

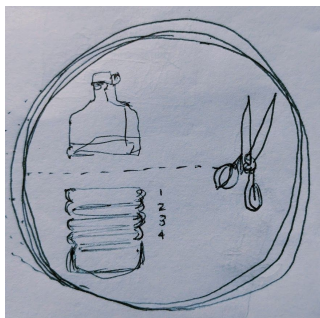


SKATEISTAN LESSON PLAN

"Recycled Garden Series"

Recycling, Gardening, Invention, & Creation

Curriculum	Environment & Gardening	Date	January 2017
Project Site	All Sites	Time	60 min. Lessons X 4
Authors	PO Team	Abilities	2A & 2B



LEARNING OBJECTIVES & OUTCOMES

- Learn about recycling
 - Key vocabulary
 - Environmental impact
 - Economic impact
- Invent & Create Designs
 - Drawings & designs for recycled materials
 - Create unique & useful artwork from recycled materials
- Learn about gardening process
 - Students experience their plants grow.

MATERIALS & EQUIPMENT

REQUIRED

Plastic Bottles (various sizes)
Large water tub, Soap & water
Newspaper & Cardboard
A5 Paper (A4 ripped in half)
Pencils / Pens
Paint & Brushes
Scissors
Rope
Soil & Seeds
Laptop

(OPTIONAL)

Spray paint
Hot Glue Gun
Projector

RESOURCES & REFERENCES

- [Cambodia Media Album](#)
- [Afghanistan Media Album](#)
- [South Africa Media Album](#)
- [Plastic Pollution Website](#)
- [3R's video for lower fitness](#)
- [4R's video for higher fitness](#)
- [Plastics in the Environment](#)
- [Plastic Bottle Inventions](#)
- [Pharrell Williams & Plastic](#)
- [A Story of 3 plastic bottles](#)
- [Plastic bottle design](#)
- [Macrame knot tutorial](#)

LESSON PREPARATION

- Make sure lessons will be taught during the growing season; Spring is perhaps the best option, depending on which plants are used.
- Collect enough bottles so each student can have their own bottle for the activity.
- Prepare a bottle washing station with soap and water

ACCESSIBILITY

LOWER FITNESS

Review videos to find those most suitable for your group. Add additional resources if video's aren't appropriate for audience

- [3R's video](#)

HIGHER FITNESS

Watching additional videos can challenge your group to think more in depth about concepts from class

- [A Story of 3 plastic bottles](#)

KEY VOCABULARY

Reduce, Reuse, Recycle, Rot,
Compost, Oxygen Cycle, Biodegradable,

ASSESSMENT

Reflections on the activity can be structured call & response discussions with the group throughout the lessons, and can be documented if need be. An example is included below:


- Raise your hand if you feel your plastic bottle plant is helping the world to be a cleaner place. Keep your hand raised if you feel good about this.

This can be reported: "15 of 16 children in the class reported feeling good that their work is helping the world to be a cleaner place"


TIME	TEACHING STRATEGY	STUDENT ACTIVITY	MATERIALS	EXAMPLES
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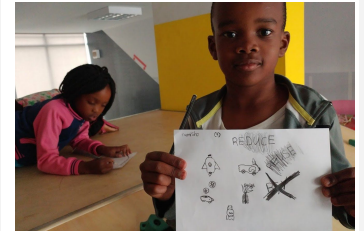
LESSON 1: RECYCLING & INVENTION

INTRODUCTION

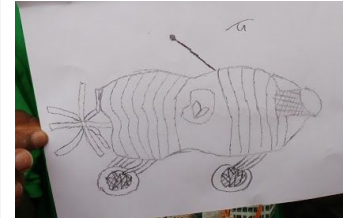

15 Min	<p>Contextualize: Putting pollution into the context of our skatepark allows our kids to easily relate to our activities: “Let’s learn about plastic in the environment and what we can do so we can skate”</p> <p>Reflection: Do you guys use plastic bottles at home? Have you seen plastic bottles in the street? What can we do about pollution? Why is this important?</p>	<p>The Polluted Skatepark</p> <p>Before students arrive, scatter bottles throughout skatepark.</p> <p>Gather all students together, even if groups are traditionally split.</p> <p>Stage an event: call an ‘emergency meeting’ to announce that there will be no skating today! (unless we can solve this garbage problem)</p> <ul style="list-style-type: none"> Show the students the skatepark <p>Students watch video about plastics & the environment</p> <ul style="list-style-type: none"> Pause video and explain key topics & vocab 	<p>Plastic bottles</p> <p>Laptop (Projector)</p>	 <p>Video of the kid's reactions in SA</p>
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ACTIVITY SEQUENCE

30 Min	<p>Experiential Learning: Active exercises are accessible to a wider audience of learning styles</p> <p>Caution! The kids will want to play in the water, so make sure you have enough staff available</p> <p>Vocabulary Pause the video at regular intervals to ask the group about key concepts and vocab</p> <p>Preparation During the video, tear A4 sized paper into A5 sheets for Closure Activity</p> <p>Attention Span Keep an eye on your group while they watch the video, and feel free to stop it early to begin the closure exercise</p>	<p>Experiencing Recycling</p> <p>When video is completed, take group to pick up bottles and bring to washing station.</p> <ul style="list-style-type: none"> When washing, make sure caps are off and separated from the pile of bottles <p>Bring students back to classroom to watch video on recycling</p> <ul style="list-style-type: none"> For lower fitness groups, watch 3R's video For higher fitness groups, watch 4R's video <p>During the video pass around examples of recyclable materials</p> <ul style="list-style-type: none"> Cardboard is an great option 	<p>Plastic bottles Large water tub Soap & water</p> <p>Laptop (Projector)</p> <p>Cardboard</p>	
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CLOSURE				
15 Min	Documentation Take photos of students holding their drawings, or several short videos of students explaining their ideas. Reflection: What did we do today? Why is this important? What can you do at home to reduce pollution in the environment?	Reuse & Invention After the video is completed, hand out the A5 paper and writing instruments. <ul style="list-style-type: none"> Students draw ideas for how we can reuse our bottles Collect all the drawings <ul style="list-style-type: none"> Each student must explain their drawings and ideas when they submit them to the educator 	A5 Paper Pencils / Pens	

LESSON 2: RECYCLING & CREATION

INTRODUCTION				
15 Min	Peer Learning: Students often learn more from their peers than the teachers, so encourage the class to share as a community. Reflection: How would your invention make the world a better place? Who would use your invention?	Invention Show & Tell Review the lesson and designs from last week. <ul style="list-style-type: none"> Go through each of the drawings, and ask the inventor to explain their idea to the class 	Drawings	
ACTIVITY SEQUENCE				
30 Min	Global Perspective Sharing parallel projects from our other sites allows students to feel connected to outside cultures and widens their perspective Caution! Cutting the bottles can be challenging, and scissors should be closely monitored by the educators Community Engagement After the plants begin to grow, students will be able to take them home and share with their families.	Recycled Garden Around the World Explain the project: We will be creating a hanging garden from our bottle. <ul style="list-style-type: none"> Share images & videos of the exercise from other sites Each student picks a bottle, and in a group we cut them in half. To design the bottles, students use creative supplies to personalize <ul style="list-style-type: none"> Bottles can be painted with acrylic paint or with spray paint, depending on resources and facilities. Spray paint is perhaps the most durable A hot glue gun can allow students to glue together different pieces and create sculptural designs. 	Laptop (Projector) Bottles Scissors Acrylic paint (Spray paint) (Hot glue gun)	 Instagram bottle designs

TIME	TEACHING STRATEGY	STUDENT ACTIVITY	MATERIALS	EXAMPLES
		<p>For inspiration, videos or music can be played while students work</p> <p>When the time is up, label each student design with their names. All the bottles are left to dry overnight.</p>		
CLOSURE				
15 Min	<p>Documentation Take photos of students holding their work</p> <p>Reflection: Which is your favorite invention? Why is it important to reuse plastics? What are other ways we can help make our environment a cleaner and healthier place?</p>	<p>Recycling Invention</p> <p>After the exercise is completed, review the vocabulary from the lesson.</p> <p>Watch videos related to pollution and recycling</p> <ul style="list-style-type: none"> • A Story of 3 plastic bottles • Plastic Bottle Inventions <p>Discuss other ways plastic in the environment can be used for creative invention.</p> <ul style="list-style-type: none"> • Have you seen plastic in the streets before? • What are some things we can make with that plastic? • What would your city be like with those inventions instead of garbage? 	Laptop (Projector)	

LESSON 3: HANGING GARDEN

INTRODUCTION				
15 Min	<p>Reflection: What is a knot? What does it do? Who can find a knot in this room? What is a Community? What does it do?</p> <p>Contextualize Relating the upcoming activity to things they are familiar with will help the students mentally prepare and encourage participation</p> <p>Community This exercise involves developing a community that doubles at each step but needs to work together to achieve their shared goals, emphasizing cooperation in larger groups.</p>	<p>Community Knots</p> <p>Students discuss knots that are a part of their everyday life, in their shoes, hairstyles, and clothing.</p> <p>Begin with a warm-up activity where each students are each given a piece of string. They must find a partner, and tie the pieces together, then together find another set of partners, doubling the group each time. In the end, all the ends are tied into a circle.</p> <ul style="list-style-type: none"> • Students discuss community 	Sections of rope	

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ACTIVITY SEQUENCE

30 Min

Recycled Materials

The plastic rings from the bottles can be pried off with keys. This is a great way to emphasize the lesson theme of reusing.

Educator Resource

Practice doing Macrame knots before the lesson with this tutorial

- [Macrame knot tutorial](#)

Hanging Planters

Each student receives 8 sections of rope, with each section about a meter long. Students learn Macrame techniques to braid a net that will hold their plastic bottle designs and allow them to hang. Use the plastic rings from the plastic bottles as the ring which the rope is tied to.

- See [video of braiding in Cambodia lesson](#)

Rope

Plastic Ring
(from bottle)



CLOSURE

15 Min

Reflection:

Who remembers what 'compost' means?
What does it mean if something is 'biodegradable'?
What happens when animals eat plastic?
What happens when we eat those animals?

Music in the Classroom

Music is a powerful tool to guide focus, support educational themes, and encourage participation. Every 'Bill Nye' episode ends with a 3 minute educational music video.

While the video (see below) is loading, encourage a conversation about pollution and the environment, highlighting key vocabulary.

After the exercise, students can watch a video which highlights pollution in the environment and gives clear examples about reducing waste.

- [Bill Nye the Science Guy video](#)
 - Last 8 minutes is perhaps the best
 - Last 3 minutes are a Recycle music video!

Laptop

(projector)



LESSON 4: PLANTING

INTRODUCTION

15 Min





Caution

Planters can get confused between students,

Review the oxygen cycle. You can use a diagram to show plants and people breathing.

Students collect their planters and share their finished work with each other



TIME	TEACHING STRATEGY	STUDENT ACTIVITY	MATERIALS	EXAMPLES
ACTIVITY SEQUENCE				
30 Min	Caution The planting process can be messy, so be prepared with plenty of staff and cleaning supplies	Planting students fill plastic bottle designs with soil. <ul style="list-style-type: none"> Sow seeds in soil, add some water, and hang in an area with sun. Hang plants in skatepark garden if possible 	Shovel Soil Seeds Planters	 
CLOSURE				
15 Min	Responsibility This project is a good opportunity for students to take responsibility of the growing process of their plant - perhaps taking care of a life for the first time.	Review of plant growing process and vocabulary In the following weeks, classes can begin by revisiting the plants and following the growth. At the end of the series, students can take their plants home and share their work with their families.		

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