

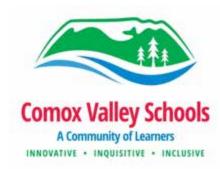
Project Background Information

In the Spring of 2018, James Warren, General Manager of Corporate Services Comox Valley Regional District, reached out to Geoff Manning, kindergarten—grade 12 Director of Instruction for Comox Valley Schools, about the possibility of a collaborative project to create resources to share information to students and educators about solid waste management in the Comox Strathcona region. Because a new landfill has recently been completed at a large expense, it was felt that our current generation of students needed to know that in approximately two decades this new landfill will once again be reaching its capacity. The purpose of this collaborative project is to share ways we can be mindful of what gets put in the landfill to ensure its life is extended. While experienced environmental educators working for the regional district share their dynamic work in classrooms across districts, this project offers additional ways of promoting sustainable practice. An invitation was therefore sent out to Comox Valley teachers to be part of this work. And a committee was formed.

Video explaining landfill: https://www.youtube.com/watch?v=gTErsIF_Blw

Two inquiry units resulted; one for primary educators and students, and one for intermediate educators and students. The following pages offer a selection of activities, videos, books, and websites as a menu for primary educators.





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Where Does it Go?

Earth Day Every Day: Lessons for Sustainable Practice



Kindergarten—Grade 3

Comox Strathcona Waste Management
School-Based Education Program
Curriculum Development Project





Where Does it Go?

Earth Day Everyday: Lessons for Sustainable Practice

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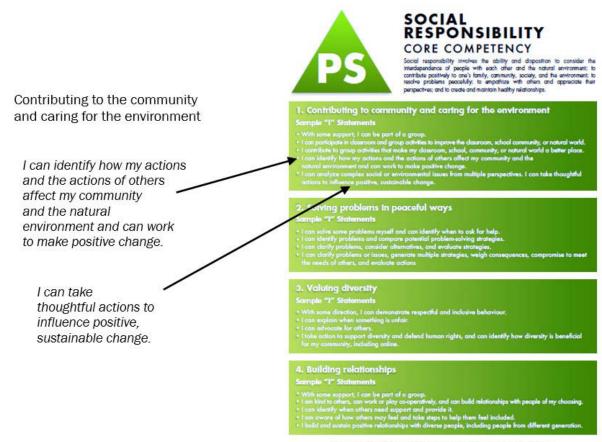
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Rethink and Refuse

A Throwaway World

In our throwaway 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?

In this inquiry unit, 'Where Does it Go?' teachers are offered ways in which classroom community may be created and suggestions are offered for ways in which students can make a difference. In The Curious Classroom, author Harvey Smokey Daniels states that, "We can take affirmative steps from the start of the year to dramatically raise the odds of growing a collaborative group of students who can take responsibility for challenging and cooperative inquiries all year long." When children learn to care about each other and their environment, the stage is set for in depth learning and through the process, our community and the world will become a better place.



The profiles emphasize the concept of growing and expanding.
They are progressive and additive.

For quite some time now we have referred to the 3 Rs ~ Reduce, Re-Use, and Recycle.



But did you know the 3 Rs have grown to become the 5 Rs? Rethink and Refuse have been added to the equation.



Offerings within this inquiry are organized with these descriptors to create a community of caring learners.

English Language Arts K

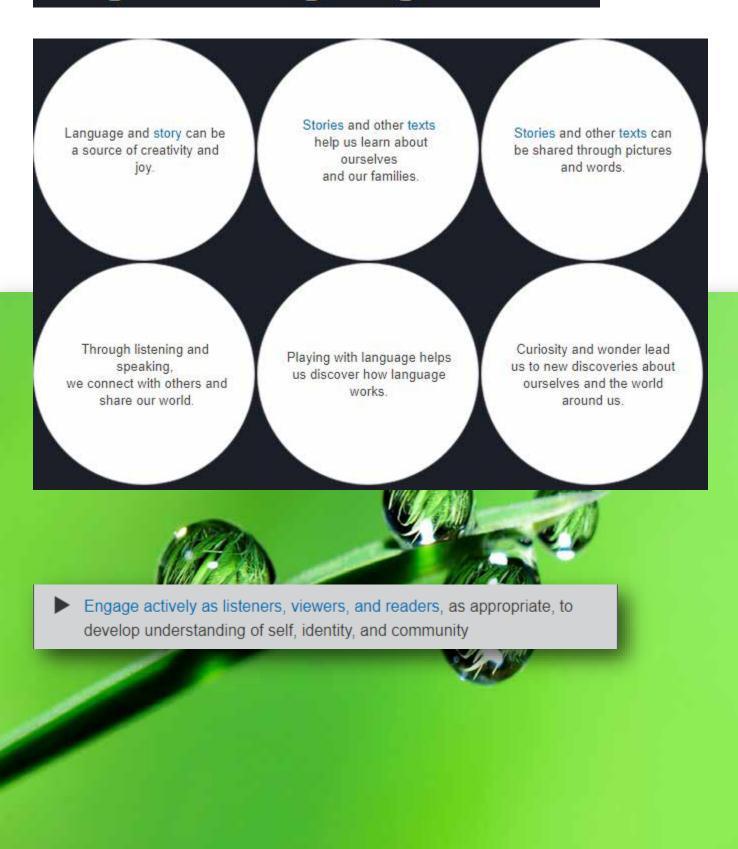
Language and story can be a source of creativity and joy. Stories and other texts help us learn about ourselves and our families. Stories and other texts can be shared through pictures and words.

Through listening and speaking, we connect with others and share our world. Playing with language helps us discover how language works. Curiosity and wonder lead us to new discoveries about ourselves and the world around us.

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



English Language Arts 1



English Language Arts 2



English Language Arts 3



Social Studies

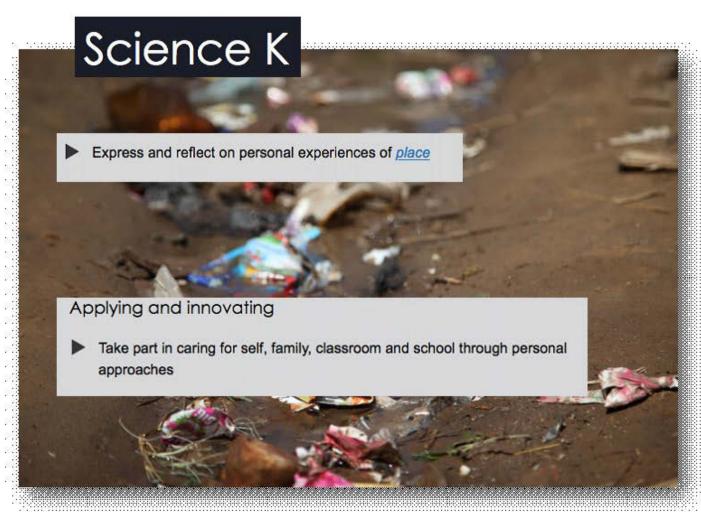


Refuse Reduce Reuse Repair Recycle Re-Think

GreenSalem.com

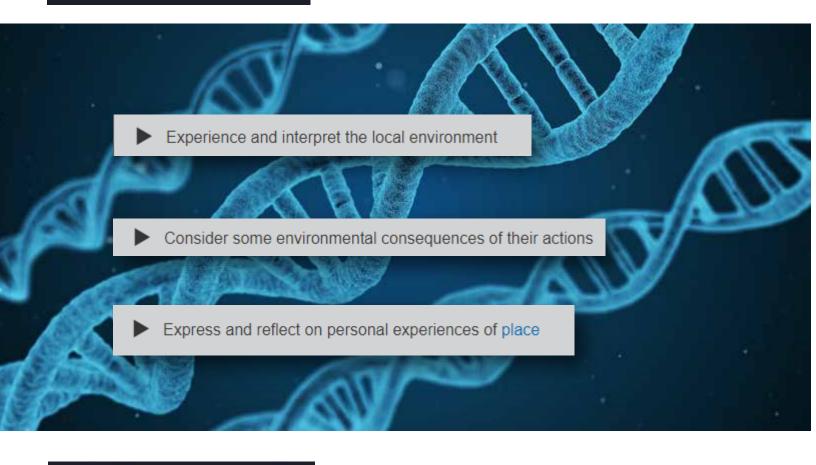
Social Studies







Science 2



Science 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

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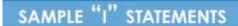


SAMPLE "I" STATEMENTS

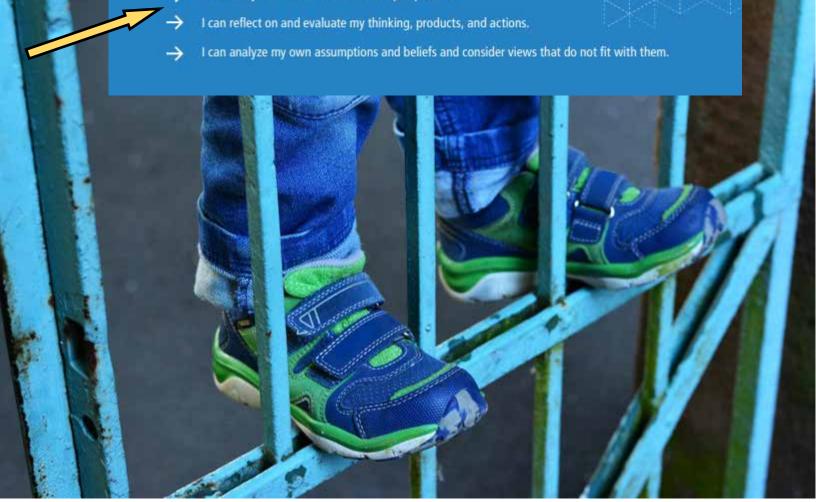
- I can show a sense of accomplishment and joy.
- → I can celebrate my efforts and accomplishments.
- I can advocate for myself and my ideas.
- I can imagine and work toward change in myself and the world.
- → I take the initiative to inform myself about controversial issues.







- I can show if I like something or not.
- I can identify criteria that I can use to analyze evidence.
- > I can analyze evidence from different perspectives.







- I get ideas when I play. My ideas are fun for me and make me happy.
- I can get new ideas or build on other people's ideas, to create new things within the constraints of a form, a problem, or materials.
- → I generate new ideas as I pursue my interests.
- I get ideas that are new to my peers.
- I can develop a body of creative work over time in an area I'm interested in or passionate about.

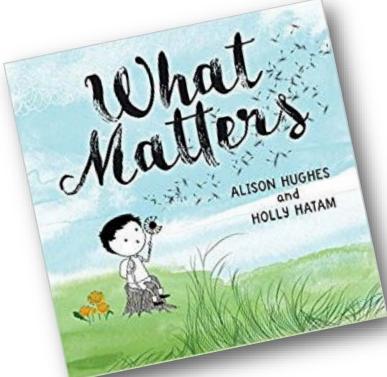


Launching an Inquiry:

An inquiry unit is often launched with an invitation or a provocation.

The book, <u>What Matters</u> by Alison Hughes offers a delightful starting point for this inquiry.

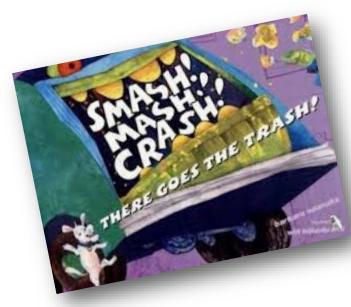
What happens when a young boy picks up a single piece of litter?



He doesn't know it, but his tiny act has big consequences. What Matters gently explores nature's connections, from the minuscule to the monumental, and traces the ripple effects of one child's good deed to show how we can all make a big difference.

Share this book with your students and ask, why do you think Alison Hughes wrote this book? Record responses on a chart. You never know when a child might make a really important statement to launch this work *from their thinking*!

Also ask, "What happens to our trash in our community?" Listen and record responses. Complete this conversation with another question, "How can we find out?"

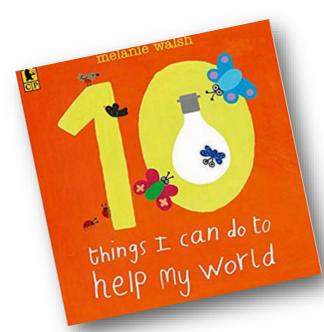


Smash! Mash! Crash! There goes the Trash!

By Barbara Odanaka

This language rich, rhyming picture book also makes a perfect launch to this inquiry. As the garbage truck rumbles through a neighbourhood, it picks up all sorts of items: "Rotten eggs? Apple cores? Pack 'em in ~ the engine Roars." But what happens when the truck is full? Where does it go? Where does it take all the stuff? There's another part to this story that needs to be discovered!

The book, **10 Things I Can Do to Help My World** by Melanie Walsh offers another possible starting point for this inquiry.



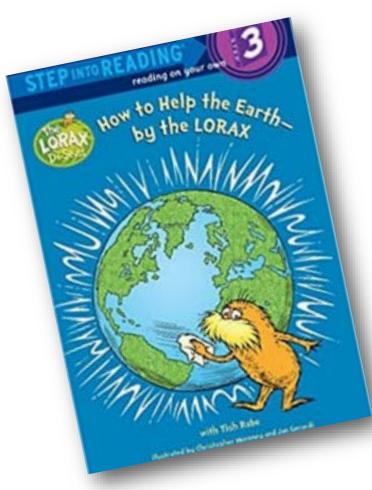
Do you remember to turn off the tap while you brush your teeth? How about using both sides of the paper when writing and drawing? Or planting seeds and nurturing the new plants as they grow? Bold, child-friendly illustrations and die-cut pages will draw even the youngest listeners to this gentle reminder of the easy, everyday ways we can be kinder to the earth.

After sharing this book with children, create a

chart in which they suggest ways to save the world. As the chart is being created, nudge thinking forward with questions such as, "How can we help our local community?" What could be improved in our community? Pick up the classroom recycling bin and ask, "I wonder where our recycling goes? I wonder if we can think of ideas around how we use this bin each day? Has anyone wondered about the garbage we place in our garbage can each day? Where does it go?" These little prompts will get children thinking in the direction of this project, yet the ideas will be theirs! Planting these seeds will launch this inquiry in child-friendly ways.

How to Help the Earth ~ By the Lorax

After explaining how the trash in a waste basket ultimately ends up in a landfill or



incinerator, the Lorax suggests realistic ways children can reduce waste, such as carrying a lunch box, donating old clothes and toys, sharing magazines with friends, recycling cans and bottles, and using rechargeable batteries. He also explains how they can save energy around the home by turning off lights, taking shorter showers, donning sweaters to stay warm, and much, much more. All in all, this is a great introduction to helping the Earth!

- I Wonder what we can do to make sure our stuff doesn't end up in our local landfill?
- What do we know about landfills?
- Where is our local landfill?
- Does our landfill get full?

https://www.youtube.com/watch?v=lbUS3iPiyrc

To listen on line as a child reads this book





A picture can produce lots of conversation to record, ponder, and act upon!

What are you thinking, noticing and wondering?



Rather than a picture, ask students to place all the **items and wrappers left from their lunch and snack** in a designated place. After lunch, invite students to notice, think, and wonder about the items collected. Sort it. Analyse it. What are they noticing now?



FIRST PRINCIPLES 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.

Learning involves generational roles and responsibilities.

Learning recognizes the role of indigenous knowledge.

Learning is embedded in memory, history, and story.

Learning involves patience and time.

Learning requires exploration of one's identity.

Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.









Student self-assessment may occur at anytime during this unit. The following graphics from the blog, Rubber Boots and Elf Shoes https://drive.google.com/file/d/1G3KKNQZzZ92_f3hNS1Zf9bSkggloOUEy/view provide simple ways for students to self assess core competencies that align with the intentions of this inquiry. (For a shortened address: https://bit.ly/2rBMW8D)

_____ cares for the community and the environment.

I can solve problems and ask for help when I need it.









I am kind to others and our environment.









rubber boots and elf shoes, 2018

For best results, print these self-assessment tools directly from the **Rubber Boots and Elf Shoes** blog. https://drive.google.com/file/d/1G3KKNQZzZ92_f3hNS1Zf9bSkgglo0UEy/view

Sandi Purdell Lewis is a wonderful educator who has dedicated the majority of her career in SD79, Chemainus.

_____ is a communicator.

I can share ideas.









I can listen to others.









rubber boots and elf shoes, 2018

_____ shows respect for self and others.

I can share how I feel.









I try to make decisions that keep me happy and safe.







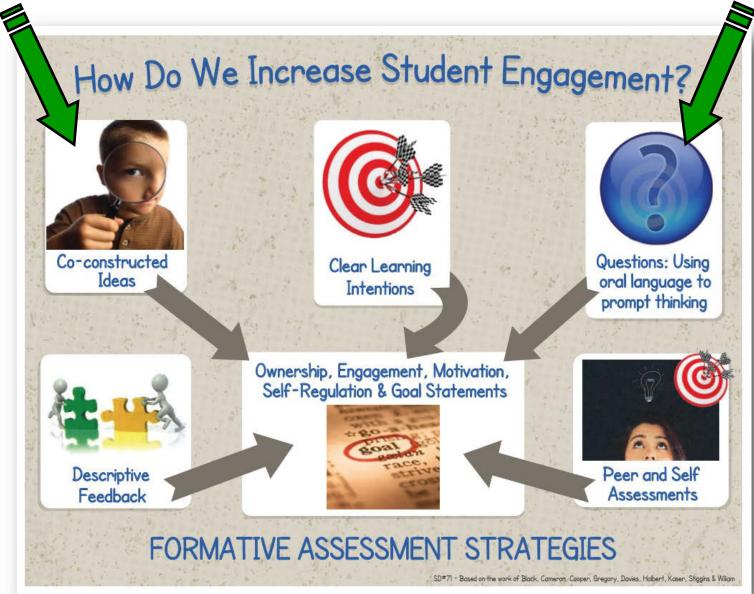


rubber boots and elf shoes, 2018

A French version of these self-assessment tools may be found at:

https://drive.google.com/file/d/1byMylpUZnH79Hz-pVTxXotPKbCopANXm/view
Or https://bit.ly/2rBMW8D

Launching this work by asking questions, honouring their questions, and co-constructing ideas, increases engagement, motivation and self-regulation.





We Are Learning To:

care about our community by looking at how we deal with our trash.

Recycle: shredding, squashing, pulping, or melting items to create new products

One of the ways to prevent items from entering our landfill is to recycle them. During the recycling process, materials are broken down, then they are built back up again to create new products. The following book, video, and activity suggestions will reinforce the concept of recycling for young learners.

Look After Your Planet

After Charlie convinces Lola to **recycle** her old toys instead of throwing them away, Lola discovers a recycling competition. If she can recycle one hundred plastic, metal, and paper items, she can get her very own real live tree to plant. But she only has two weeks, so Lola decides to ask her classmates to help. They turn out to be extremely very good recyclers indeed.



TŪ

Slo.IL

Read the book or watch the video about Lola and Charlie learning about recycling and entering a contest.

https://
www.youtube.com/
watch?v=zCfazf2gVuo

(11:30)





Captivating cartoon characters explain the basics of recycling.

https://www.youtube.com/watch?
v=BaFpv03hq-4 (3:06)

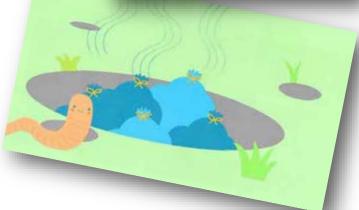
Why is recycling important?

(3:09)

https://www.youtube.com/watch?v=vNyv4fGRO5o



Recycle Everyday! Minna, a creative bunny, wants to win the Community Recycling Calendar Contest. She knows a lot about recycling but just can't come up with the perfect idea for her poster. Minna's family helps her find inspiration as they share their own recycling efforts.



Where does all the rubbish go? Learn about landfills and the 5rs through song!

https://www.youtube.com/watch?v=CCS6iOG5G68

(3:52)

GLASS

PLASTIC







Science World

Recycling Sort Relay ~ Students are challenged to sort household waste items into their appropriate bins in a relay

https://www.scienceworld.ca/resources/activities/waste-management-relay



http://greenteacher.com/turning-rotten-into-right-a-kindergarten-study-of-decomposition/



This Green Teacher blog of January, 2014 describes the learning journey in a kindergarten classroom as children learned about decomposition.

Composting



Another way to keep materials out of the landfill is to compost. But what can go in the compost?

This activity introduces learners to the concept of biodegradation and the conditions that promote composting.

Differentiate between compostable waste and non-biodegradable waste.

https://www.scienceworld.ca/resources/activities/rotting

A Root-Vue Farm will provide opportunities for children to watch items to see which ones

decompose and which ones don't. Or better yet, reuse a container that you can see through and make your own by reusing materials!

https://www.theowlteacher.com/earth-day-activity-mini-landfills/

https://www.feelgoodteaching.com/2017/04/earth-day-stem-challenge-new-earth

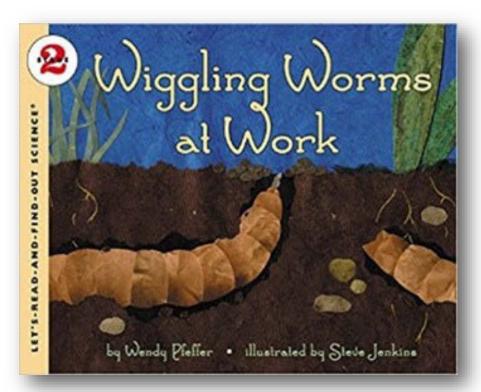




https://urbangardenersrepublic.com/composting-for-kids-activities/

Composting for kids with Peppa Pig (5:00)







Wiggling Worms at Work

Crawling through the dirt, worms are hard at work, help-ing plants to grow. Worms help the fruit and vegetables we eat by loosening the soil and feeding the plants.

https://www.youtube.com/watch?v=I-zc_1vjLnl

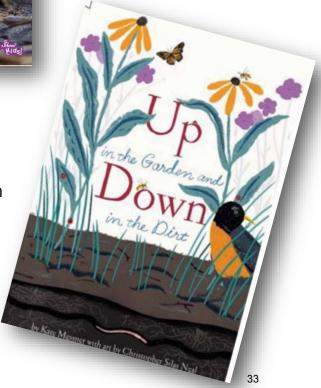


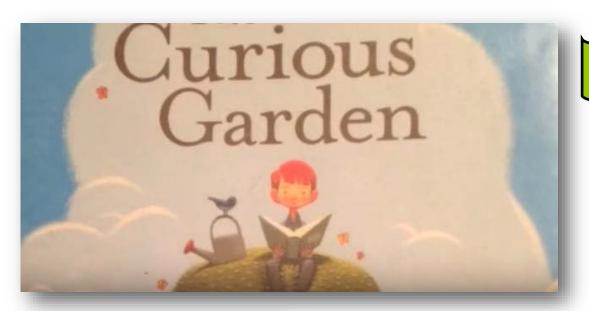
Up in the Garden and Down in the Dirt

By Kate Messner

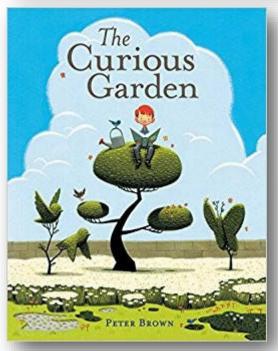
Read the book or share the video to reinforce garden concepts.

https://www.youtube.com/watch?v=UZZIVGnatal (6:08)





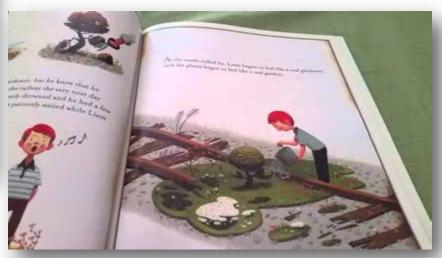




Read the book or watch the video to reinforce the importance of gardens.

https://www.youtube.com/watch?v=m6JgMZrpLLw

(4:50)





https://www.youtube.com/watch? v=gBZdUA8zxJ0&index=14&list=PLmV7x-JlhKmrXys0z8LASk5a9J4Qor0kY

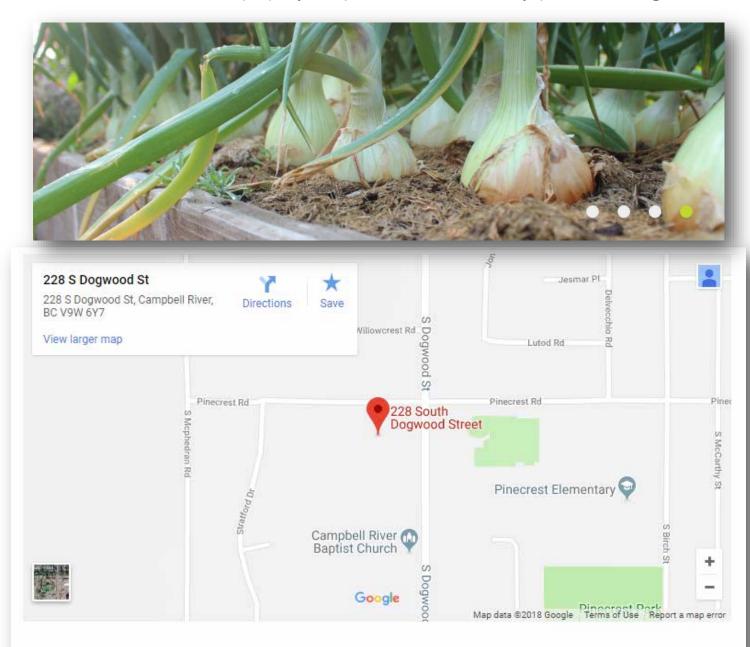
If animals recycle, so can we. A very short video to make this point.

(:48)



Comox Strathcona Garden Education Centre

Comox Strathcona Waste Management encourages residents to compost their own food scraps in order to divert compostable waste from the landfill. They operate a garden education centre in Campbell River that offers demonstrations, workshops, samples and handouts about how to properly compost and have a healthy, pesticide-free garden.



To book a school tour or for more info contact

Hours of operation:

Elaine Jansen, Garden Educator

Tel: 250-287-1625

Mondays - Thursdays, 9 am - 2 pm



This video explains how the new landfill works and what we can do to protect it. https://www.cswm.ca/garbage/landfill-projects (1:48)



Your One Stop Recycle Shop!



Book at field trip and see the recycling process in action.

To book, call Jay Kim at the Courtenay Return-It Depot

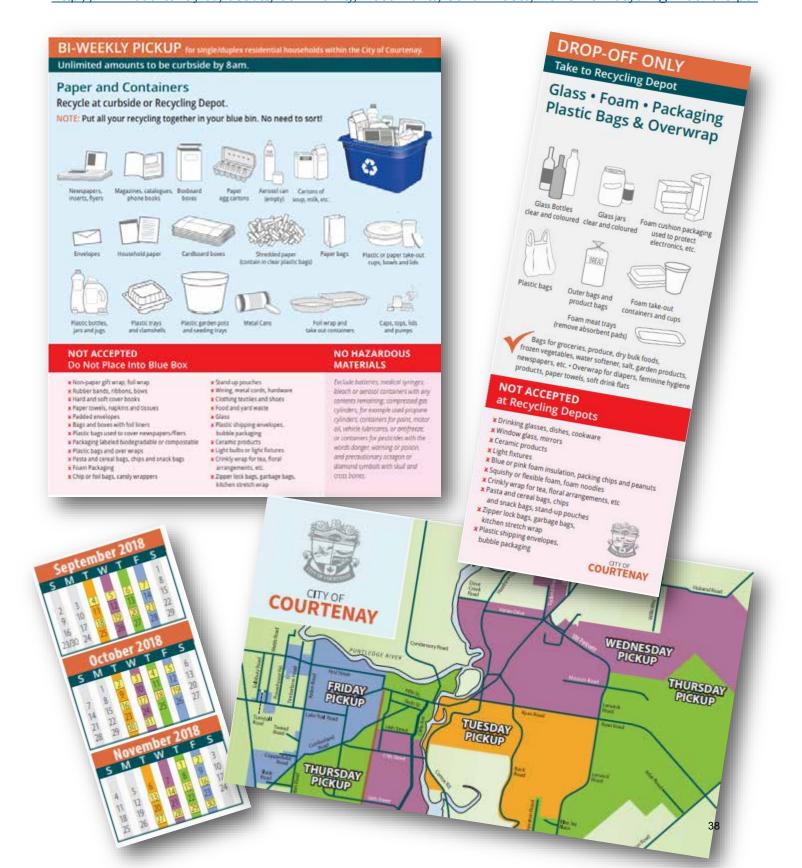
250 338-6013







What can or can't be recycled? When? Where? For specific information regarding your area visit this site: http://www.courtenay.ca/assets/Community/Documents/Solid~Waste/2018-19-Recycling-Brochure.pdf





Comox Strathcona Waste Management

Comox Strathcona Waste Management provides support with waste management initiatives in schools and classrooms within School Districts 71,72 and 84 at no cost. To find out more about programs available, to book a Solid Waste Program Educator to come and speak in your classroom, or to book a field trip to visit the Comox Strathcona Garden Education Centre, go to:

http://www.cswm.ca/education

Here you will learn about on-site programs available field trip options, and will also be able to download a n electronic version of this guide.

Reduce: to use less of something

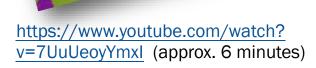
Reducing what we use preserves Earth's resources and cuts down the amount of garbage we send to landfills. Some questions to ask ourselves and our students:

- Why do we need to reduce?
- How can we reduce the amount of trash that makes its way the landfill?

https://www.youtube.com/watch? v=gBZdUA8zxJ0&list=PLmV7x-JlhKmrXys0z8LASk5a9J4Qor0kY&inde x=14 (48 seconds)

Animals don't use plastic bags. Why do we?





This video from LearningMole.com contains lots of information about reducing, reusing and recycling. Questions are posed and answers explain why it's important to keep materials out of the landfill by reducing, reusing and recycling.









Check out our lunches!

https://www.scienceworld.ca/resources/activities/litterless-lunch

According to Natural Resources Canada, the average North American will produce 600 times their own weight in garbage over their lifetime. A person who weighs 68 kilograms will leave behind a 40,825 kilogram trash legacy. By altering daily practices, such how an individual packs their lunch for school or work, a significant amount of waste can be prevented from entering the landfill.

Students save the garbage from their lunches, sort it into different bins and analyze

their findings to determine how much waste the average lunch creates. After the sort the co-create ideas regarding litter-less lunches.



Go Local (1:00)

https://www.youtube.com/watch? v=4GTxyTWEbTM&index=10&list=PLmV7x-JlhKmrXys0z8LASk5a9J4Qor0kY

Once upon a time there were two sweaters. One made with wool from a sheep far, far away, and one made with wool from a sheep right here...





Celebrate Homemade!

It's easy to go to the store and buy everything that you need. But that often comes with a lot of extra packaging, and sometimes, many extra ingredients. So why not make your own!

But don't stop after you've made a delicious, homemade recipe; continue to make your own reusable wrapper!



RECIPE:

Crispy Honey Nut Granola Bars

By Jennifer Segal

https://www.onceuponachef.com/recipes/homemade-granola-bars.html

Servings: Makes 12-16 granola bars

Total Time: 35 Minutes

Ingredients

1-1/2 cups old fashioned rolled oats

1 cup chopped walnuts

1/2 cup sliced almonds

2/3 cup shredded unsweetened coconut 1/2 cup honey

3 tablespoons light brown sugar

2 tablespoons unsalted butter

1-1/2 teaspoons vanilla extract

1/4 teaspoon salt

1 cup crisp rice cereal, such as Rice Krispies





Instructions:

Preheat the oven to 350°F. Line a baking sheet with heavy duty aluminum foil. Spread the oats, walnuts and almonds onto prepared baking sheet. Place in the oven and toast for 7 minutes. Add coconut and toss well, then place back in the oven to cook about 6-8 minutes more. Keep an eye on it towards the end; you want the coconut to turn golden but not burn.

In the meantime, combine the honey, brown sugar, butter, vanilla extract and salt in a small saucepan and place over medium heat. Stir with a whisk until the brown sugar is completely dissolved. Turn off heat and set aside.

Once the oat mixture is done, remove it from the oven and reduce heat to 300°F. Combine the the oat mixture, honey mixture and rice cereal in a large bowl and toss well. (Reserve aluminum foil.)

Use the reserved foil to line a 9x13-inch baking dish, then spray foil with nonstick cooking spray. Turn granola bar mixture out into the prepared baking dish and spread evenly, being careful not to press down too hard. Bake for 20 minutes (be sure heat is reduced to 300° F).

Remove from the oven and cool completely, about $1-1\frac{1}{2}$ hours. Use the foil overhang to transfer bars to cutting board, then use a large knife to cut into rectangles. Store in a single layer in an airtight container for up to a week (do not stack the bars or they will stick together and fall apart).

*You can swap in your favorite nuts and seeds as long as you keep the proportions of dry to wet ingredients the same. You can also toss in some dried fruit. On occasion, I'll sprinkle some chocolate chips over top for the kids (you can't mix them in or they'll melt).

**Be sure your oven is fully preheated before toasting nuts; the initial blast of heat to preheat the oven can burn them.

Make your own Food Wrappers



Using plastic wrap, wax paper, or ziploc bags may not seem like it's producing much waste, but over time it all adds up. Making your own food wrappers with your students, offers a rich experience in sharing the <u>Rethink, Reduce, Reuse, Refuse,</u> and <u>Recycle</u> messages.





DIY reusable food wrap

https://www.diynatural.com/reusable-food-wrap-plastic-alternative/

With fabric layered between sheets of parchment paper, sprinkle fabric with beeswax beads. Iron the layers together.



What's the point of making your own?

- Reusable food wrap is a more sustainable option, preventing toxic plastics from having to be produced and disposed.
- It can be washed and reused many times, creating less waste.
- It's healthier for you to wrap your food in this beeswax fabric rather than having plastic wrapped around your food.

 You'll save money if you use reusable food wrap instead of purchasing commercial food wrap.

Homemade Cardboard Clipboards





http://bloggingthemoments.blogspot.ca/2012/04/diy-cardboard-clipboard-all-about.html

Throughout the school year you'll need clipboards for yourself and your students. Why not make your own out of materials that might otherwise end up in our landfill? Why recycle when you can rethink and imagine new uses?

Homemade Games & Crafts





https://realitydaydream.com/heart-shaped-beginner-sting-art-kids-craft/



https://happybrownhouse.com/wood-slice-string-art-ornament/



https://artclubblog.com/2012/11/19/string-art/

Reuse: instead of tossing, use again

There are so many items that are used once and thrown away. We are always ditching the old to make way for the new, using once for convenience sake, or throwing out rather than repairing. But what if we were to reuse items? Can materials be used in creative ways?







Students build a biodegradable pot and plant a seed inside.

By making a seedling pot out of newspaper, you can reuse newspaper and help **reduce** greenhouse gas emissions associated with landfills.

https://www.scienceworld.ca/resources/activities/biodegradable-seedling-pots



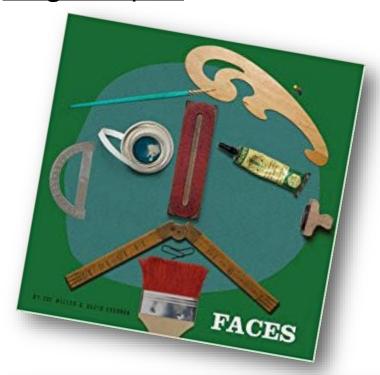
Wind Chimes

You might have some canning rings at home just waiting to be reused. They might be found at a thrift store. These little treasure are just waiting to be reused. Press leaves and flowers between sheets of wax paper. Trace the jar lid around each grouping of natural materials and cut into circles. Place the circles in the jar lids and hang with string from a branch.

Credit: Hands on as We Grow

Art as a Process, Not a Product ... Using Loose parts





Faces by Miller & Goodman

Make faces out of things that might otherwise be thrown away. How can you make a face? What can you use to make a face? What kind of face will you make ... happy, sad, grumpy, angry, shocked? Where can you make a



Reuse fruit and vegetables, real or from your play centre to make faces using this wonderful book by Zoe Miller & David Goodman.

Reuse:





With extra frames from around the house, or from thrift stores, create temporary art. Create it. Take pictures. Put items away, but don't take it home!

With thanks to Andrea Hollingsworth, a Gulf Islands Strong Start ECE, for this photo.

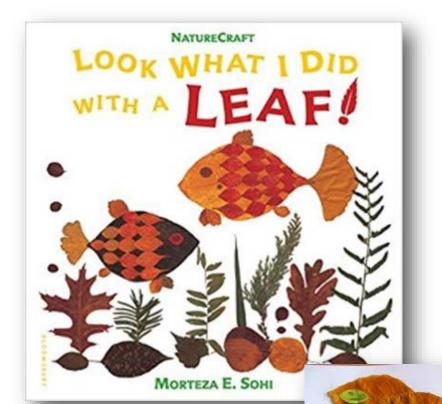
https://www.pinterest.ca/pin/107945722293488877/



Create faces from natural objects while outside. They're all compostable and can be left in the environment for others to find and be inspired.







Offer inspiration using leaves. Who knows where this will lead! There are so many art-inspired ideas 'stemming' (get it!?) from mother nature.



Reuse:









What can these be? Children won't have any problems being creative and reusing egg cartons. And once they know that they're helping their local environment, you might not be able to stop their thinking!



Rethink: rethink the way we deal with waste in our lives

Armed with information about the other Rs, children can start to make some decisions about what they can do to divert rubbish from our landfill. It's time to rethink!



Science World

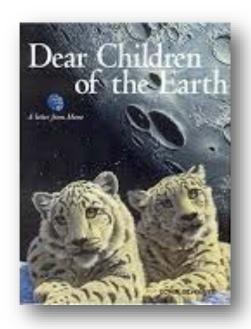
Rethink ~ Map Your Fruit

Students trace where the fruit in their lunch boxes comes from and think about advantages of buying locally.

https://www.scienceworld.ca/resources/activities/map-your-fruit

When you've mapped your fruit, you might want to map your t-shirt too! Where was your shirt made? What are our options?



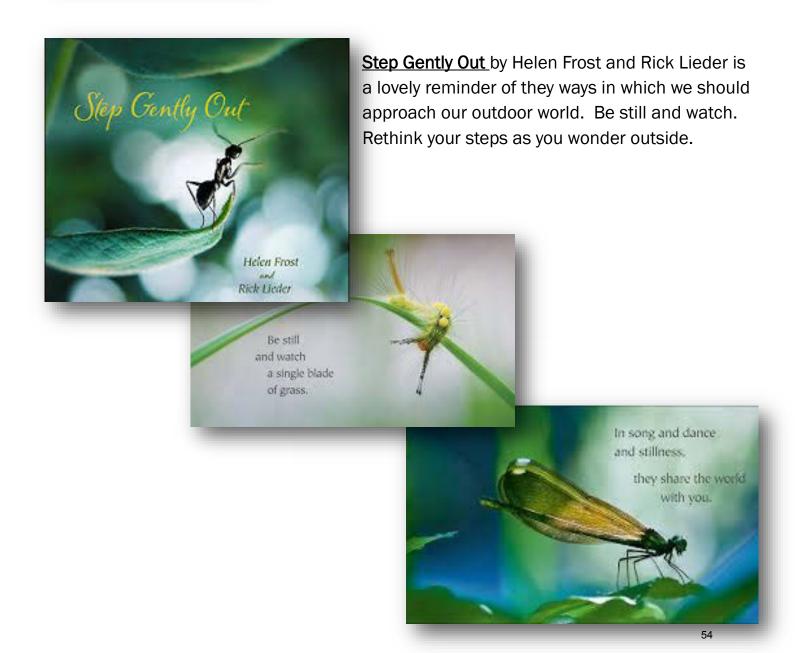


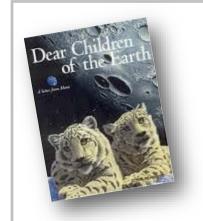


Mother Earth has written this book (Well actually it was written by Schim Schimmel), but children will love the Mother Earth idea!

After sharing this book with children, they will enjoy writing a letter back! In their letter they can make a promise of something they will do to protect Earth.

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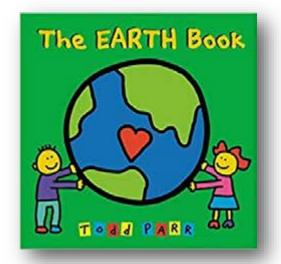




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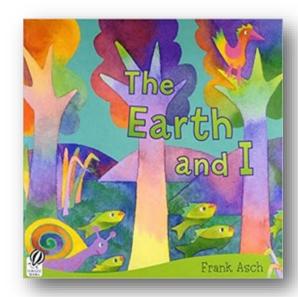
Dear Mother Earth,





Todd Parr explores the important, timely subject of environmental protection and conservation in this ecofriendly picture book called **The Earth Book**. It includes lots of easy, smart ideas on how we can all work together to make the Earth feel good - from planting a tree and using both sides of the paper, to saving energy and reusing old things in new ways.

The Earth and I celebrates friendship that one child has with the Earth. They play together, listen to each other, and nourish each other. But when the Earth is sad, the child is sad - so he finds a way to make his friend, the Earth, happy.









A Playmobil ambulance and a rubber ball globe will inspire stories during playtime. Place the Earth on the Playmobil ambulance stretcher and see what happens! Observe and listen as they play. And get ready to document their learning!



Straws are fun. Straws are colourful. But straws are single use items. When alerted to landfill issues, children will be armed to make personal choices.



When grocery shopping, the cashier may ask you if you prefer paper or plastic. You can say no and bring your own reusable, cloth bag.



Using dishes might mean someone is going to have to wash them, but paper plates are another single-use item. What can you refuse?





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