



Topic 2

Resources & Climate Change

Trainer's guide

World Sailing Sustainability
Education Programme

Supported by





Welcome to the World Sailing Sustainability Education Programme!

World Sailing has a long term sustainability strategy called 'Sustainability Agenda 2030'. The aim is to ensure that sustainability is embedded into our sport.

This Education Programme aims to encourage participants to:

- **Implement sustainable actions on and off the water**
- **Increase awareness of sailors' impact on the ocean and marine life**
- **Increase awareness of climate change and how actions can reduce effects**
- **Understand sailing's place within the UN Sustainable Development Goals**

The United Nations Sustainable Development Goals are 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. These goals include ending poverty, combating climate change, fighting injustice and inequality for a better, more sustainable world. World Sailing is committed to contributing to the United Nations 2030 Agenda for Sustainable Development. World Sailing's Sustainability Agenda 2030 outlines the Sustainable Development Goals that the sport can contribute to, as well as the alignment with the 5 focus areas of the International Olympic Committee's Sustainability Strategy. Sailing is part of a global movement to create change and positive impact, and sailors themselves can be part of this through their actions, on and off the water.

You can access World Sailing's Sustainability Agenda 2030 at the following link: bit.ly/2sjGrKZ

Sustainable Development Goals



World Sailing’s Sustainability Agenda 2030 is aligned with the 5 focus areas of the IOC’s Sustainability Strategy



Infrastructure and natural sites



Sourcing and resource management



Workforce



Mobility



Climate



Topics

There are 6 topics in the Sustainability Education Programme.

Topic 1	Race with World Sailing!
Topic 2	Resources & Climate Change
Topic 3	Navigating Wildlife & Biodiversity
Topic 4	Reducing Waste
Topic 5	Oil & Fuel
Topic 6	Boat Cleaning & Maintenance

There are links between the topics, but you can use them in any order with your crew.

For each topic, there is a...



Age colour coding

6-8 years

8-10 years

10-12 years

This is the Trainer's Guide for **Topic 2 Resources & Climate Change**. The objectives of this topic are:

- Increase awareness of climate change
- Introduction to the effects of climate change on sailing and sailors
- Examine the use of resources (water, energy, products) in a sailing club

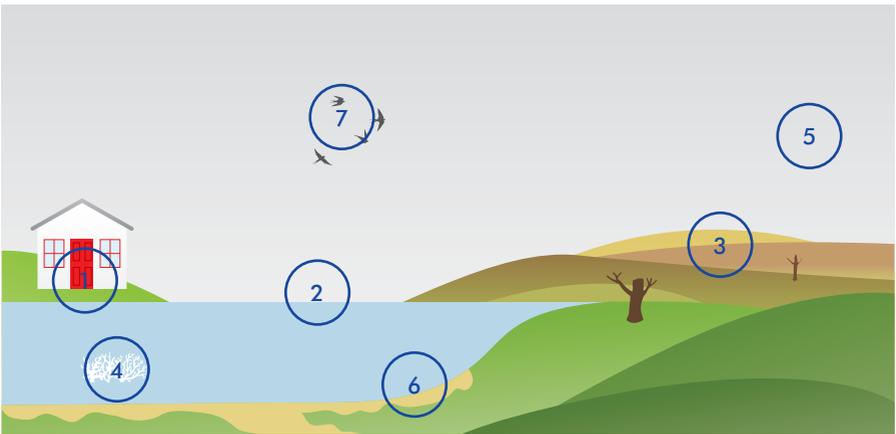
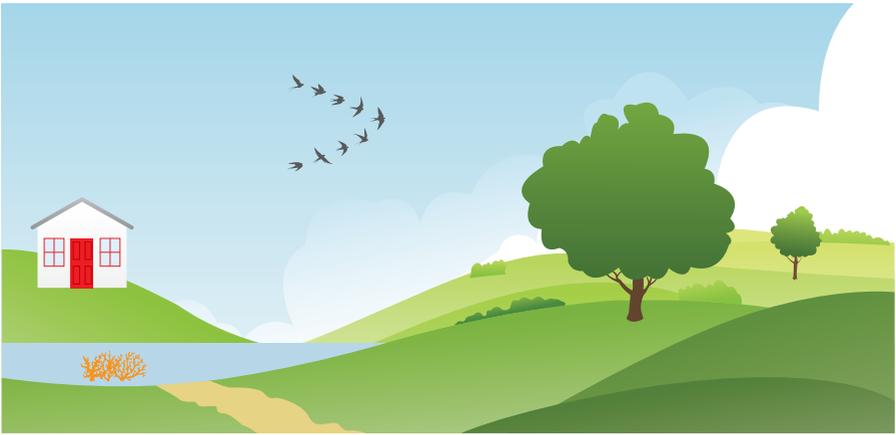
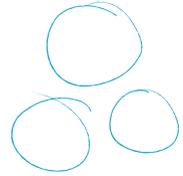
Worksheet answer key

Vocabulary review answer key



Key word	Meaning	Trainer prompts
Sustainability	Being able to keep using or doing something for a long time without running out of resources or damaging the environment.	This boat uses solar panels to generate electricity.
Coral bleaching	Coral loses its colour because algae no longer live on it. This can be caused by an increase in the water's temperature or ocean acidification.	Coral has turned white in the Great Barrier Reef.
Ocean acidification	A change in the ocean chemistry due to an increase of CO ₂ in the water.	The water in the ocean becomes more acidic.
Drought	A long period with little or no rain.	The conditions become very dry and dehydrated because the average rainfall is much lower.
Erosion	A process where wind, water, ice and gravity wear away at rocks and soil.	Waves from storms and strong winds push up against the shore and take away sand and rocks.
Silt	Sand, clay or other material moved by water and sometimes deposited in a harbour.	After the big storm, the marina was full of sediment and no boats could be sailed.
Greenhouse gas	Gases that hold in heat and warm the Earth's surface and air.	CO ₂ , methane, nitrous oxide.

Spot the differences answer key



Differences

The image will show the impact that climate change has had on the ocean

1. Flooding
2. Sea level rise
3. Drought on land
4. Coral bleaching
5. Altered rain patterns
6. Eroding coasts
7. Biodiversity loss

Investigation time



Examining resource use in a sailing club

This task will allow your crew to think about the water, energy and waste that is generated in their sailing club. They will gather information and determine whether they think the club is using resources efficiently.



Step 1

Form crews of 2 to investigate the use of resources (water, energy, waste) in the club. You might want to keep 6-8 year olds together as a whole crew to complete this task.



Step 2

Give crews a set time to complete their investigation (suggested: 10-20 minutes).



Step 3

Ask crews to share their findings with each other, and complete any missing information by asking another crew.

Ways of sharing findings:
whole group circle
discussion, swap teammate
and share with a new
person, form new groups
of 3-4 people (depending
on numbers) to share

Fill in the blanks answer key

6-8 years: light, electrical plugs, dripping, reusable

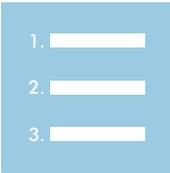
8-10 years: light/tap, electrical plugs, dripping, reusable

10-12 years: call to action



Step 1

The crew work in small groups (2-3 people) to brainstorm a list of things that they believe their sailing club needs to do to become more sustainable and use resources better.



Step 2

Each group chooses 3 of the items from their brainstorm.

Follow up

- Present action plans to the whole group and share ideas with club commodore
- Create a youth sustainability committee, who will use these action plans to help make their club a top sustainable sailing club



Step 3

Use the action plan template below to create an action plan for the 3 items.

Objectives What is the goal?	Tasks What do we need to do to achieve the goal?	Success How will you decide if you have been successful or not?	Time Frame How long do you have to achieve the goal?	Resources Who/what can help us to achieve the goal?

Extension activities

Age: 6-8
years

Water cycle dance

An activity to demonstrate the water cycle and how it is affected by extreme weather. Get your crew moving and learning!

The crew will need enough space to stand an arm's length away from each other.



Step 1

Brief the crew on the water cycle and what happens in the water cycle.

The water cycle is a set of processes by which water circulates between the earth's ocean, atmosphere, and land.

- Talk about evaporation and water coming up (evaporating) from the ocean, plants and ground and what controls the evaporation - sunshine. Discuss how higher temperatures means that there is more evaporation from the land and sea into the atmosphere
- Condensation: how the clouds form. More evaporation, means more condensation
- Precipitation: when the clouds get heavy and rain falls. The clouds are heavier due to larger volume of condensation and the rainfall is more intense
- Collection in the rivers, lakes and oceans. Intense rainfall means that there is more water collected and there is a greater risk of flooding. It also means that it doesn't have much time to make the soil damp, so there is a higher chance of drought



Step 2

Go over the commands and corresponding actions. Model each of the actions and ask the crew to mimic you. Shout out each command to test your crews' memories!

Command	Action
Sunshine	Stand up with arms in a big circle above head
Evaporation	Bend down to the ground and stand up, raising hands to the sky
Condensation	Drop arms to side of body (at right angles) and puff out cheeks
Precipitation - Rain	Hands up to the sky and rain fingers down to the ground
Collection - Rivers	Stand up and wave hands and body from side to side
Collection - Ocean	Arms up and over head like a big wave



Step 3

Tell your crew to listen to the following story:

There is **sunshine**, shining brightly in the sky. It is forming mist and **evaporation** into big clouds that get heavy with condensation. So heavy that the rain starts falling down into lakes and rivers, flowing into the **ocean** with big waves.



Step 4

Tell the story to your crew again, but this time, they will perform the actions as they hear the command words.



Step 5

Tell the extreme weather version of the story and get your crew to perform the actions, encouraging more emphasis in their movements:

There is sunshine, shining brightly in the sky. The day is getting warmer and the sun is forming mist and **evaporation**. The **evaporation** is getting bigger with the warm temperatures and the clouds are getting so heavy with **condensation**. The rain starts falling so heavily all over the land and flows quickly into the lakes and rivers with no time to settle on the ground. The **rain** is falling so fast that the rivers and lakes get very full and start to flood the land. It flows quickly into the **oceans** and causes erosion on beaches.

Poster design

Sharing information about being a sustainable sailor is so important in helping to get the message to the wider sailing community. This art-led activity will help your crew to consolidate their understanding of what it means to use resources effectively on and off the water, practise sharing a message and develop non-verbal communication skills.

Age: 6-12
years

Materials:

- Poster paper
- Markers/pencils/crayons
- Art supplies (optional)



Step 1

Ask the crew to decide if they would like to work individually or with a partner.



Step 2

Tell crew they are going to design a poster that shares 1 tip for being a top sustainable sailor. This poster can be displayed in the club or shared via the club's social media platforms (if applicable) As a whole group, brainstorm the different ways that they can be top sustainable sailors.



Step 3

Go over the poster criteria (on page 11).

TOP Sustainable Sailor



Poster criteria:

- The target audience are sailors in their club, the poster needs to appeal to them
- The poster shares 1 tip for being a top sustainable sailor
- The poster includes text and image

Optional:

This task could be run as a competition within the sailing club or the club could host an exhibition of the posters



Investigating energy use

Age: 8-12 years

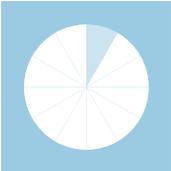
Develop your crew's observational and critical-thinking skills, getting them to think about responsible use of resources and reducing the carbon footprint of their sailing club.



Step 1
Form the group into crews of 2.



Step 4
Based on what they have shared, determine the top 3 things that use the most energy.



Step 2
Give the crews 5 minutes to investigate what uses the most energy in the club.



Step 5
For each of these, the crews must investigate:



Step 3
Call the crews back together and get them to share their ideas on what they think uses the most energy.

- Does it need to be constantly on or can it be turned off when not in use?
- Who is responsible for turning it on and off each day?
- List 2-3 ways we can use it more efficiently and reduce the carbon footprint of the club





Photos

Pages 0, 11, 13: © Matías Capizzano /Sail Optimist

Pages 12: © Pedro Martinez/Sailing Energy/World Sailing



The World Sailing Sustainability Education Programme is licensed under the Creative Commons License

To view a copy of the license visit: creativecommons.org/licenses/by-nc-nd/4.0/



Supported by the World Sailing Trust, created in collaboration with The Ocean Race 1973 S.L.

Supported by



World Sailing
20 Eastbourne Terrace
London W2 6LG

Tel: +44 (0)2039 404 888

www.sailing.org

World Sailing is a signatory to the United Nations Climate Change 'Sports for Climate Action Framework' to reduce carbon emissions of the sport.

