DECODE GLOBAL

UNIT 1

Thinking Through Water

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Introduction

In relation to the game Get Water!, this program plan is intended to teach children about water, and water related issues.

The game Get Water! will be played and discussed throughout the program, and can be something the students do when they have completed work. During such moments, students are also encouraged to add water related words or images to their water word and image poetry magnet collection, begun in the first class (Lesson 1). Some magnets will be brought home to instigate conversation, and the rest will be placed in the classroom, around the school and stored in a ziplock in the desks of students to build as they learn new things throughout the unit.

Theoretical

This program is based on critical pedagogy and places art and play at the center of learning. Critical pedagogy was heavily influenced by the ideas of Brazilian pedagogue Paulo Freire, as a means of overcoming oppression (Freire, 2008). More traditional educational programming is based on what Paulo Freire referred to as the *banking model*, where knowledge is thought to come from the teacher and is deposited in the minds of the students. Freire proposed that if students are learning to passively receive information in this way at school, then they are learning to be passive citizens outside of the classroom as well.

Rationale

Water is a necessary component of all life yet approximately a billion people in the world do not have access to clean and safe drinking water. In a country where clean water is widely available, this unit is meant to first increase childrens' appreciation and understanding of water, before developing their understanding of global water issues.

The purpose of this strategy is consistent with a place-based approach to environmental education, wherein learning about issues from a local perspective is encouraged in order to keep issues from becoming abstract and disconnected.

Freire, P. (2008). Pedagogy of the Oppressed: 30th Anniversary Edition. New York: Continuum.

THINKING THROUGH WATER

LESSON 1

Water associations

Lesson Rationale

This lesson serves as an introduction to a full unit about water. Students will begin to explore and pay attention to water by playing the game Get Water! and through discussion and exploration of words and images they associate with water.

Students will create fridge magnet poetry and picture-magnets about water, as well as develop an understanding that art can be used to teach people things, in this case to encourage others to think about water.

Objectives

- As a result of this lesson, students will begin to pay attention to and connect with water via the creation of word and image fridge magnet poetry
- As a result of playing the game Get Water!, students will have an awareness that water is not as accessible for all people, and that young girls are pulled from school to get water for their families
- Students will pay attention to and eventually expand their vocabulary around water
- Students will know that art can be used to teach people things (in this case about water)
- Students will know that all living things require water to live and flourish

Logistics

You need the following things for the lesson:

- The game Get Water! installed on iPhones and/or iPads
- 8.5x11 cardstock, or blank q-cards or cereal/cracker type boxes cut into sheets. Use the inside of the boxes (recommended!)
- Pencils, one/student
- If possible, pieces of magnet with one side adhesive (dollar store or stationary store), or preferably cut up old magnets that students add glue or double-sided tape on to attach them to their cardstock
- Scissors, one pair/student
- Permanent markers assortment/group
- Small ziplocks, one/student – encourage students to keep and reuse
- Magazine selection/group
- A piece of metal (for example a cookie tin lid) to stick examples to
- Examples to share with students

  example A – cut a piece of cardstock (thick paper) into a shape with the word *water* written with marker and a magnet attached on the back

  example B – a drawing of something related to water on cardstock with a magnet attached on the back

Set-up

- Recommended to place the supplies in a cardboard box to be used throughout the program as a toolbox, and to place the box in the center of a group of students
- Sheet of cardstock or a few q-cards, pencils, and pair of scissors/student, selection of magazines
- Permanent markers and roll or handful of small pieces of magnet/group
- Glue or double-sided tape/group

Introduction 20 min

- Students should take out iPads/iPhones. If there is a limited number of devices one student can play a round of Get Water!, show the next person how to play and then pass it to them. While students are waiting they can begin brainstorming words and pictures about water in their sketchbooks or on paper
- If there are no devices, play the trailer for the game: vimeo.com/59592550
- Why is water important? *Main idea – every living thing requires water to survive*
- How long can a human survive without water? *No precise answer but generally two to three days*
- We are going to play a fun game for 15 minutes, and then we are going to make some fridge magnets (hold up examples A and B attached to a metal tray)
- Play the game Get Water! for 10–20 minutes
- Encourage students to continue to play outside of class and let them know that you will continue to discuss it and play it again during class here and there
- Have students put away the game after allotted time. When this is complete, ask:
  What is the game about?
  What was the little girl, Maya, doing before she had to go and get water?
  Why did she have to get water?
  Do you think Maya likes school?
  What do you think would make Maya happy?
  How is Maya's life different from yours?

Activities

10 min

- What are some of the first things that come to mind when you think of water?
- Take some answers orally and then invite students to cut some of their cardstock into about ten water-inspired shapes (ie. drops, waves, fish) big enough to write some water-related words on with marker (show example A), and invite them to use each piece to write one word related to water
- When you have done this you can attach a small piece of magnet to the back like this (show back of example)
- What are we making? *Magnet poetry*
- Where can you put and play with these words after they are finished? *Fridges, side of desks, a cookie tin, white board, banisters, anywhere magnet will stick*
- Why would you want to put these magnets for example on your fridge? *Get other people to think about water and to make poetry with the words*

15 min

- What are some of the first things you picture in your mind when you think of water? What kinds of images? *Fish, shower, drink, human body (70% or more water), tides, puddles, rain, worms, flowers, fruits and vegetables, ice, icebergs…*
- Take some answers and then invite students to cut more of their cardstock into playing card-sized rectangles (or any size and shapes of their choice), and invite them to draw anything that comes to mind when they think of water. They can draw as doodles or in any style they would like, either by using pencils first or using markers right away
- Students can also find images in magazines that they relate to water and make them into magnets
- Students can work in their sketchbooks and select their favourite images to transfer to cardstock, or can start working right away on the cardstock, perhaps with pencil first
- When the students have done this they can attach a small piece of magnet to the back of the cardstock (show back of example), and the magnet will be ready to be placed on the fridge or any other location of their choice

Conclusion 15 min

- Remind us where you could put your magnets where people will see them? *Lockers, desks, fridge at home, railings… anywhere where there is metal.* Why would you want people to see them?
- Do you think people can learn from them? What could they learn?
- Works of art often have something to teach people
- What could you do for fun with the magnets? *Fridge poetry, create a scene with the images, combine the words and images in interesting ways*
- Why is water important? *If they don't say it remind them that every living thing requires water to live and flourish*
- What do you think flourish means? *Healthy and fully alive*
- Invite students to place their favourite magnets on their desk or the whiteboard for now and to write their name with marker on their ziplock. Encourage them to bring some magnets home with them, and to store the rest in their ziplock for the time being
- Encourage them to continue to add words and drawings to this collection as you go along
- Clean-up by placing materials back in the toolbox
- Remind students that they can continue to play Get Water! outside of class and that they can encourage others to play and learn about water

Extensions

- Students can make games out of their magnets and/or create characters, human or otherwise, that can interact with the other magnets on a metallic surface. For example they can make water creatures, cut them into parts and then mix and match bodies.
- Students should also be encouraged to add to the magnet collection as they learn new words, have new thoughts, find new images or think of other water-related things to draw

LESSON 2

One of my thoughts about water

Lesson Rationale

Students will bring together a word and image from lesson one to create an upcycled pendant. This is a piece of wearable art with the intention of communicating something about water to anyone who sees it. Students will develop an understanding that art is not only something that you find hanging on walls. It can come in many forms, including jewelry and video games. In addition, art carries with it various kinds of messages about life and the world, depending on the intention of the artist.

Students will learn that use of pattern is an interesting way to attract the eye to a work of art. By creating a piece of wearable art with a particular theme (in this case water) students will develop an understanding that they can share a message or idea through art, particularly wearable art. Wearable art becomes a means of engaging people in conversation about a particular topic or issue.

Objectives

- Students will continue to pay attention to water via the creation of upcycled plastic pendants that emphasize a word or words, and/or an image about water
- Students will know that art teaches people things about life and the world (in this case about water)
- Students will know what upcycled means
- Students will know that art can come in many forms
- Students will develop an understanding that wearable art is a means of engaging in conversation and of sharing ideas about an issue
- Students will know that all living things require water to live and flourish
- Students will know of three artists who use interesting patterns in their work

Logistics

You need the following things for the lesson:

- A collection of clear plastic packaging (plastic that is fairly solid, the kind in which eggs or tools are sold), or sheets of acetate (art supply store or stationary store)
- A selection of string, embroidery thread (ideal) or yarn/group
- Holepunch/group
- Examples to share with students
  example A – sample pendant

Set-up

- Place the supplies listed above in the toolbox and place the box in the center of a group of tables
- LCD-projector, or if none available, colour print or show books with images by Gustav Klimt, Friedensreich Hundertwasser or Helen Frankenthaler (or any other artist that is known for interesting pattern/colour work)

Introduction 20 min

- What did we do last class? *Play* Get Water! *and make word and image magnets*
- Why is water important? *All living things require water to live and flourish*
- As we continue to talk about water, if you learn new words that you like or have new things you want to draw, you can make new word and picture magnets and add them to your collection
- Why did we play Get Water! and is there something different about this game compared to other games you have played?
- How is a videogame like a work of art? *Games can teach us things, and so can art! Games are like a work of art*
- The magnets you created can encourage people to think about water or be aware of water
- What does it mean to be aware of water? *It can be something we do not think about because it is just there. In some countries people do not have access to water, and in our country a lot of water is polluted*
- Today we are going to make a pendant out of plastic that shares an idea about water. What is a pendant? *A jewelry you can hang from somewhere or wear around your neck*
- Where else could you put a pendant? *On your wrist, hanging from a pin and attached to a shirt, backpack, purse or bag*
- Why is a pendant a great way to share ideas about something? *Lots of people will see it and may wonder about it, especially if it is eye-catching*
- How could you make a pendant eye-catching? *Use bright colours or interesting colour combinations, a vivid pattern and/or an interesting shape or texture*
- Share images with students of artists who do interesting colour/pattern work. Examples of these are Gustav Klimt, Friedensreich Hundertwasser and Helen Frankenthaler
- Ask students:

  What do you see here? *Shapes and colours*
  What does pattern mean? *Shapes repeating*
  How do these artists create pattern? *Repeating shapes and colours*
  What do you notice about the colours they use? *Complementary colours on the colour wheel bring out each other when they are used together (purple and yellow, red and green, orange and blue).*
  Cool and warm colours can balance out each other visually when used in different quantities (for example blue and gold/red, green and red/orange)
  If you wanted to attract attention to one thing in a picture, what could you do with colour? *Make one thing a warm colour when everything else is cool, or make one thing the complementary colour of the rest (for example everything else is blue and the thing is orange)*
- Pattern and colour can attract attention, what other strategy could you use? *Add an interesting/surprising texture…*

Activity

25 min

- Your challenge for today is to use the material in the toolbox to create a pendant. A keyword, phrase or image about water should stand out or be emphasized. What is inside the toolbox?
- Please take one of the plastic pieces – where do you think it came from? *Packaging*
- What do you think might have been in your package?
- What usually happens to such materials? *They go in garbage or recycling*
- What we are going to do is to make these plastic pieces into something else? Do you know what word people use for this act? *Upcycling*
- Why do you think this might be better than recycling? *Continues to have a purpose, less wasteful, more creative and resourceful*
- Cut an interesting shape from your piece of plastic the size of a pendant that you would like to wear around your neck or wherever you please
- How could you attach a pendant to a piece of string for a necklace or bracelet? *Make a hole in the pendant for the string to go through*
- How could you attach your pendant to a pin? *Attach a small piece of string to the pendant through the hole, and tie the rest of the string around the pin*
- Why do you think water is important? *We need water to flourish, water is beautiful, we wash with water...*
- Choose a powerful word, small phrase or image about water that will fit on your pendant – it should sum up why you think water is important. Refer to words and images from your magnet collection and/or add a new word to your collection. Write a word or draw on your pendant
- How could you use your drawings from the previous lesson to inspire a pattern? *Simplify one, or take part of one and use it as a base for pattern drawing*
- Surround your word, phrase or drawing with pattern and colour to attract attention to it and attach it to a piece of string or ribbon from the toolbox
- You can use marker on the inside of the plastic for a more polished look – make sure you write the word backwards if you do!
- Remember you might want to add an interesting texture to attract attention to your word or image as well. What could you use? *Fabric, string, funfur, colourful soft plastic...*

Conclusion

15 min

- Place materials back in the toolbox
- Wear your pendant!
- What does upcycle mean? *Making something that seems like garbage into something useable*
- What else can art be besides something that just hangs on a wall? *Something you wear, something you play with (for example a video game), magnets you put in surprising places to share ideas...*
- What does art do? Why would you wear art? *Shares ideas or opinions about things, spreads awareness, helps people realize new things or think in new ways*
- What are the names of the artists we looked at today? Why did we look at their work? *Learn about pattern and colour*

LESSON 3

Scientific and metaphoric properties of water

Lesson Rationale

Students have now spent some time paying attention to water by playing the game Get Water!, and by creating a collection of word and image magnets based on water. They have also created a pendant that they can wear with the intention of sharing and talking about a key word or idea related to the importance of water.

Up to this point, hopefully students have been engaging in conversations with friends and family triggered by their pendant art and/or their magnets. These strategies will at least to some degree have immersed students in the theme of water and water related issues. This will be the final lesson dedicated to paying attention to water as we also begin to ease into our capacity to reflect about how to respect water and to think about it on a deeper level.

This time, students will literally pay attention to a few scientific properties of water in terms of buoyancy and density. This lesson is meant to increase their bond and appreciation of water on multiple levels. Students will be invited to play with a small amount of water, and while doing so to increase their awareness of the value of this precious resource, and the importance of not wasting it. Students will talk about what it means to respect water, and how to show respect to water. Any water we use today will be reused and will eventually water the class plants or garden.

Objectives

- As a result of this lesson, students will know whether a variety of materials sink or float in water
- They will know that heavy, more solid objects are dense and sink
- They will know that buoyant means something can float on water – such objects are light and less dense than objects that sink
- By collectively developing two strategies, students will know two strategies for helping them to work collectively
- Students will have an understanding of what it means to respect water, and will know practical strategies for showing respect to water
- Students will be able to build a small floating boat that carries a message about sharing water
- Students will know what intervention art means

Logistics

You need the following things for the lesson:

- A clear bowl/group with about two cups of water inside
- A collection of random materials/group (for example small rocks, small plastic toys, clean plastic packaging that is shiny/colourful, tootpicks, string, fabric, wood pieces, styrofoam, popsicle sticks). There has to be enough materials that float to make a small boat, and something big enough to noticeably displace the water (make the water level rise)
- Permanent markers
- Hot glue guns, one/group if possible with a small bowl of water near the gun just in case anybody burns a finger. If students are really young set up a glue gun station where the teacher can assist with gluing
- one small towel/group

Set-up

- Place one bowl of water with each group/table of students
- Place a small towel beside the bowl
- Place the collection of random materials in the toolbox. Each group can have a different assortment of materials, but each should have enough of something that can float to make into a small boat (cork, light plastic, piece of wood, styrofoam)
- Have a storage shelf or surface area ready for storage of the bowls of water and the boats

Introduction 15 min

- On your table you have a bowl of something. What is it?
- What do you know about water?
- We are going to take a bit of time to play with water, but there is one big rule, you cannot waste your water.

  What is the main way you could waste this water? *Spill or splash*

  Why shouldn't we waste water? *We need water in order to live and there is not enough in the world for everyone*
- We should always remember how lucky we are to have water, and should treat it with respect. How can you treat water with respect? What does this mean? *Always remember how important it is. Do not waste it by keeping the tap running or by pouring it down the drain. Instead save it for plants and garden and use only a little bit of water for dishes and showers/baths*
- What kinds of things do you see inside your toolbox? Place these materials on your group's table – corks, plastic, stones, metal...
- Select one item from the materials, one person can choose at a time
- What happens when you put your item in the water? Test it out!
- Which of your items could be made into a little boat? Which one could you use as an anchor? Which wouldn't really work as either? Why? *Lighter things are more buoyant and can float, heavier things are more dense and sink. Organize your objects in a line from most dense to most buoyant*

Activity

35 min

- Your mission as a group, is to build a boat that floats and will not tip over. You can hold pieces together with hot glue. If students are older and have worked with hot glue before assign one person in the group to be in charge of gluing. If the glue guns are set up at a station with the teacher, tell the groups to first plan out their boats and then have one or two people bring the pieces to the station for gluing
- But before you do this, what are the two strategies we should use for working together today? *We can brainstorm several and vote on our favourite two.*

  example 1 – Choose one person to be the group leader today, they will make all the final decisions in the group in case of disagreements

  example 2 – Everybody takes turns to share ideas
- Find something in your collection of stuff that you could make into a boat. What do you think is the first thing you need to make a little boat? *Something that floats*
- If you want a boat that you can put little people or stuff in, what do you need to do? *Space to put them and stability, the boat cannot roll over if you put something on it*

Conclusion

10 min

- Give students a heads-up when it is nearing clean-up time
- Assign one person/group for the clean-up. Remind them of the no wasting rule. Carefully carry the water bowl to the storage table for the next class. If their boat is floating they can leave it in the bowl as a test to make sure it stays floating
- The boat can be carefully placed in the group's toolbox along with any extra materials, but be sure to dry items with a towel first
- When clean-up is finished ask students to return to their seats
- What did you learn about water today?
- Tell the students they will finish making the boats next class

LESSON 4

Sharing a statement about water with our school community

Lesson Rationale

Students have spent the last three lessons paying attention to water by coming up with descriptive words, discussing the importance of water and by interacting directly with water. Students will now pay attention to water through a scientific lens by learning about what water is made of on a molecular level. After this, students will think about water on a philosophical level by relating their lives to life on a molecular level.

Considering the world on this level implies the understanding that everything is interconnected, and that we can learn many things from all aspects of the world we live in. For example, atoms come together to make something or be something they can't be on their own. Students will be encouraged to make analogies between their lives and water in this way. Considering ourselves through water is a way of developing appreciation and respect on a deeper metaphorical level. The more ways through which we explore and get to know water, the more opportunity we have to build a stronger relationship with it.

Objectives

- As a result of this lesson students will deepen their understanding of water and life by thinking about it through the metaphor of H_2O chemical bonding
- Students will know that when people come together to collaborate on a project, they will do something different and often more interesting than they would do alone
- Students will also develop an understanding that through interaction and conversation, other people affect and change who they are in small and sometimes big ways

Logistics

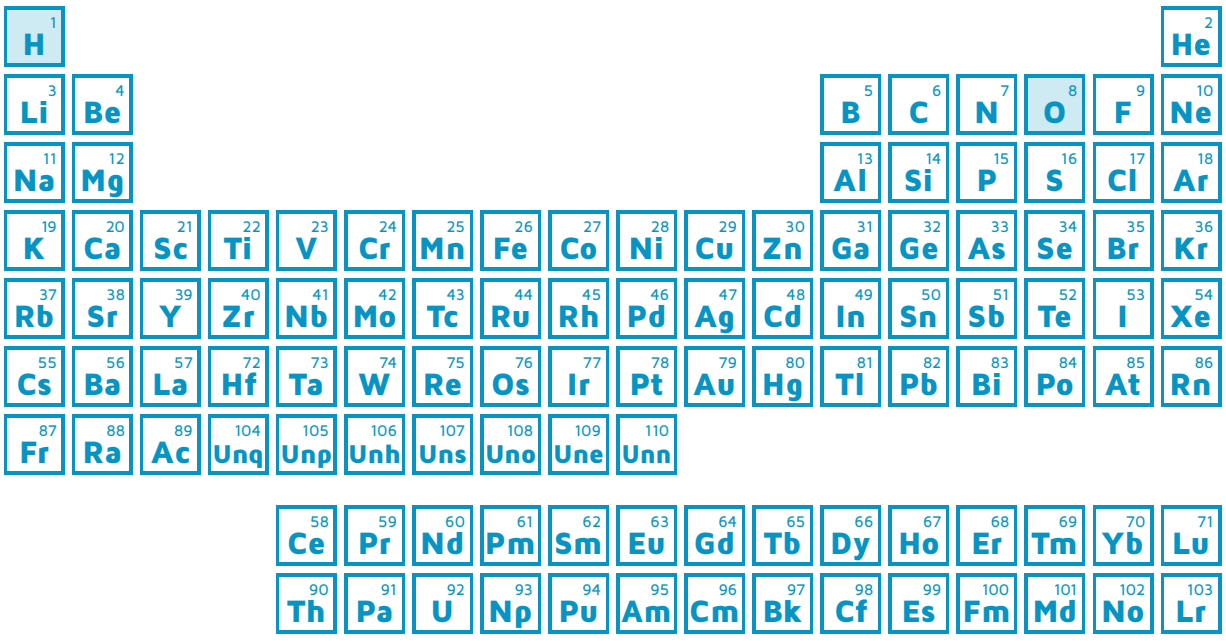
You need the following things for the lesson:

- Boats and water bowls from last lesson
- Images for a slideshow: periodic table, H_2O atoms, H_2O electrons, hot air balloon, aurora borealis, universe, stars and shapeshifters from mythology, for example Leshy from Slavic mythology (usually tall men who can change into animals or plants) and Selkies from Irish, Scottish, Icelandic and Faroese mythology (women who can turn into seals) listverse.com/2009/10/26/10-mythological-creatures-and-shapeshifters
- Iceberg, fog and rain images
- Go to Slinkachu's website: www.slinkachu.com
- Air drying sculpting material like crayola's model magic (light), or white sculpey that can be cooked to dry (heavier). White sculpey is cheaper than colour and you can colour it with marker after it is dry
- Permanent markers
- Examples to share with students
  example A – a little person made from sculpting material that could fit in a boat
  example B – a message that reads "respecting water means..." that could be attached to a boat (ie. a sign attached to a toothpick or written on a piece of plastic that could be hot-glued somewhere...)

Introduction 20 min

- What is the periodic table? *A table displaying all of the chemical elements we know of*
- What are chemical elements? *The basic elements that make up everything else on earth*
- What is the chemical formula or name for water? *H_2O*
- What does this mean? *Water is made of two hydrogen atoms and one oxygen atom*
- What is hydrogen? What is oxygen? *Both are chemical elements*
- What is the most common form of oxygen? *Gas – what is a gas?*
- Why is oxygen important? *Breathing*
- What is the most common form of hydrogen on earth? *Gas*
- Hydrogen filled balloons were the first form of air travel
- There is a lot of hydrogen outside of Earth and in the universe, why do you think there is not much occurring naturally on Earth? *It is very light, this is why it makes things float. But it is so light that most of it escapes Earth because gravity can't hold it down, and goes into the universe*
- People make hydrogen for many purposes: as a coolant for power stations and in cars, some food and packaging, in telecommunications...
- Why is hydrogen important? *It makes water, and all living things need water to live. It is also the most abundant chemical found it the universe. Stars are mostly made of hydrogen*

- Mostly hydrogen is important because it bonds with oxygen to make water
- Water is made of millions of molecules, and each molecule is made up of atoms. Water has one oxygen atom and two hydrogen atoms (show picture)
- This is why its chemical name is H_2O
- How big do you think an atom is? *Way smaller than you can see*
- How do you think the atoms hold onto each other? *Each atom is made up of something even smaller called electrons. Atoms hold onto each other by sharing electrons*
- Ask for three volunteers. Imagine student A is oxygen (ask her to place her hands on her hips) Students B and C are hydrogen, they think student A is cool and are drawn to her energy. They move towards her and when they are close enough they hook in on either side by sharing electrons (we'll look at this more closely later). Have students B and C hook onto either arm
- What do we have now? *Water*
- Most substances like water are shapeshifters. What is a shapeshifter? *There are lots of new and old stories and comics about creatures that are shapeshifters, and lots of ancient myths. For example a Leshy is a Slavic myth, a tall male figure that lives in the forest and protects it, and can turn into plants and animals (show examples)*
- What do I mean by water is a shapeshifter? *Water can become a gas (vapor) or a solid (ice)*
- Where can you find water? *Tap, lake, puddle, dew, clouds, inside the earth...*



Activity

30 min

- I want you to think for a minute about this question: How are people like the hydrogen and oxygen atoms in water? *When people come together they can make things happen that they could not do alone. Or they make something different together than they would make alone, like the boats you started last class. Your boat would be different if you made it with different people or alone*
- Through interaction, conversation and action, other people affect and change who you are in small and sometimes big ways. In return, you affect and change them too. Can you give me an example? *My mom taught me how to bake cookies, I didn't know how to do this before she showed me how*
- Today we are going to do two things. First we are going to make a little person to put on your boat (show example) and then we are going to make a little sign to attach to the boat in some way, telling people that *respecting water means…* Who can give me an example? *Not wasting it by leaving the tap on when you brush you teeth; remembering that we need it to survive; remembering we are lucky we have access to water*
- But first show an image by slinkachu: www.slinkachu.com – what do you see here? Where can this artist's work be found?
- What do you think we can do with our boats? *We can place them somewhere in the water, or around the school, perhaps adding something to make the installation more surprising*
- Why are we going to do this? *It will make people laugh and wonder, and it will teach them something about respecting water*
- We can take photos of these to make into postcards, to keep one for ourselves, and we can post them on the Decode Global Website!
- When the boats, people and messages are all finished, take a walk as a class or if possible, split into smaller groups and place boats around the school in various types of places. Take photos of the boats (with or without students) and print out the images on cardstock and hand them out to the students. They could mail them to someone or bring them home. Images can also be sent to Decode Global.

Conclusion

10 min

- What message are you going to share about respecting water?
- Where do you think you are going to put your boat?
- If there is time, invite students to add images and words to their magnet collection. If not, have them do it for next class

Extensions

- Ask students how the art supplies are like hydrogen and oxygen atoms? *You can mix media together, for example collage and drawing, to make interesting work*
- Ask students to create a mixed media trading card of their own shapeshifter. Look for inspiration from a variety of places or have students make mash-ups with images they find online and mix together in Photoshop or another image manipulation program
- How is DJ-ing like hydrogen and oxygen atoms? Have students mix music together using garage bands

LESSON 5

Learning more about local and global water issues

Lesson Rationale

Now that we have begun to think about water through its scientific properties on an atomic scale, and ourselves in relation to the scientific properties of water, we are going to zoom right out and begin to look at water through a global lens.

First we will give further consideration to water in Canada, and then we will return to our discussion about the game Get Water! in order to facilitate conversation about water-related issues in other countries. This lesson is meant to deepen the students' appreciation for water, and to exercise their capacity to empathize with children their age in other parts of the world, namely India. In addition students will develop an understanding of how lucky many of us are in Canada to have access to clean water, and how atrocious it could be that in Canada, on aboriginal reservations, there are also people who do not have access to clean water.

Objectives

- As a result of this lesson students will know that one billion people in the world do not have access to clean water, and that some of those people even live in Canada on aboriginal reservations
- Students will have an understanding of how much a billion is
- Students will know that girls in other countries get pulled out of school to get water for their families and sometimes they do not finish school as a result
- Students will have an understanding that when girls are educated, there is less poverty
- Students will know more about water issues by researching and sharing information they acquire with one another
- Students will have an understanding of why they think access to water and education is important

Logistics

You need the following things for the lesson:

- Tools for demonstrating how much a billion is. Suggested resource: www.kokogiak.com/megapenny/nine.asp
- Parental permission to photograph students and send photos to be posted on the Decode Global website. If parents do not like the idea, the photo can be taken of the sign without the students
- Scavenger hunt (Appendix A)

Introduction 40 min

- If there is access to iPads/iPhones, invite students to play Get Water! again
- If there is a limited number of devices one student can play a round of Get Water!, show the next person how to play and then pass it to them. While students are waiting they can add new words they have learned or new drawings to their magnet collection
- If there are no devices, play the trailer for the game: vimeo.com/59592550
- Give students about 20 minutes to play or talk (if you just watched the trailer) about what they think the game is about
- Since last we played the game/looked at the video, have you had an opportunity to play outside of class? Have you talked about the game to anyone? Who have you spoken to and what did you talk about?
- Let's discuss again what the game is about:
  How is the game similar or different from other games you have played?
  What do you think of the game?
- Revisit questions from the first lesson
  What was the little girl, Maya, doing before she had to go and get water?
  Why did she have to get water?
  Do you think Maya likes school?
  What do you think would make Maya happy?
  How is Maya's life different from yours?
- Do you know how many people there are in the world? *Seven billion*
- How many people do you think have trouble finding clean water to drink? *One billion, which means 1/7 people on earth have trouble getting water. Why is this a problem?*
- How much do you think a billion is? *Show a meter stick or string which is a meter long. A billion of these is almost three times the distance from the Earth to the Moon*
- This website shows how much space a billion pennies takes up: www.kokogiak.com/megapenny/nine.asp
- How do you get water? How does Maya get water? Why is this a problem?
- What do we use water for? What can happen if we drink dirty water? What happens if we do not have water? What happens when there is no rain?
- Lack of access to clean water has many side-effects, for example girls education. What are some other problems we would have without water? *Health, we need water to be clean, to survive, to go to the bathroom, for crops, to grow food etc.*
- Lack of access to water is a complex issue. What does complex mean? *It means there is a lot going on. Lots of different things happen as a result, and those things effect other things to such a degree that we cannot even know exactly everything it effects. This makes it difficult to figure out how to alleviate the problem*
- For example, when girls are educated there is less poverty. So lack of access to water, which keeps girls out of school, means there is also more poverty than there would be if there was water and girls did not get pulled from school for this reason

Activity

15 min

- What did you notice in the game when Maya's water pot breaks? *Dialogue box with peoples' thoughts*
- So far we have talked about some reasons why water is important and some reasons why education is important. I am sure you have more important ideas about these issues. We are going to send our ideas to Decode Global, who made Get Water!, so that our thoughts can also appear right in the game when Maya's water pot breaks
- You can respond to these two statements (write on board), and hand them in and I/ we can email them to Decode Global
  I want to help Maya because…
  I think water is important because...
  I think school is important because...
- But in order to do this, we are going to do an online scavenger hunt and learn more about the issue of water. Like detectives we are going to track information in our notebooks/sketchbooks and copy and paste items into a PowerPoint presentation or Word document to share with class
- This information will helps us learn so we can make thoughtful, well-informed statements for Decode Global, and for our final project. What do I mean by well-informed? *Know a lot about the issue before formulating an opinion*
- Copy images and facts into the presentation/ document – as well as the website so we know the source – to share with class.
- Why is it important to share the source of the information? *To credit the right place for the information, and different sources may have different reasons for presenting ideas in a certain way. For example, what might motivate a water bottling company to convince us that tap water is not safe to drink? Can we totally trust their opinion?*
- What do we do to figure out how accurate information is? *Check many sources and see which information repeats, keep track of who the sources are and think fully about motivation*
- You can also write down or draw things you find interesting in your sketchbook as you do the scavenger hunt. Including your own drawings, feelings and thoughts in your presentation could be really interesting
- Hand out scavenger hunt (Appendix A)

Conclusion

5 min

- What did you find on your scavenger hunt?
- Next class we will finish the scavenger hunt, finish the presentations and present them
- People have to know about a problem before they can do something about it. After we learn more about water from our discoveries we are going to make live-action comic panel posters and stickers of ourselves. With these we can tell people what we have learned about water so that they can learn too! The more people learn about global water issues, the closer we will get to helping Maya and other girls like her stay in school
- We will take fun photos of ourselves with speech bubbles sharing our ideas, and post them around the school and neighbourhood. Plus we will email them to Decode Global to put on their website!

LESSON 6

Teaching our community beyond about water

Lesson Rationale

This is the final lesson of the Get Water! education program. Students are going to do a simple yet powerful exercise wherein, along with a classmate, they become a live-action frame of a comicbook panel photograph, complete with a speech or thought bubble. These images will be inspired by their water research and will become a poster and sticker campaign, sharing information about global water issues with the greater community.

In addition the images can be sent to Decode Global to be posted in the gallery on the website. Teachers should be sure to confirm with parents that it is okay that images of their children are shared widely. If it is a problem, students can simply document the speech bubble without posing in the image. In this case they could use a stuffed animal or sculpt a person as they did in lesson 4 and create a mini-version. Students can be given the choice of mini-version or live-action.

During the beginning stages of planning, students will be asked to pitch their ideas to the class in order to provide early feedback about their work.

Objectives

- As a result of this lesson, students will be able to communicate an important idea about water through a live action comic book frame
- Students will know it is important to find the source of the facts that they find and to find information about the source in order to validate the information
- Students will have an understanding that they can make an informative image more interesting in various ways (camera angle, colours, surprising/artful props or background, humourous/atypical wording)

Logistics

You need the following things for the lesson:

- Thick/stiff white paper or matboard
- An assortment of thick papers in various colours
- Thick markers in a variety of colours/group
- Examples of frames or sequences of frames in comic books, including some that try to teach the audience something
- Students will require some props depending on their plan
- One or more digital cameras, if possible one/pair. If not, one person or teacher can be appointed as photographer
- Projector, computer, examples of comic book single or double panels
- If you do not have access to a projector and computer, samples can be printed or photocopied and either posted or circulated
- Roll of white paper
- Tape (masking, scotch or packing)
- Fishing line if students want to hang their speech bubbles or have friends hold them outside of the photo frame
- Scissors, one pair/student
- Have a variety of comic books on-hand for student reference when they create their own live-action comic book panels
- Examples to share with students
  example A – you need your own live-action comic panel

Set-up

- Projector should be set up with comic examples ready
- Roll of white paper and fishing line in a place accessible for all
- Pile of thick paper or matboard and thick markers/group placed in toolboxes and/or on tables

Introduction 30 min

- Have the class share their scavenger hunt presentations. Students can work in their sketchbooks while they listen, for example doodle and add interesting facts about water. All slideshows should be added to the presentation computer's desktop for easy access
- What is the difference between this comic and the one that follows? *The first* www.gocomics.com/speedbump/2013/04/11 *is meant to be funny, and the second one* www.misterkitty.org/extras/stupidcovers/stupidcomics176.html *is meant to teach people something (in this example about bird flues)*
- And what about the next one? bitstrips.com/r/RC2N0 It is also teaching something but it is teaching something a bit more complex. What is it trying to teach? *That school doesn't teach us to question authority, think for ourselves and to think critically*
- What is the difference between what the two double panel comics are teaching? *One is based on scientific information and is more fact-based while the other is an opinion*
- You might want to use either a fact or opinion about water that you think is important to share, or perhaps you have another kind of idea?
- First you will choose a fact from the presentations or figure out an opinion you have about water
- How can you do this research? How will you know if the information you find is valid? *Find out the source of the information.*
- What is a source? *The person or persons the information comes from*
- What does valid mean? *It means the information you find is true and can be trusted*
- Work with a partner to decide what you want to teach people about water issues
- To get warmed up we are going to create some quick tableaus. What is a tableau? *It is when people create a frozen scene to illustrate a story or idea with their bodies*
- Together with another pair, you and your partner will have two minutes to come up with a tableau that has something to do with water. It can be anything. Can you think of an example? *Two people carrying heavy buckets of water back to their family, a person filling a glass of water at their sink, someone swimming...*
- Try exaggerating your gestures and expression and we will see how quickly the class understands your tableau

Activity

2–3 classes

- What do you have to do in a tableau to ensure people understand what is happening? *In a tableau you have to exaggerate your gestures and expression for clarity, this may be helpful for your comic panel, but you can use props and should consider your setting/background*
- What kinds of backgrounds can you imagine for your live-action comic panel? *Going outside, perhaps a plain background (you could line a wall with white paper), bathroom, hallway...*
- What kinds of props might you use?
- Any thoughts about how you could make your image extra interesting? *Explore comic books for ideas and inspiration. What kind of angles do they use in comic book panels? Colours? Extra touches? Expressions? Consider lighting, clothing, colour, camera angle. Since it is comic book-inspired, it would be fun to use drawings of props and background. You can make big drawings on the white paper and tape them neatly to a wall*
- The first thing you should do is figure out what your words/message will be and then fill in the rest of the details.
- For example if your fact is that the average American uses close to 600 litres of water/day, what could the people in the photo be doing? *A straightforward way of sharing would be two people standing at a sink discussing water, or holding glasses of water*
- You can also think of more surprising ways to share a message. What could you do that would be a less typical way of illustrating this fact? Something more surprising or humorous? *One of the people in the image is about to pour one liter of water on the head of the other with a caption reading:* imagine this 600 times, that is how much water the average north American goes through in one day
- Students are encouraged to plan out their ideas in their sketchbook. If they prefer to jump right in and begin setting up their scene, this is fine to

Conclusion

10 min

- Ask students if they have figured out their main idea/plan, or at least have a sense of what they are going to say in their comic
- Inform them that before moving too far forward with the individual projects, they will use the beginning of next class to pitch their ideas to the rest of the class. Explain what pitching means. This provides the opportunity for feedback, so they should be ready to explain their idea. They can also involve sketches props or other thing in the pitch

Extensions

- This project could also be made into a Photoshop project wherein students add effects to the image, for example filling the image with 600 one litre bottles
- Photos could be taken as a resource for making a mixed media comic style drawing, or a comic created with a computer software like Flash

APPENDIX A

Scavenger Hunt

Complete the following tasks:

1. Find an interesting fact related to water in any way
2. Find an image of water that you think is beautiful
3. Find an infographic that tells you something important about water
4. Find some information about water on indigenous reservations in Canada
5. Find some information about water in your city

Be prepared to share your discoveries with your classmates. Prepare a small slideshow presentation with a combination of text and image. You can photograph any of your own water-related drawings from your sketchbook and add them to the show. Remember to copy the links from where you found the info in your slideshow.