

Unit: WATER (Grade 2)

Duration: April, May, June

Big Ideas	
<p>Science</p> <p>-Water is essential to all living things, and it cycles through the environment.</p>	<p>Principles of Catholic Education</p> <ul style="list-style-type: none"> -Truth, Beauty, and Goodness -Christ-centered -Apostolic -Tradition -Holy -One -Love -Inalienable -Communion / Community

Core Competencies		
<p>Communication</p> <ul style="list-style-type: none"> -Connect and engage with others -Acquire, interpret, and present information -Collaborate to plan, carry out, and review activities -Explain and reflect on experiences 	<p>Creative Thinking</p> <ul style="list-style-type: none"> -Novelty and value -Generating ideas 	<p>Critical Thinking</p> <ul style="list-style-type: none"> -Analyze and critique -Question and investigate -Develop and design
<p>Positive Personal and Cultural Identity</p> <ul style="list-style-type: none"> -Relationships and cultural contexts -Personal values and choices 	<p>Social Responsibility</p> <ul style="list-style-type: none"> -Contributing to community and caring for the environment -Building relationships 	

Curricular Competencies: What students will DO	Concepts and Content: What students will KNOW
<p>Students are expected to be able to do the following:</p> <p>SCIENCE</p> <p>Questioning and predicting:</p>	<p>Students are expected to know the following:</p> <p>SCIENCE</p> <ul style="list-style-type: none"> -Water sources including local watersheds

<ul style="list-style-type: none"> -Demonstrate curiosity and a sense of wonder about the world -Observe objects and events in familiar contexts -Ask questions about familiar objects and events -Make simple predictions about familiar objects and events <p>Planning and conducting:</p> <ul style="list-style-type: none"> -Make and record observations -Safely manipulate materials to test ideas and predictions -Make and record simple measurements using informal or non-standard methods <p>Processing and analyzing data and information:</p> <ul style="list-style-type: none"> -Experience and interpret the local environment -Recognize First People’s stories as ways to share knowledge -Sort and classify data and information using drawings, pictographs and provided tables -Compare observations with predictions through discussion -Identify simple patterns and connections <p>Evaluating:</p> <ul style="list-style-type: none"> -Compare observations with those of others -Consider some environmental consequences of their actions <p>Applying and innovating:</p> <ul style="list-style-type: none"> -Transfer and apply learning to new situations -Generate and introduce new or refined ideas when problem solving <p>Communicating:</p> <ul style="list-style-type: none"> -Communicate observations and ideas using oral or written language, drawing, or role-play 	<ul style="list-style-type: none"> -Water conservation -The water cycle -Local First People’s knowledge of water: water cycles, conservation, connection to other systems
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<p>-Express and reflect on personal experiences of place</p> <p>CHRISTIAN EDUCATION</p> <p>1.1 Collect visual evidence of the abundance of God's creation</p> <p>3.1 Identify people in scripture (ex. Mary, Apostles) and in present day situations who live their call to a Christian life</p> <p>4.2 Respond through prayer to personal and community needs</p>	
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Materials and Technologies	Resources and References
<p>Students will use the following materials, tools, equipment:</p> <ul style="list-style-type: none"> -Computers -Smart Board -pencils, crayons, felt markers, pencil crayons -chart paper -six 4L jugs filled with water, measuring cup, six clear containers, data sheet, 2L jug, measuring spoons, masking tape -paper plates, paper towels, string, clothes pins -empty coffee cans, empty milk cartons, ice -spray bottle, clay, cookie sheet -ziploc baggies, sharpie markers -scissors, fasteners -construction paper, paper cups, yarn, data sheet 	<ul style="list-style-type: none"> -Scholastic Unit – Air and Water -Water – ScienceWorks for Kids Series – Grades 1-3 - Water – Earth Science Series (Grades 2-4) -www.coquitlamriverwatershed.ca -www.kwikwetlem.com - Ecology – Primary -Youtube video – The Magic School Bus (E19) Wet All Over (22:39) -The Water Cycle poster - Youtube video – The Water Cycle – How Rain is Formed (Learning Junction) (2:43) -Youtube video – The Water Cycle Song (Have Fun Teaching) (3:41) -Youtube video – Water: Who Needs It? (CSBTV20) (14:15) -Youtube video – Save Water To Help The Earth (Wonder Grove Kids) (2:49) -Brain Pop Junior -Resources / Worksheets – Teachers Pay Teachers website -What is the Water Cycle? (Ellen Lawrence) -The Water Cycle (Bobbie Kalman) -Your Water Footprint (Stephen Leahy)

	<p>-All the Water in the World (George Ella Lyon and Katherine Tillotson)</p> <p>-One Well: The Story of Water on Earth (Rochelle Strauss)</p> <p>-Why Do Raindrops Fall? (Peter Rees)</p> <p>-Why Does Water Freeze? (Peter Rees)</p> <p>-Air and Water (Scholastic) Interactive Science Cards: Gifts For Living, A Watery World, Water on the Move, and Keep It Clean!</p> <p>-The Holy Bible</p> <p>-Story Books – Bible Stories for Children and the Miracles of Jesus</p>
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<p>Lessons</p> <p>Science:</p> <p>*There will be a display of books on Water and the Water Cycle available for children to read in their free time.</p> <p>*An Activity Center on Water and the Water Cycle will also be set up for children to engage in during free time.</p> <p>1. Lesson 1 – Introduction - Water Air and Water (Scholastic) – Lesson 1- Why is Water Important? (p. 4-5) Why is water important? How do people, animals, and plants use water? -Discuss. Water Mini-Book – “Earth – The Water Planet” (p. 68-69) (Water – ScienceWorks for Kids Series – Grades 1-3) Reference: Water – Earth Science Series (Grades 2-4) – Water Facts – p. 5. *Prin. Of Cath. Ed. – One – noting the interconnectedness of all creation and the wonder and awe of the world God has created for us. *Truth, Beauty, and Goodness.</p> <p>2. Lesson 2 – What Do We Know About Water? What do we already know about water? (Reference our Physical and Chemical Processes unit) -Make a list on chart paper. Discuss how we are going to learn more about water and its importance in our world. Where is our water located? -rivers, lakes, streams, oceans... (water sources) Compare fresh water and salt water. How much of our water is usable? Introduce Coquitlam Watershed www.coquitlamriverwatershed.ca Share information on website – location and history (Smart Board) Connect to Kwikwetlem First Nation www.kwikwetlem.com</p>

3. Lesson 3 – Water Sources

Water, Water, Everywhere - Ecology – Primary (p. 27-28)

How much usable water is a part of each ecosystem?

This class experiment will help students to understand how little of our water on Earth is actually usable. –Introduce the idea of water conservation.

Record results on the data sheet provided.

*Prin. Of Cath. Ed. – Communion / Community – working together and sharing ideas and information.

4. Lesson 4 – The Water Cycle

Youtube video – The Magic School Bus: Wet All Over (E19) (22:39)

This video is a great introduction to the water cycle.

Discuss the water cycle – share poster with terminology and fun facts.

*Prin. Of Cath. Ed. – One – interconnectedness of all creation.

5. Lesson 5 – The Water Cycle – Evaporation

Air and Water (Scholastic) – Lessons 4 - 5 – Is There Water in the Air? and What Makes Water Move Into the Air? (p. 10-13)

We will look at the concept of evaporation using these two short experiments that test ways that water moves into the air.

-Discuss results.

6. Lesson 6 - The Water Cycle – Precipitation

Air and Water (Scholastic) – Lessons 6 - 7 – What Happens to Water in the Air? and What Makes Rain Fall? (p. 14-17)

We will look at the concept of precipitation by performing these two experiments that will show students how to make a cloud and how to make it rain! (Students must work cooperatively in their groups.)

-Discuss results.

* Prin. Of Cath. Ed. – Communion / Community – working together and sharing ideas and information.

7. Lesson 7 – The Water Cycle

Youtube video – The Water Cycle - How Rain is Formed (Learning Junction)

(2:43)

Worksheet – define the terms – evaporation, condensation, precipitation, collection (TPT)

“Water Cycle in a Bag” activity – Students will draw a diagram of the water cycle on a ziploc baggie with a sharpie. Then half-fill the baggie with water. Leave the baggie by a window (or tape it on), preferably one that receives sunlight. Students will then record their observations. –Discuss results.

8. Lesson 8 – The Water Cycle

Youtube video – The Water Cycle Song (Have Fun Teaching) (3:41)

The water cycle worksheet – labeling the steps in the correct order (TPT)

The water cycle – rotating spinner – colour, cut out, fasten, spin! (TPT)

9. Lesson 9 – Follow That Water

How is water recycled in an ecosystem? (Ecology – Primary) (p. 29-31)

This class activity will be a very good visual for the students to see how water is recycled through the ecosystem.

Then students will draw and label the water cycle using the key words provided. (p. 31)

10. Lesson 10 – Water Conservation

Youtube video – Save Water To Help The Earth (Wonder Grove Kids) (2:49)

How do we use water at home? –at school? -Discuss and make lists on chart paper.

Water Use worksheet (Ready, Set, Go Green! – Grades 2-3) (p. 40)

*Homework Activity: Where We Use Water At Home

(Water – ScienceWorks for Kids Series – Grades 1-3) (p. 66-67)

Each family will have a record sheet to take note of the ways that his/her family uses water at home. These results will be recorded in a class graph.

-Connect to Math – Graphing unit.

*Prin. Of Cath. Ed. – Inalienable – involving parents in our activities.

- One – interconnectedness of all creation.

11. Lesson 11 – What Happens to the Water We Use?

Air and Water (Scholastic) – Lessons 11-14 – (p. 24-31)

How do you use water?

What happens to water before you use it?

What happens to water after you use it?

How do air and water get polluted?

The readings and activities on these pages will give the students some idea of the filtering process that water goes through as it enters and leaves our homes. We will also focus our attention on the problem of water pollution.

12. Lesson 12 – Water Conservation

Youtube video – Water: Who Needs It? (CSBTV20) (14:15)

We need to protect the water we have – conserve it and keep it clean. How can we do this? Discuss and share ideas on chart paper.

Design a poster to teach / tell others one way to conserve and protect our precious water resources. –Display throughout the school.

-Connect to Art.

*Prin. Of Cath. Ed. – One – interconnectedness of all creation.

Christian Education:

*There will be a display of books on Bible Stories for Children and the Miracles of Jesus available for children to read in their free time.

1. *-Why do we have a right to have clean water?

Connect to Lesson 1 – Introduction.

-Water is life-giving. We need it for survival.
 From a social justice perspective all people have the right to have access to clean water.
 The quest for clean water consumes the time, energy, and resources of many of the world's poorest people.
 *Prin. Of Cath. Ed. – One – interconnectedness of all creation, Love, Communion / Community

2. *-What is our spiritual connection to water?
 Connect to water through going to Mass and the Sacraments.
 -When we enter the Church we bless ourselves with holy water.
 -At Baptism we are blessed with water as it is poured over us.
 *Prin. Of Cath. Ed. – Christ-centered, Apostolic, Holy, Love

3. *-What are some examples of how water is used in Scripture?
 Connect to water through stories in the Bible.
 -John the Baptist baptized Jesus in the Jordan River.
 -Jesus' first miracle – The Wedding Feast at Cana – He turned water into wine.
 -After feeding the five thousand people, Jesus walked on water to his disciples.
 -When Jesus met the woman at the well he offered her "living water" -from which she would not thirst again.
 -Jesus performed a miracle by healing the blind man – he spit on his eyes and touched him.
 -Jesus calmed the waves in a storm – He saved the disciples and the boat from sinking.
 *Prin. Of Cath. Ed. –Apostolic, Tradition, Holy

Catholic World View / Principles of Catholic Education	Aboriginal Perspective / First Peoples Principles of Learning
<ul style="list-style-type: none"> -Truth, Beauty, and Goodness -Christ-centered -Apostolic -Tradition -Holy -One -Love -Inalienable -Communion / Community 	<ul style="list-style-type: none"> -Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. -Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). -Learning involves recognizing the consequences of one's actions. -Learning involves generational roles and responsibilities. -Learning involves patience and time.

