow onto land.
5. Rock and soil move quickly down a steep hillside.
6. Molten rock erupts from an opening in the Earth.
7. The ground collapses, forming a hole in the surface.

Hazard Options:

____ Earthquake
____ Landslide
____ Volcano
____ Tsunami
____ Flood
____ Avalanche
____ Sinkhole

Activity 12

Design Your Earth Science Career

Earth scientists help us understand the Earth and solve real-world problems related to water, hazards, energy, resources, and the environment.

Did you know?

Earth scientists work in forests, mountains, laboratories, mines, offices, coastlines, and remote communities across Canada.

Read to Learn

Earth scientists work in many different careers. Some study water systems, some investigate natural hazards, some help protect the environment, and others explore for resources or develop energy solutions.

No matter their job, Earth scientists use observations, data, and problem-solving skills to better understand our planet and help people make informed decisions.

Now it's your turn to imagine yourself as an Earth scientist.

FIELD NOTE:
WHAT PART OF THIS JOB WOULD YOU ENJOY THE MOST?

Activity Create Your Career Profile

Step 1 – Choose Your Focus Area

Circle one.

Water **Hazards** **Energy**

Resources **Environment**

Step 2: Create Your Earth Science Career

Complete the boxes below.

Career Name: _____

Examples:

- Water → Hydrologist
- Hazards → Seismologist
- Environment → Environmental Scientist
- Resources → Geologist
- Energy → Energy Engineer

Earth Science Career Explorer Challenge!

Scan to explore Earth science careers and discover where your interests could take you.

Career exploration resource provided by the Canadian Federation of Earth Sciences (CFES).

What I Do: _____

Where I Work: _____

Tools I Use: _____

Draw yourself doing your job:

Step 3: Solve a Real-World Challenge

Every Earth scientist helps solve problems related to water, hazards, energy, resources, or the environment.

THINK ABOUT IT:
How does your work help people, communities, or the environment?

Choose a challenge or create your own:

- Investigate a landslide
- Monitor a river
- Explore for resources
- Protect wildlife habitat
- Help plan a renewable energy project

Explain how you will use your skills, knowledge, and tools to complete your challenge.

My Earth Science Challenge:

Answer Key

Activity 2 Exploration — How Do We Find Resources?

A → 3
B → 1
C → 4
D → 5
E → 2

Activity 3 Rock Cycle Maze

Correct Path:
Lava → Cooling → Igneous Rock → Weathering and Erosion → Sediments → Compaction and Cementation → Sedimentary Rock → Heat and Pressure → Metamorphic Rock → Melting → Magma

Activity 5 From Ore to Object

1. Metals
2. Rocks, Crust
3. Chalcopyrite
4. Zinc
5. Mining
6. Crushed
7. Separated
8. Smelting
9. Alloy
10. Objects

Activity 7 Renewable or Non-Renewable

Renewable:
- Wind
- Trees
- Solar Energy
- Water
- Biomass

Non-renewable:
- Oil
- Coal
- Natural Gas
- Metals
- Uranium

Activity 8 Critical Minerals — Powering Our World

Part 1: Label the System

Wind turbine and Solar panel → Generates electricity
Battery → Stores energy
Power lines → Transmit electricity
Washing machine → Uses electricity

Part 2: Make the Connection

Lithium → Used in rechargeable batteries for phones and electric vehicles
Copper → Used in electrical wires to carry electricity
Graphite → Used in pencils and as part of battery materials
Nickel → Used to help batteries store and release energy

Activity 9 Water on the Move

1. → Evaporation
2. → Condensation
3. → Precipitation
4. → Runoff
5. → Infiltration
6. → Transpiration

Activity 10 Reclaimed Mine Site

- Vegetation has been planted and is growing
- Trees have been added
- Wildlife has returned
- Roads have been removed or narrowed
- Mining equipment has been removed
- Buildings have been removed
- Rock piles have been reshaped
- Solar panels have been added
- Wind turbines have been added
- People are using the area for recreation
- More birds are visible

Activity 11 Understanding Geological Hazards

1. → Earthquake
2. → Tsunami
3. → Avalanche
4. → Flood
5. → Landslide
6. → Volcano
7. → Sinkhole

W. **Water** Groundwater, glaciers, oceans, lakes, clouds (essential for all life)

H. **Hazards** Interactions with natural phenomena (protecting the public)

E. **Environment** Natural systems and spaces (climate and sustainability)

R. **Resources** Rocks, minerals, metals, mining (non-renewables we rely on)

E. **Energy** Wind, solar, geothermal, fuels (sustainable extraction and use)

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Canadian Geological Foundation | Fondation Géologique du Canada

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