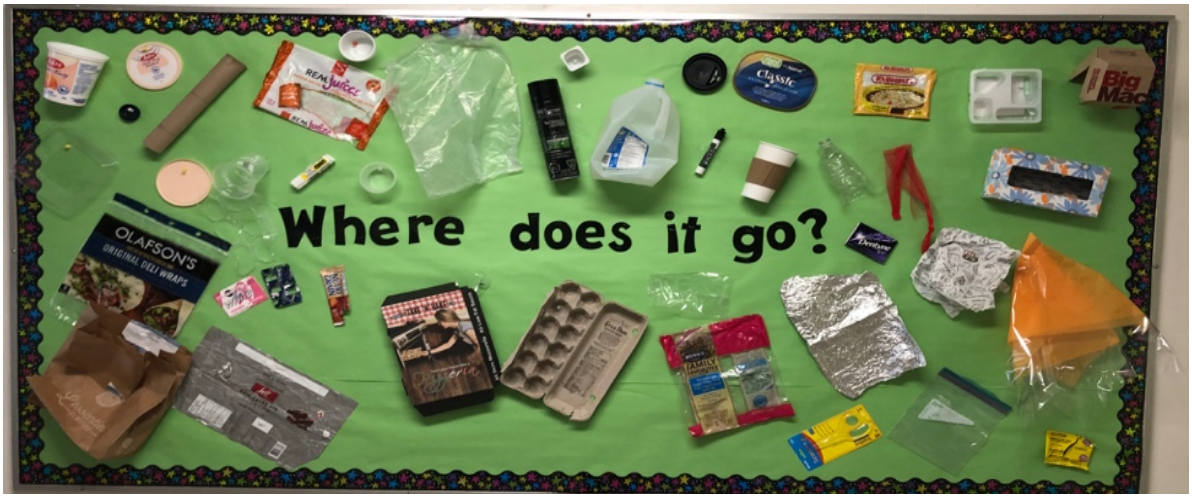
Airport's School-Wide Inquiry on Waste

The following is an overview of some of the activities that were organized

Objective: To instill a commitment to waste reduction within our students.

- This includes recycling properly. Our recycling bins are always overflowing and including materials that cannot be recycled.
- We will also investigate the impact that garbage is having on our ecosystems, specifically the marine ecosystem.

Question: **Where Does It Go?** In our throw away world, we constantly toss out trash. But where does it go? What happens to it? Is there enough room for all our trash somewhere? Is there a better way?
*Students can develop their own sub-questions



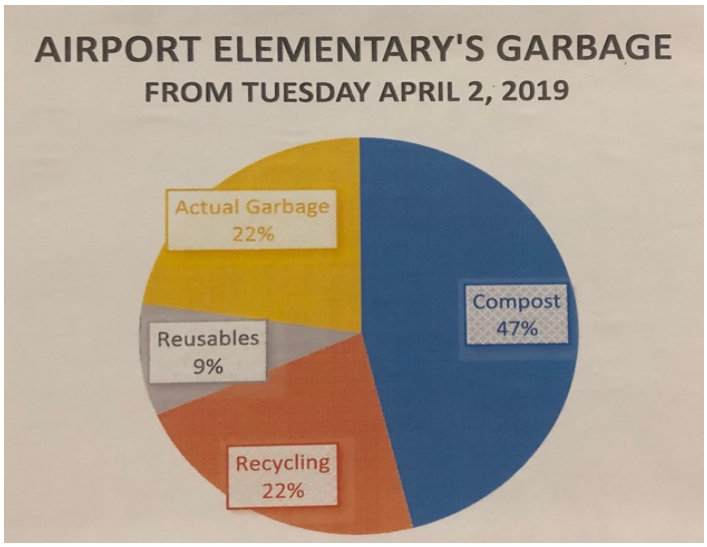
Launch:

- Make a bulletin board at the front of the school displaying our lead question "Where does it go?" surrounded by garbage and recycling materials
- 3 bulletin boards along the main hall:
    1. Where does it go?
    2. Why does it matter? (powerful images of the garbage problem)
    3. What can we do? (students add their learning to this display throughout the inquiry)
- Dump out our garbage and recycling and investigate. What do you think/notice/wonder?
- We have images, video links and picture books to provide background knowledge and build curiosity (see attached list of resources)
    - Excellent book: *Where Does the Garbage Go?* By Paul Showers
    - Excellent video: https://mysteryscience.com/mini-lessons/plastic#slide-id-5817
        - This shows why plastic was invented in the first place, and reasons why it is good

April 3/4 - Tina from Comox Strathcona Waste Management will come do a lesson in each class

- **Grades K - 3** Students will make model landfills in small groups and learn the Power of R firsthand
- **Grades 4 - 6** Students will do either an individual or classroom waste audit and learn to think differently
- **Grades 6-7** Students are introduced to the value of a circular vs. linear economy and about how what we consume can be even more important than how we manage our waste
- Students reflect on these lessons in their learning journals

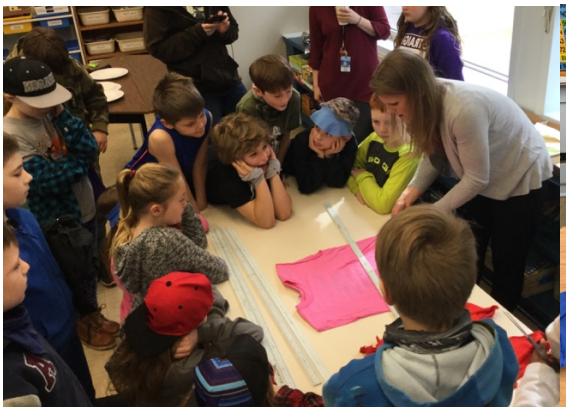
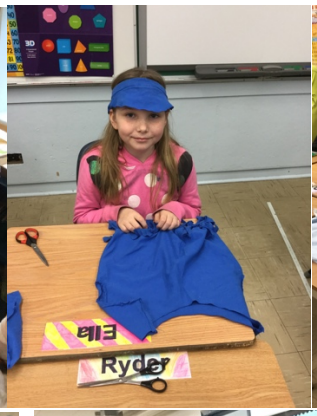
April 4/5: Math (intermediate) – Garbage Pie Charts showing the statistics of what was in our garbage



April 4/5: Art Activity – Earth Collages made from old magazines (Divisions 3 & 5)

April 5 – Making bags out of old t-shirts (Divisions 3 & 5)

- Students will first view the clip '7 ways fashion is harming our environment'
- Students bring an old t-shirt from home and learn how to turn it into a multi-purpose bag


April 10: Field trip to the Landfill and Recycling Depot.

- Landfill tour contact: Jennifer Ivan - jivan@comoxvalleyrd.ca
- Recycling Depot contact: Emily Kim - courtenayreturnit@gmail.com

- Follow-up idea: create T-charts (What can/can't be recycled)
- Students reflect on the experience in their **learning journals**.
- Students begin to develop action plans to reduce waste. This will be a combination of school wide action plans (ex. a reduction in the use of plastics in our lunch kits, composting program, utilizing our school garden area, etc.), and individual/group/class action plans.

April 11: Where is the largest pile of trash in the world?

Have each student take a guess before revealing the answer:
https://wonderopolis.org/wonder/where-is-the-worlds-largest-pile-of-trash

- Students research the Pacific Trash vortex on laptops, reflect in their learning journals

April 12: Making Beeswax wraps as a food wrap alternative to saran wrap





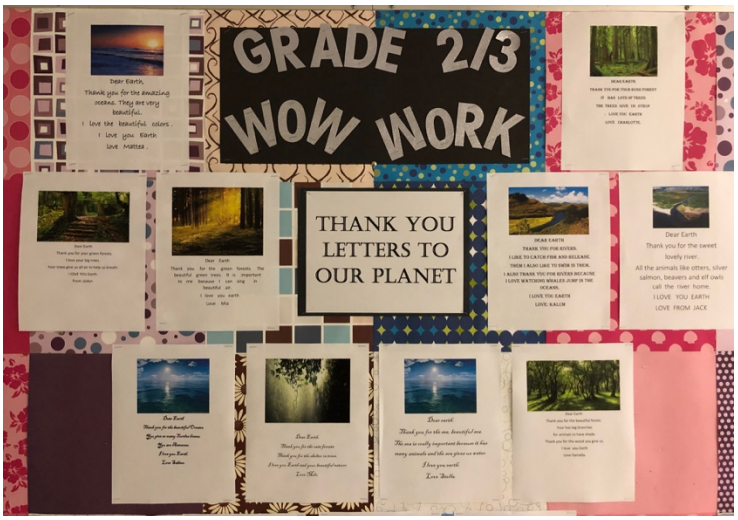
April 15-26: Plastic Bag Grab Challenge

- https://plasticbaggrab.com/en/about-the-challenge (
- The website provides great resources to support our inquiry
- Excellent picture book: *One Plastic Bag* by Miranda Paul


- On the last day, students each estimated how many bags we collected. Prizes were awarded to the top primary and intermediate guesses.

April 15-18: School-Wide Letter Writing

- Students write Thank You letters to the Earth, based on the book, *Thank You Earth: A Love Letter to our Planet*, by April Pulley Sayre
- Letters will be displayed along the school hallway



Dear Earth

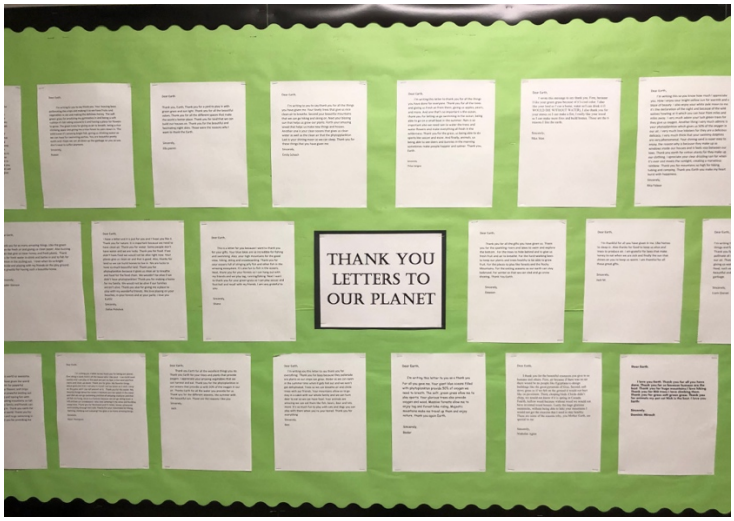
Thank you for your green forests.

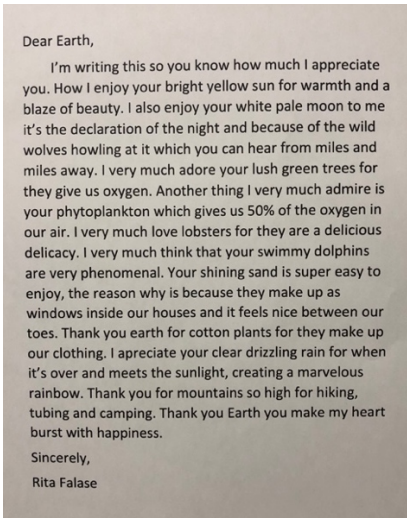
I love your big trees.

Your trees give us all air to help us breath.

I IOVE YOU Earth.

From Jaidyn





Dear Earth,

I'm writing this so you know how much I appreciate you. How I enjoy your bright yellow sun for warmth and a blaze of beauty. I also enjoy your white pale moon to me it's the declaration of the night and because of the wild wolves howling at it which you can hear from miles and miles away. I very much adore your lush green trees for they give us oxygen. Another thing I very much admire is your phytoplankton which gives us 50% of the oxygen in our air. I very much love lobsters for they are a delicious delicacy. I very much think that your swimmy dolphins are very phenomenal. Your shining sand is super easy to enjoy, the reason why is because they make up as windows inside our houses and it feels nice between our toes. Thank you earth for cotton plants for they make up our clothing. I apreciate your clear drizzling rain for when it's over and meets the sunlight, creating a marvelous rainbow. Thank you for mountains so high for hiking, tubing and camping. Thank you Earth you make my heart burst with happiness.

Sincerely,

Rita Falase

April 16:

- Field Trip to Landmark Cinemas for a private viewing of the 3D movie **Wonders of the Sea**
- Preview for the movie: http://wondersofthesea3d.com/
- **Movie Description**: Students will embark on a voyage to discover the ocean as never seen before and learn more about the threats that put our ocean at risk. While protecting the large marine animals such as whales, dolphins and sharks is more than ever essential, one should not forget that these great animals represent only the top of the food chain. WONDERS OF THE SEA gives students a bigger conservation picture by helping them discover the crucial importance of protecting this secret world within the ocean that is the bottom of the food chain on which everything else in the ocean and on our planet depends.
- We were sent an excellent **Educator's Resource Guide** and **Ocean Protector Activity Book**

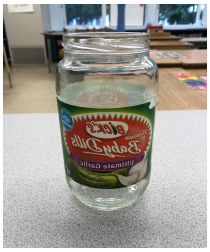
April 18: Art activity – Polluted Oceans (create a beautiful picture of our ocean and the species living within it, then cut out plastic garbage from flyers and pollute your picture)

April 18: Science Experiment – Clean up an Oil Spill (Garbage, page 54/55)

April 15/17/24: **Carol Walters** doing a **literacy lesson** with each class connected to the inquiry

April 23-26: For the week of Earth Day, the school will hold a **"Pickle Jar Challenge."** Can each class produce only a pickle jar worth of garbage a day?

- Link: One girl who only produced a jar worth of garbage in **4 years**! https://www.youtube.com/watch?v=OuABgFsv5pw



May: Addition of Loose Parts Outdoor Learning Space

- Creating outdoor play opportunities by re-using old materials

May/June: Art Activity – mural made from plastic bottle caps (Nailed It? Pinterest inspiration)

May/June: Inquiry Projects

- Report Writing (Intermediate): Students work on Waste Reports to answer the questions Where Does it Go? Why Does it Matter? What Can We Do? Bonus chapter: People Making a Difference
  - Include table of contents, headings, subheadings, pictures, captions, maps, works cited

June 6/7: Cost $2340 (GoGrants funding this)

- Field trip to Deep Bay Marine Station to build a better appreciation for our marine environment and learn about the effect that garbage is having on this important ecosystem
- https://research.viu.ca/deepbay/education
- https://research.viu.ca/sites/default/files/new_education_guide_fall_2017_4.pdf
- Students will take part in 2 educational programs at the Deep Bay Marine Field Station and enjoy a picnic lunch in between.
  During the Perils of Plastic lab presentation (Gr 2-7), students will learn about the problems of plastic, big and small. Students will learn what a micro plastic is, why it's harmful and how to avoid them. Other issues addressed will include plastic litter and entanglement, breakdown timeline of plastics and more. During the Intertidal Exploration (K-7), students will dip a giant beach seine into the Salish Sea and pull it ashore to discover the amazing life living just beneath the water's surface! Students will find a variety of animals such as pipe fish, shiner perch, crabs and shrimp. They will spend time exploring the beach at low tide and go on a scavenger hunt, conduct an experiment or complete an intertidal survey.
- Teachers can create appropriate follow up / extension activities to help enhance learning and build conceptual understanding

June 14: School Assembly for students to showcase their learning and action plans

- K's perform song
- Gr. 3/4 skit to teach about recycling properly
- Gr. 4/5 presentation to answer the 3 main inquiry questions
- Special guest musical performance: Decades After Paris

Some of the new ideas implemented at Airport as a result of the inquiry:

- Share bowls in the classroom (to eliminate food waste)
- Only one small garbage can in each classroom (or pickle jar)
- Weekly curbside compost pickup (can compost more than just fruits/veggies now)
- Waste Free lunches (any garbage must be taken home)
- Recess garbage clean up volunteers
- Changes in our art resources
    - avoiding/reducing materials that cannot be recycled such as construction paper, glitter
    - creating art from waste (bubble wrap, old magazines, bottle caps…)
- Recycling center in the hall for materials that cannot go in the blue bins but can be taken to the recycling depot
- Green Team (school club)
- Neighbourhood cleanup walks (collect and sort garbage)
- Cutting off the lids of the pizza boxes used for Hot Lunch so they can be partially recycled
- Recycling all markers/dry erase pens (take them to Staples)
- New school supplies system (families pay a fee, teachers purchase all supplies)
    - Bulk purchasing to reduce waste and better monitoring of what's needed
- Recycling is NOT the solution. We learned that a lot of our recycling is not actually being recycled. It is important to follow these steps in this order:

Links/Resources:

- 2 LRC kits: Earth Day Everyday (one for Primary and one for Intermediate)
- LRC kit: Man's Effect on the Environment (Intermediate)
    - Has an amazing book, *Waste*
- Our CSTs already prepared fantastic units for this inquiry. These links are full of many great ideas. (Field trips, picture books, video links, ways to use local resources, making your own food wraps to replace plastics, etc…)

  Primary: http://www5.sd71.bc.ca/literacy/wp-content/uploads/2018/06/CVRD-SWM-Primary-final-web-version.pdf
  Intermediate: http://www5.sd71.bc.ca/literacy/wp-content/uploads/2018/06/Earth-Day-Every-Day-intermediate-kit-new-font-final-web-revision.pdf

Better intermediate link:
https://portal.sd71.bc.ca/public/nrrdank4mzsxs4joonqwe33l/Pages/Sustainable-Practice.aspx

- Wonderopolis: Amazing questions connected to our inquiry
  https://wonderopolis.org/wonder/how-long-does-it-take-plastic-to-decompose (this one shows how plastics are affecting the ocean... great connection to the movie)
  https://wonderopolis.org/wonder/why-should-we-reduce-our-plastic-waste
  https://wonderopolis.org/wonder/where-do-recycled-items-go
  https://wonderopolis.org/wonder/where-is-the-worlds-largest-pile-of-trash
  https://wonderopolis.org/wonder/what-types-of-things-can-you-recycle
  https://wonderopolis.org/wonder/do-you-pack-your-lunch
    - About why plastic bags are so useful
- Other great links:
  - Mystery Doug: https://mysteryscience.com/mini-lessons/plastic#slide-id-5817
    - This shows why plastic was invented in the first place, and reasons why it is good
  - http://plasticsedkit.ocean.org/resources.html
    - This website has an entire unit plan for each grade with BC Curriculum links and student workbooks (French and English)
  - *The Great Canadian Shoreline Clean Up* https://www.shorelinecleanup.ca/school
  - https://breakingnewsenglish.com/1903/190324-balloons.html
  - 4Ocean company: https://4ocean.com/ (company that is cleaning up the ocean in developing countries and creating jobs for the citizens)
  - https://www.vox.com/videos/2019/2/25/18239881/microfibers-seafood-laundry-microplastics-marine-pollution-oceans (how microplastics are ending up in our ocean from washing clothes)
  - Bill Nye the Science Guy: Garbage
  - Man wears his trash: https://www.youtube.com/watch?v=9vCstrZ7ilk
  - http://wastefreelunches.org/
  - https://plasticpollutioncoalition.zendesk.com/hc/en-us/categories/202673118-Education
  - Landfill links:
    - https://www.youtube.com/watch?time_continue=9&v=bfaLdZWzip8
    - https://www.youtube.com/watch?time_continue=6&v=gTErslF_Blw
    - https://www.youtube.com/watch?v=TCEjMPcZXS8
    - https://www.youtube.com/watch?v=s-ps_0UFmfI
  - https://www.youtube.com/watch?v=lbUS3jPjyrc (the Lorax How to Help the Earth - read aloud)
  - https://qz.com/1585027/when-it-comes-to-climate-change-cotton-totes-might-be-worse-than-plastic/ (why cotton totes are not a good alternative to plastic bags)
  - Zero Waste: One girl who only produced a mason jar worth of garbage in 4 years! https://www.youtube.com/watch?v=OuABgFsv5pw
  - Video links about plastic bags (how they are made, how they are recycled, and what can be made from them) https://plasticbaggrab.com/videos
  - Making beeswax wraps: https://www.youtube.com/watch?v=F-DD7AW_Eu0
  - Man from Brazil who collects tires from landfills and transforms them into pet beds: http://en.goodtimes.my/2019/02/08/man-transforms-old-tires-into-adorable-little-beds-for-animals/

- Ocean Sole Africa: Company that collects old flip flops from the ocean and turns them into beautiful statues - https://oceansoleafrica.com/
- One Plastic Bag information: http://oneplasticbag.com/

- Picture books:
  - *One Plastic Bag* (the true story of how one woman found a solution to the problem of plastic waste in Gambia)
  - *Thank You Earth: A Love Letter to our Planet* by April Pulley Sayre (inspiration for writing letters to the Earth)
  - *What Matters* by Alison Hughes and Holly Hatam
  - *Where Does the Garbage Go?* Paul Showers
  - *Smash, Mash, Crash! There Goes the Trash!* By Barbara Odanaka
  - *Dear Children of the Earth* by Schim Schimmel
  - *How to Help the Earth* by the Lorax
    - read aloud: https://www.youtube.com/watch?v=lbUS3jPjyrc

Curriculum Connections:

Here is an overview of ***some*** of the big ideas/curricular competencies addressed through this inquiry:

Social Responsibility Core Competency:

-I can identify how my actions and the actions of others affect my community and the natural environment and can work to make positive change

-I can analyze complex social or environmental issues from multiple perspectives. I can take thoughtful actions to influence positive, sustainable change.

Personal Awareness and Responsibility Core Competency:

- I can imagine and work toward change in myself and the world

Critical Thinking Core Competency:

- I can reflect on and evaluate my thinking, products and actions
- I can explore materials and actions

First Peoples Principles of Learning:

- 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.

English Language Arts:

- K-3: Engage actively as listeners, viewers and readers, as appropriate, to develop understanding of self, identity and community

Social Studies:

- K: rights, roles and responsibilities of individuals and groups
- 1: relationships between a community and it's environment / roles, rights and responsibilities in the local community
- 2: relationships between people and the environment in different communities
- 3: relationships between people and their environment

Science:

- K: take part in caring for self, family, classroom and school through personal approaches
- 1: Consider some environmental consequences of their actions / take part in caring for self, family, classroom and school through personal approaches
- 2: Experience and interpret the local environment / consider some environmental consequences of their actions / express and reflect on personal experiences of place

- 3: Demonstrate curiosity about the natural world / identify questions about familiar objects and events that can be investigated scientifically / experience and interpret the local environment / identify some simple environmental implications of their and others' actions / contribute to care for self, others, school, and neighbourhood through personal or collaborative approaches

Intermediate Big Ideas:

- Complex global problems require international cooperation to make difficult choices for the future.
- Everything in the environment is one/connected (e.g., sun, sky, plants and animals) and we have a responsibility to care for it.

Intermediate Curricular Competencies:

- experience and interpret the local environment
- Identify First Peoples perspective and knowledge as a source of information
- with support, plan appropriate investigations to answer their questions or solve problems they have identified
- contribute to care for self, others and community through personal or collaborative approaches
- international cooperation and responses to global issues
- use Social Studies inquiry processes and skills to - ask questions: gather, interpret and analyze ideas; and communicate findings and decisions
- with teacher and peer support, select a relevant problem or issue for inquiry
- develop a plan of action to address a selected problem or issue
- collect and organize information to support a plan of action
- individually, or in groups, implement a plan of action to address a problem or issue

Deep Bay Marine Station lab activity:

- Grade 2 Science: Physical ways of changing materials
- Grade 5 Science: Basic structures of functions of body systems
- Grade 5 Science: Survival Needs; evidence of climate changeover geological time and the recent impacts of humans
- Grade 6 Science: Mixtures: separated using a difference in component properties

Deep Bay Marine Station Intertidal Exploration activity:

- Kindergarten Science: Basic needs of plants and animals; features of local plants and animals that help them meet their basic needs
- Grade 1 Science: The classification of living or non-living things; structural features of living things in the local environment
- Grade 2 Science: Metamorphic and non-metamorphic life cycles of different organisms
- Grade 3 Science: Biodiversity in the local environment
- Grade 6 Science: Extreme environments exist on Earth and in the solar system
- Grade 7 Science: Survival needs and interactions between organisms and the environment

Created by Myra Wilson (2019)