



ORC CURRICULUM MAP

Grade 2 Science

*Topics Included: Exploring Liquids, Boats and Buoyancy, Magnetism, Hot and Cold
Temperatures, Small Crawling and Flying Animals*

*Resources Included: Scholastic GO! (formerly Amazing Animals of the World), BookFLIX,
Britannica School, PebbleGO Science, PebbleGO Animals, PowerKnowledge Earth and Space
Science, PowerKnowledge Life Science, PowerKnowledge Physical Science, and TrueFLIX*

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Crash Course Kids Disclaimer

These Curriculum Maps have been updated to include the YouTube educational web series *Crash Course Kids*. This web series, from the producers of *Crash Course*, is geared towards elementary grade science. It includes topics related to Earth Science, Physical Science, Biology, Astronomy, and more. These videos can sometimes contain irreverent humour. We encourage educators to preview the videos for appropriateness first before showing them in a classroom or library setting.

Background and Access Information

Learn Alberta's Online Reference Centre is a \$1.2 million collection of authoritative curricular aligned resources that are licensed on behalf of all students, staff, parents and public librarians learning/teaching/supporting the Alberta curriculum.

To Access the Online Reference Centre:

1. Go to LearnAlberta.ca
2. Select English or French
3. Click on "Online Reference Centre" in the tab along the top of the screen
4. In school while on a school device, users do not need to enter a username or password. Users are able to enter any database or website instantly.
5. Access from a personal device in school or remotely from outside of the school will require the user to enter a username/password once to unlock all of the resources.
6. Please share your district's ORC username/password with your students, parents of your students, student teachers and fellow staff members. Please do not share the username and password information on an open website (a website that does not require the user to login).

How to Use This Guide

Attached please find a listing of databases found on Learn Alberta's Online Reference Centre (ORC) that directly support specific learner outcomes in the grade two science and social studies curricula.

Formatting Overview for Scholastic GO! (formerly Amazing Animals of the World):

Curricular Topic

Specific Learner Outcome (SLO)

Resources for Students Reading at Grade Level
Scholastic GO! (formerly Amazing Animals of the World)

- Click search button
 - Search "search term"
 - Select Reading level
 - Article Title

Resources for Students Reading Above Grade Level
Scholastic GO! (formerly Amazing Animals of the World)

- Click search button
 - Advanced Search
 - Search Titles Only "search term"
 - Select Reading level
 - Article Title

Formatting Overview for PebbleGO Databases:**Curricular Topic***Specific Learner Outcome (SLO)*

Name of the Database

- Topic
 - Subtopic
 - Article Title
 - Article Sections

Formatting Overview for BookFLIX:**Curricular Topic***Specific Learner Outcome (SLO)*

BookFLIX

- Theme (Animals and Nature, Earth and Space, etc.)
 - Book Pairing

Formatting Overview for Britannica School:**Curricular Topic***Specific Learner Outcome (SLO)*

Britannica School

- Elementary
 - Keyword Search "Keyword"
 - Article Title
 - Articles
 - Subject area
 - Topic
 - Subtopic
 - Article Title

Formatting Overview for PowerKnowledge Databases:

Curricular Topic

Specific Learner Outcome (SLO)

Name of the Database

- Topic
 - Subtopic
 - Article Title with Hyperlink
 - Article Sections

Formatting Overview for TrueFLIX:

Curricular Topic

Specific Learner Outcome (SLO)

TrueFLIX

- eBook Title (alphabetized listing found in the Resources & Tools link in the top right hand corner of the screen)
 - Chapters in eBook if applicable

If you have any questions regarding this guide or if you would like a guide for additional grades please contact Bethany Arsenault, ORC Coordinator at barsenault@thealbertalibrary.ab.ca

Grade 2 Science

Topic A: Exploring Liquids

SLO: Recognize and describe characteristics of liquids.

SLO: Demonstrate an understanding that liquid water can be changed to other states.

- *Recognize that on cooling, liquid water freezes into ice and that on heating, it melts back into liquid water with properties the same as before*
- *Recognize that on heating, liquid water may be changed into steam or water vapor and that this change can be reversed on cooling*
- *Identify examples in which water is changed from one form to another.*

PebbleGO Science

- Earth and Space Sciences
 - Earth Science
 - All About Water
 - The Water Cycle
 - Earth Features
 - Water
 - Article Section: Solid and Gas
- Physical Sciences
 - Matter
 - What Is Matter?
 - Materials
 - Water as a Material

TrueFLIX

- Experiments with Solids, Liquids, and Gases
 - Chapter: The States of Matter
 - The Properties of Matter
 - Chapter: How Do Liquids Behave?

Resources for Students Reading at or Above Grade Level

Britannica School

- Elementary
 - Keyword Search: "Liquid"
 - States of Matter
 - Water
 - Articles
 - Science and Mathematics
 - Physical Sciences
 - Physics
 - Evaporation and Condensation

PowerKnowledge Physical Science

- Energy and Matter
 - States of Matter
 - [Liquids](#)

Crash Course Kids

- [What's Matter? - Crash Course Kids #3.1](#)
- [Part\(icles\) of Your World: Crash Course Kids #3.2](#)
- [Wood, Water and Properties: Crash Course Kids #15.1](#)

SLO: Recognize that water is a component of many materials and of living things.

PebbleGO Science

- Earth and Space Sciences
 - Earth Science
 - Earth Features
 - What is Earth?
 - Article Section: Earth's Water
 - Water
- Life Sciences
 - Humans

- What Are Humans?
 - Article Sections: About Humans
- Living and Nonliving
 - Article Section: Food, Air, and Water

SLO: Recognize human responsibilities for maintaining clean supplies of water, and identify actions that are taken to ensure that water supplies are safe.

PebbleGO Science

- Earth and Space Sciences
 - Earth Science
 - Natural Resources
 - Humans and the Earth
 - Article Sections: Impact on the Environment, Pollution, How You Can Help

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Energy and Matter
 - [Liquids](#)
 - Article Section: [The Most Important Liquid](#)

PowerKnowledge Earth Space Science

- Water
 - [Oil Spills and Ocean Pollution](#)
 - Article Sections: [The Pollution you Can't See](#), [Wildlife Worries](#), [Pollution Problems for People](#), [Fighting Pollution](#), [Doing Your Part](#)

PowerKnowledge Life Science

- Green Living
 - [Pollution](#)
 - Article Sections: [Acid Rain](#), [What's in our Water?](#),

[People Fighting Pollution](#)

- [Saving Our Earth](#)
 - Article Sections: [Water Pollution](#)
-

Topic B: Boats and Buoyancy

SLO: Describe, classify and order materials on the basis of buoyancy. Students who have achieved this expectation will distinguish between materials that sink in water and those that float...The terms buoyancy and density may be introduced but are not required as part of this learning expectation.

PebbleGO Science

- Physical Sciences
 - Matter
 - Properties of Matter
 - Density and Volume
 - Floating and Sinking

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Energy and Matter
 - States of Matter
 - [Liquids](#)
 - Article Sections: [Special Properties of Liquids](#), [Sink or Float](#)
- Force and Motion
 - Motions in Our World
 - [Boats](#)
 - Article Sections: [All About Boats](#), [Buoyant Boats](#), [Fast Facts](#), [Boats in Our World](#)
 - Science Fair Projects and Experiments
 - [Will it Float?](#)

SLO: Alter or add to a floating object so that it will sink, and alter or add to a nonfloating object so that it will float.

SLO: Assemble materials so they will float, carry a load and be stable.

SLO: Modify a watercraft to increase the load it will carry.

SLO: Modify a watercraft to increase its stability in water.

PebbleGO Science

- Science and Engineering Practices
 - Science and Engineering Methods
 - Asking Questions
 - Using Models
 - Let's Investigate
 - Finding and Sharing Information

SLO: Evaluate the appropriateness of various materials to the construction of watercraft, in particular:

- *the degree to which the material is waterproof (not porous)*
- *the ability to form waterproof joints between parts*
- *the stiffness or rigidity of the material*
- *the buoyancy of the material.*

PebbleGO Science

- Physical Sciences
 - Matter
 - Materials
 - Paper as a Material
 - Article Section: Properties of Paper
 - Plastic as a Material
 - Article Section: Properties of Plastic
 - Wood as a Material
 - Article Section: Properties of Wood

SLO: Adapt the design of a watercraft so it can be propelled through water.

Resources for Students Reading At Grade or Above Grade Level

Britannica School

- Elementary
 - Keyword Search: Boat
 - Boat (small watercraft)
 - Article Sections: Introduction, Types of Boats
-

Topic C: Magnetism

SLO: Identify where magnets are used in the environment and why they are used.

SLO: Recognize that magnets have polarity, demonstrate that poles may either repel or attract each other, and state a rule for when poles will repel or attract each other.

PebbleGO Science

- Physical Science
 - Forces and Motion
 - Magnetism
- Science and Engineering Practices
 - Science and Engineering Methods
 - Asking Questions
 - Using Models
 - Let's Investigate
 - Using Facts?
 - Answers and Solutions

Resources for Students Reading At Grade or Above Grade Level

Britannica School

Elementary

Keyword Search: Magnet

- Magnet and Magnetism (physics)
 - Article Section: Introduction, Properties of Magnets, Uses

PowerKnowledge Physical Science

- Energy and Matter
 - Electricity and Magnetism
 - [All About Magnets](#)
 - Article Sections: [Magical Magnetism](#), [Everyday Magnets](#), [The Biggest magnet of All!](#), [Electromagnets](#), [Using Magnetic Force](#), [Magnets](#)

Everywhere

- Science Fair Projects and Experiments
 - [The Biggest Magnet of All](#)

Crash Course Kids

- [The Science of Lunch: Crash Course Kids #15.2](#)

SLO: Recognize that magnets attract materials with iron or steel in them.

TrueFLIX

- Experiments with Magnets
 - Chapter: Playing with Your Food

Resources for Students Reading At Grade or Above Grade Level

Britannica School

Elementary

Keyword Search: Magnet

- Magnet and Magnetism (physics)
 - Article Section: Properties of Magnets

PowerKnowledge Physical Science

- Energy and Matter
 - Electricity and Magnetism
 - [All About Magnets](#)
 - Article Section: [Magnetic Fields](#), [Using magnetic Force](#)

SLO: Recognize that magnets have polarity, demonstrate that poles may either repel or attract each other, and state a rule when poles will repel or attract each other.

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Energy and Matter
 - Electricity and Magnetism
 - [All About Magnets](#)
 - Article Section: [Pushes and Pulls](#)
 - Science Fair Projects and Experiments
 - [That's Magnetic](#)

TrueFLIX

- Experiments with Magnets
 - Chapter: Magnets in the Making
 - Sections: Where Do Magnets Fit In?, Magnetic Poles, Nature-Made Magnets, Our Mega Magnet
 - Chapter: Magnets at Work
 - Chapter: Electromagnets
-

Topic D: Hot and Cold Temperatures

SLO: Describe temperature in relative terms, using expressions, such as hotter than, colder than.

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Temperature and Measurement
 - Understanding Temperature
 - [All About Heat](#)
 - Article Section: [Measuring Heat](#)

SLO: Measure temperature in degrees Celsius.

PebbleGO Science

- Physical Sciences
 - Matter
 - Properties of Materials
 - Temperature
 - Hot and Cold?

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Temperature and Measurement
 - Understanding Temperature
 - [Heat and Temperature with Graphic Organizers](#)
 - Article Section: [How Temperature is Measured](#)
 - [All About Heat](#)
 - Article Section: [Measuring Heat](#)
 - Measurement
 - [All About the Metric System](#)
 - Article Section: [Metric Temperatures](#)

- Science Fair Projects and Experiments
 - [Make a Thermometer](#)

SLO: Describe how heating and cooling materials can often change them; e.g., melting and freezing, cooking, burning.

PebbleGO Science

- Physical Sciences
 - What is Matter?
 - Matter
 - Properties of Materials
 - Hot and Cold?

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Physical Science

- Temperature and Measurement
 - Understanding Temperature
 - [All About Heat](#)
 - Article Sections: [Measuring Heat](#), [The Science of Heat](#), [Convection](#), [Radiation](#)
 - [Heat and Temperature With Graphic organizers](#)
 - Article Sections: [The Effects of heat](#), [What Causes Changes in Heat and Temperature?](#)
- Energy and Matter
 - [All About Matter](#)
 - Article Sections: [States of Matter](#), [Solids](#), [Liquids](#), [Gases](#), [How Does Matter Change from One State to Another](#), [Will All Matter Melt?](#)

TrueFLIX

- Experiments with Solids, Liquids, and States
 - Chapter: The States of Matter
 - Section: The Properties of Matter
 - Chapter: A Solid State

- Chapter: How Do Liquids Behave?
 - Section: Experiment #1: Changing Properties

Crash Course Kids

- [Wood, Water and Properties: Crash Course Kids #15.1](#)

SLO: Describe the role of insulation in keeping things hot or cold, and identify places where some form of insulation is use; e.g. clothing, refrigeration, coolers, homes.

SLO: Identify materials that insulate animals from the cold; e.g., wool, fur and feathers; and identify materials that are used by humans for the same purpose.

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Life Science

- Science Fair Projects and Experiments
 - [Keeping Warm](#)

TrueFLIX

- Animals and Nature
 - Science and Nature
 - Temperate Forests
 - Chapter Three: Hard Times
 - How Animals Prepare for Winter (Page 25)

Topic E: Small Crawling and Flying Animals

SLO: Recognize that there are many different kinds of small crawling and flying animals, and identify a range of examples that are found locally.

Scholastic GO! (formerly Amazing Animals of the World)

- Click Search Button
 - Search "Rodent"
 - Level 1
 - North American Porcupine
 - American Beaver
 - Search "Bird"
 - Level 1
 - Peregrine Falcon
 - Barn Swallow
 - Bufflehead
 - Woodpecker
 - Common Loon
 - Search "Reptiles"
 - Level 1
 - Common Garter Snake
 - Search "Bees"
 - Level 1
 - Honey Bee
 - Search "Butterflies"
 - Level 1
 - Monarch Butterfly
 - Search "Spiders"
 - Level 1
 - Garden Spider
 - Common House Spider
 - Search "Insects"
 - Level 1
 - Water Measurer
 - Bedbug

- Two-Spotted Lady Beetle
- Mosquito

BookFLIX

- Animals and Nature
 - Pairs: 1-4
 - The Ant and the Grasshopper/Inside an Ant Colony
 - Pairs: 5-8
 - Bug! Bug! Bugs!/ A Ladybug Larva Grows Up
 - The Caterpillar and the Polliwog/A Tadpole Grows Up
 - Pairs: 13-16
 - Diary of a Fly/Flies are Fascinating
 - Diary of a Spider/A Spiderling Grows Up
 - Diary of a Worm/It Could Still be a Worm
 - Pairs: 25-28
 - Hi Fly Guy/It's a Good Thing There Are Insects
 - Pairs 33-36
 - Owen/Mice
 - Pairs: 37-40
 - Roberto The Insect Architect/Termites
 - Pairs 45-47
 - Waiting for Wings/Butterflies
 - Why Mosquitos Buzz in People's Ears/World of Insects: Mosquitos
- Adventure
 - Pairs: 5-8
 - Scaredy Squirrel/Squirrels

PebbleGO Animals

- Amphibians
 - Frogs
 - Mudpuppies
 - Newts
 - Salamanders
 - Toads
- Insects and Spiders

- Insects
 - Ants
 - Cicadas
 - Crickets
 - Dragonflies
 - Fireflies
 - Flies
 - Grasshoppers
 - Honeybees
 - Inchworms
 - Ladybugs
 - Mealworms
 - Monarch Butterflies
 - Mosquitos
 - Moths
 - Painted Lady Butterflies
 - Termites
 - Walking Sticks
 - Wasps
- Spiders
 - Black Widow Spiders
 - Tarantulas
 - Wolf Spiders
- Invertebrates
 - Anemones
 - Centipedes
 - Crabs
 - Earthworms
 - Pillbugs
 - Snails
- Reptiles
 - Lizards
 - Bearded Dragons
 - Chameleons
 - Geckos
 - Gila Monsters

- Iguanas
- Komodo Dragons
- Snakes
 - Anacondas
 - Boa Constructor
 - Cobras
 - Garter Snakes
 - Pythons
 - Rattlesnakes

World Book: Early World of Learning

- Know It!
 - Creepy-Crawlies
 - Ant
 - Beetle
 - Butterfly
 - Dragonfly
 - Grasshopper
 - Honey Bees
 - Water Insects
 - What is An Insect?
 - Rain Forest Animals
 - Bat
 - Frog
 - Insects and Spiders
- Classics (Frog with a Crown at the bottom of the screen)
 - Songs
 - Eensy Weensy Spider
 - Three Blind Mice

Resources for Students Reading At Grade or Above Grade Level

Britannica School

- Elementary
 - Animal Kingdom
 - Amphibians and Reptiles
 - Amphibians

- Frog
 - Toad
- Reptiles
 - Garter snake
 - Gecko
 - Iguana
- Insects and other arthropods
 - Arachnid
 - Spider
 - Tick and mite
 - Insect
 - Ant
 - Bee
 - Beetle
 - Butterfly and moth
 - Caterpillar
 - Cricket
 - Dragonfly
 - Firefly and glowworm
 - Flea
 - Fly
 - Grasshopper
 - Ladybug
 - Mosquito
 - Moth
 - Termite
 - Wasp

PowerKnowledge Life Science

- Animals
 - Bugs and Insects
 - [Spiders](#)
 - [Ants](#)
 - [Bees](#)
 - [Butterflies](#)
 - [Centipedes and Millipedes](#)

- [Dragonflies](#)
- [Flies and Maggots](#)
- [Grasshoppers](#)
- [Ladybugs](#)
- [Mosquitoes](#)
- [Slugs](#)
- [Snails](#)
- [Wasps](#)
- [Worms](#)
- Reptiles and Amphibians
 - [Frogs](#)
 - [Snakes](#)
 - [All About Reptiles and Amphibians](#)
- Mammals
 - [Bats](#)
 - [Prairie Dogs](#)
- Science Fair Projects and Experiments
 - [Animal Behavior](#)
 - [Build a Bug Trap](#)
 - [Spider Hunting](#)
 - [Take a Microhike](#)

Scholastic GO! (formerly Amazing Animals of the World)

Click search button

- Advanced Search
 - Search Titles Only "Bat"
 - Level 2
 - Little Brown Bat

SLO: Recognize that small animals, like humans have homes where they meet their basic needs of air, food, water, shelter and space; and describe any special characteristics that help the animals survive in its home.

PebbleGO Animals

- Animals Classification
 - About Amphibians
 - About Insects
 - About Invertebrates
 - About Reptiles
 - About Spiders

World Book: Early World of Learning

- Know It!
 - Animal Homes
 - Bird Nests
 - Hives and Insect Nests
 - Logs and Leaves
 - Shells
 - Treehouses

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Life Science

- Food Chains and Food Webs
 - [Backyard Habitats](#)
 - Article Sections: [What is a Backyard Habitat](#), [All sorts of Backyard Habitats](#), [What Lives in a Backyard Habitat?](#), [A Chipmunk is Always Busy](#), [So Many Birds!](#), [What is that Humming Sound?](#), [Bugs are Everywhere!](#), [What Grows in a Backyard Habitat?](#), [Sweet Honeysuckle](#), [A Wildlife-Friendly Backyard](#)
- Habitats and Ecosystems
 - Animals and Their Habitats
 - [Bats and Their Home](#)
 - [Cave Creatures](#)
 - [Forest Animals](#)
 - [Owls and Their Homes](#)
 - [Prairie Animals](#)
 - [Snakes and Their Homes](#)
- Survival and Adaptation

- Features for Survival
 - [Beaks](#)
 - [Bugs: In Flight \(Wings\)](#)
 - [Camouflage](#)
 - [Cells](#)
 - [Feet](#)
 - [Skin and Hide](#)
 - [Tails](#)
 - [Teeth](#)
 - [Tongues](#)

Crash Course Kids

- [Gotta Eat!: Crash Course Kids #1.1](#)

SLO: Identify animal's role within the food chain. To meet this expectation, students should be able to identify the animals as plant eaters, animal eaters or decomposers and identify other animals that may use them as a food source.

PebbleGO Science

- Life Sciences
 - Food Chains and Webs

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Life Science

- Food Chains and Food Webs
 - [Backyard Food Chains](#)
 - Article Sections: [Where are Food Chains?](#), [A Nice place to Live](#), [Backyard Herbivores](#), [Hunters in the Backyard](#), [The Soil is Alive!](#), [Exploring the Backyard Habitat](#)
 - [Carnivores](#)
 - Article Sections: [Food Chains and Webs](#), [Predators and Prey](#), [How Carnivores Hunt](#), [Carnivores Come in All Sizes](#), [Reptile Carnivores](#), [Carnivores that Fly](#), [Mammal](#)

Carnivores

- Decomposers
 - Article Sections: [Food Chains and Webs](#), [Energy and Nutrients](#), [Decomposers on the Forest Floor](#), [The Shredders](#), [A New Beginning](#)
- Herbivores
 - Article Sections: [What Are Food Chains?](#), [Herbivore Insects in the Food Chain](#), [Herbivore Birds](#)
- Science Fair Projects and Experiments
 - [Bug-Eat-Bug World](#)

SLO: Identify and give examples of ways that small animals avoid predators, including camouflage, taking cover in burros, use of keen senses and flight.

PebbleGO Animals

- Animals Behavior
 - Nocturnal Animals

PebbleGO Science

- Life Sciences
 - Adaptations

Resources for Students Reading At Grade or Above Grade Level

PowerKnowledge Life Science

- Survival and Adaptation
 - Features for Survival
 - [Beaks](#)
 - [Bugs: In Flight \(Wings\)](#)
 - [Camouflage](#)
 - [Cells](#)
 - [Feet](#)
 - [Skin and Hide](#)
 - [Tails](#)
 - [Teeth](#)

- [Tongues](#)
-