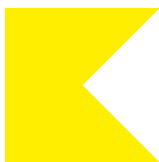
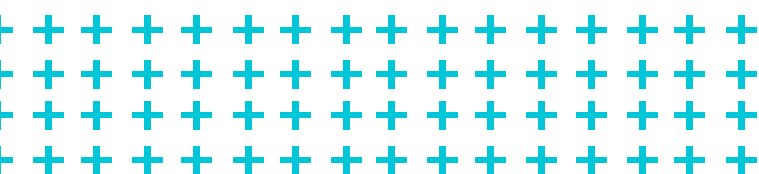


Volvo Ocean Race Sustainability Education Programme



Teachers Guide
TOPIC2



What is Ocean Plastic Pollution?

Content

Introduction	3
Curriculum info	4
Active Learning options	5
Contact Details	10

Introduction

Welcome aboard the Volvo Ocean Race Sustainability Education Programme. The race is putting sustainability at its heart and is focusing on taking action to 'Turn the Tide on Plastic' – the rapidly growing and critical problem of plastic polluting the ocean, highlighted by the United Nations Environment's Clean Seas campaign.

The Volvo Ocean Race supports this much-needed campaign, through our sustainability team, education programme and positive actions. It truly is a race for the ocean and we believe Together, we can Turn the Tide on Plastic!

This fun programme will help you and your students (aged 6-12 years) discover the excitement of sailing through the Volvo Ocean Race, the importance of the ocean and how ocean plastic pollution is damaging our blue planet. It will also show you ways to combat ocean plastic pollution and how YOU and your students can make a difference by becoming a Volvo Ocean Race Champion for the Sea!

There are four topics:

1. What is the Volvo Ocean Race?
- 2. What is ocean plastic pollution?**
3. How to reduce ocean plastic pollution
4. My Positive Plastic Footprint

We have developed resources for each topic

- Powerpoint Presentation
- Worksheets (for age groups: 6-8yrs, 8-10yrs & 10-12yrs)
- Student booklet 6-8 years
- Student booklet 8-12 years
- Suggested cross-curricular activities
- Evaluation quiz

Resources are available in English, Spanish, Portuguese, Swedish, Dutch and Chinese

This teacher's booklet identifies the curriculum undertaken in each worksheet. Different cross-curricular activities are also optional in this booklet.

Worksheets are colour coded for each age group

- Blue 6-8 yr/old
- Red 8-10 yr/old
- Green 10-12 yr/old



She is a Laysan albatross from Midway Atoll in the Pacific Ocean and is featured throughout the education resources. Wisdoms worksheets will enable your students to learn about each topic in a fun way.

Please remember to fill in the feedback survey when you have completed the programme.

All materials are available for download and can be emailed to students or if you choose to print please print any materials on sustainable and recycled paper.

See the table below, to see what curriculum subjects are undertaken using Topic 2 worksheets.

	Worksheet 1	Worksheet 2	Worksheet 3
Subject	The Ocean	Plastic	Ocean Plastic Pollution
Geography	*Water cycle		*Map drawing
History			*Changing environments
STEM	*Water cycle, food chain, fractions & percentages	*Materials	*Materials- How long until its gone? Graphs
Language	*Poetry	*Report writing, presentation skills	
Global Citizenship	*Develop sense of place		* Clean up Environmental stewardship
Art	*Drawing		

STEM: Science, Technology, Engineering & Math

Materials available:

1. Powerpoint presentation online

Available for download - with notes on key concepts of the importance of the ocean and Ocean Plastic Pollution. This informative presentation introduces our connection with the ocean and engages your students in the problems of Ocean Plastic Pollution.

2. Information booklets for ages 6-8 years and 8-12 years. These booklets are a great reference for fast facts and information on the topic for you and your students.

3. Challenges: at the end of every worksheet students will find a challenge – students may need guidance completing these challenges

4. Certificate & Badges

5. Optional classroom activities

Optional Cross-Curricular Classroom Activities

STEM & GEOGRAPHY

Litter sort



Skills:

- Understand different materials we use
- Where does litter come from
- Creating graphs
- Teamwork
- Analysing:
 - o Sorting and classifying
 - o Recognising patterns
 - o Interpreting
 - o Recording and communicating

Need:

Litter from classroom or school bin

Directions:

1. Split the students into teams so that each team can take at least 4 items from the classroom bin
2. Ask teams to
 - Create a table on a piece of paper to classify different types of litter
 - Identify each type of litter
 - Where has it come from – company, country and any other interesting details like color (for younger classes)
 - Count each different type of litter
3. Have the teams discuss what they have found and what they think would happen if the litter was not in the bin, should some of the litter be in a different bin like the recycling?
4. Ask them to present to their class the litter they have found and altogether on the board draw a table for the full classroom litter count.

Extension:

5. 5. Ask the students to create a simple graph to represent the litter that the classroom have sorted and found. Continuously assess the amount of litter every week and see how it changes over time ask the students to think about using a different type of graph or add to their original graph with the new weekly results.

For example: Y-axis is the amount of litter found and x-axis the different items of rubbish e.g. plastic bags, paper cup, foam container, drink cans.

GEOGRAPHY

Challenge in Worksheet 3: Litter clean up



Skills:

- Drawing
- Comparison skills
- Evaluating
- Recognising patterns
- Interpreting
- Recording and communicating

Need:

Map or Google Map aerial image of clean up area location
Plain paper to draw a map
Different color pencils
Worksheet 3

Directions:

(Students can work individually or in teams)

1. Ask students to print off the map from Google maps or trace a street map of the area that you covered on the clean up
2. Then ask them to recognize the route they took when partaking in the clean up
3. Ask students to make a Key for different litter items or if an area was very clean or littered and for any litter bins
4. Have students shade in the areas on the map according to the Key where they found the most litter items or clean areas and litter bins

Extension:

5. Ask the students to discuss why they think some areas were cleaner or more littered than others on the clean up and now visible in the map compare with other teams maps. Can they see any reasons from the map, why one area is more littered than another area? Are there any drains, rivers, outflows, shops, weather that could make a difference. Perhaps there is a lack of public bins or the bins are overflowing or a recent storm has had an affect. Can they come up with any ideas to tackle these problem areas of litter?

MATHS

Litter weight

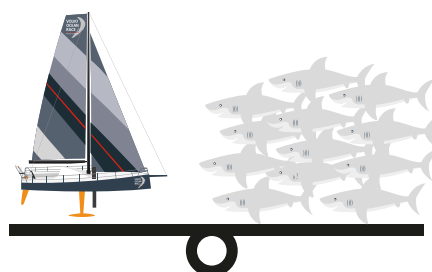


Skills:

- Teamwork
- Analysing:
 - Sorting and classifying
 - Recognising patterns
 - Comparisons
 - Interpreting
 - Recording and communicating

Need:

Class room or school litter from the bin



Weight 12,500kg = 12 Great white sharks

Directions:

1. As a group weigh weekly classroom litter or ask students to get an average for one week (by weight of one months classroom litter divided by 4).
2. Have students calculate how many weeks of average classroom litter weight will equal the same weight of a Volvo Ocean 65 race boat.
3. Ask the students do they think they produce a lot of litter? How can they reduce their litter?

PHYSICAL EDUCATION

Water cycle dance



Skills:

- Warm up exercises
- Concentration & Listening
- Active learning

Need:

Space for students to stand at least arms length from each other

Directions:

1. Brief the students on the water cycle and what happens in the water cycle
 - a. Talk about Evaporation and water coming up (evaporating) from the ocean, plants and ground and what controls the evaporation - sunshine
 - b. Condensation how the clouds form
 - c. Precipitation when the clouds get heavy and rain falls
 - d. Collection in the rivers, lakes and ocean
 - e. Before beginning, the students should be told the commands and corresponding action
 - f. Run through the actions with the students
 - g. Shout out each command with time to perform the action
 - Add to command by saying 'Big smiling sunshine in the sky forming mist and evaporation into big clouds that get heavy and rain down into flowing rivers that flow into the sea where there are big waves'
 - h. Carry on through the water cycle command above getting faster and faster
 - i. Repeat as many times as you want until the students understand the actions in the water cycle

Command	Action
Sunshine	Standing tall arms in big circle above head – big smiles
Evaporation	From bending down raise your hands up to sky and stand tall
Condensation	Drop arms by sides at right angles make look big and puff out cheeks
Precipitation-Rain	Hands into sky and rain fingers down to ground
Collection -Rivers	Flowing river- stand up hands and body waving side to side
Collection -Ocean	Big wave in ocean – arms up and over head like a wave

STEM

The Water Cycle (in a Ziploc Bag)



Skills:

- Making
- Observing
- Investigating
- Analysing
- Recording

Need:

- Ziploc Bag
- Permanent Marker
- Water
- Food colouring – Blue
- Masking Tape
- A window in the class that catches the sunlight

Directions:

1. Draw a simple water cycle on the Ziploc bag with permanent marker – Sunshine, clouds and sea (open side/top is for the sky- for sunshine and clouds)
2. Pour in approximately 2-3cm of water into base of bag being careful not to put it on the sides of the bag.
3. Pour in blue food colouring until water is turned blue again careful not to get on sides of bag.
4. Seal the bag carefully making sure completely closed and no gaps
5. Tape the top of your water cycle bag to window with strong masking tape
6. Observe what happens as it heats up throughout the day – evaporation
7. Droplets can condense like clouds on side of the bag and if you tap the bag you can see the rain droplets fall back into the sea- bottom of the bag

GLOBAL CITIZENSHIP

Create a Poster for the Ocean!



Skills:

- Art
- Creativity

Need:

- Paper
- Paint or colouring pencils/markers

Directions:

1. Ask the students to remember all the things that the ocean gives to us as human beings.
2. Have a discussion about all the things the ocean offers us.
3. If they wanted to show this in a picture ask them what would they draw?
4. Ask the students to create a poster to let other people know how amazing the ocean is and all it offers us!

Challenges, Certificates & More info

Once the students complete the worksheets and challenges for each topic you can print the badge and attach or stick it to their certificate. When all four badges are acquired your student has become a Volvo Ocean Race Champion for the Sea! Please register your students and let us know how many students completed the Sustainability Education Programme and become Champions or how many topics they completed.

Be sure to sign up and give your contact details as throughout the race we will be developing more resources, sending out newsletters and hooking up with some of the sailors to give interviews for schools through live and recorded webinars!

Also if you want to organise a Volvo Ocean Race day in your school we can virtually visit your classroom from one of the race locations to speak with your students on sustainability and ocean plastic pollution!

To find out more check out www.volvooceanrace.com/education and log into our section for teachers where you will find out lots more information and fun facts and resources on the Volvo Ocean Race and all the topics in the programme.

Track the boats

Follow the race online with the TRACKER or download the Volvo Ocean Race App to keep up to date on all the news and how the teams are doing!

Want to see the boats?

Don't forget to book your classrooms place on one of our tours and workshops in the Race village as soon as possible! Stopover dates for each race village are below. School workshops are only run during the weekdays.

Host City	Stopover Dates
Alicante	11 – 22 October 2017
Lisbon	31 October – 5 Nov 2017
Cape Town	24 Nov – 10 Dec 2017
Melbourne	27 Dec 2017 – 2 Jan 2018
Hong Kong	17 January – 7 Feb 2018
Guangzhou	1 – 5 February 2018
Auckland	24 Feb – 18 March 2018
Itajai	4 – 22 April 2018
Newport	8 – 20 May 2018
Cardiff	27 May – 10 June 2018
Gothenburg	14 – 21 June 2018
The Hague	24 – 30 June 2018

Visit the Museum!

Our **Volvo Ocean Race Museum** in Alicante is open to schools and is perfect for school tours, day trips and workshops. For more info see museovolvoceanrace.com

To book into a school workshop in the race village or for more information on the education programme contact:

Lucy Hunt

Sustainability Education Program Manager

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This education programme was created by marine biologist and ocean advocate Lucy Hunt

Illustrations & design by wearesmall.es

Also see :

UN Clean Seas Campaign

Thanks for joining us, Together let's Turn the Tide on Plastic!

volvoceanrace.com

Founding Principal Partner



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We Support

