

BUEI

Bermuda Underwater Exploration Institute

EDUCATION REPORT DECEMBER 2023



BUEI EDUCATION

www.buei.bm | info@buei.bm | 292-7219 | 40 Crow Lane, Pembroke HM 19

What BUEI Education has to offer:

Our Mission: To lead in developing advocates for ocean and environmental conservation through Exploration, interactive Experience and hands-on Education.

Our Aim: To offer access to high quality education programmes for all ages so that the ocean is widely understood, appreciated and protected.

Curriculum Classes

Donor Based

Eco-Schools

Donor Based

Young Reporters for the Environment

Donor Based

Education Events

Camps

Fee Based

Curriculum Enrichment Classes for Ocean Literacy.....2

Eco-Schools Bermuda.....10

Young Reporters for the Environment.....18

Education Events.....23

BUEI Explorer Camps.....25

2023 Education Metrics.....30

To view more educational content be sure to follow us!



@bueibermuda



BUEI Curriculum Enrichment Classes & Labs for Ocean Literacy (Donor and Partner Supported)

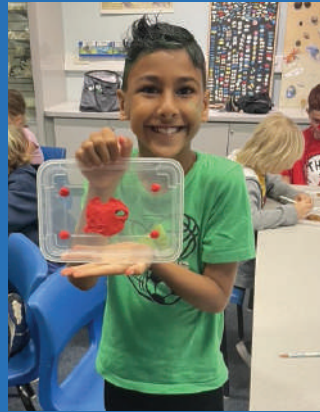
Hands-on investigations using BUEI's rich teaching collections and interactive exhibits:

- Bermuda's Landforms
- Ocean Habitats and Food Chains
- Corals
- Tide Pools
- Shark Senses
- Shipwrecks and Artefacts
- Pirates and Treasure
- Threats to the Ocean Environment
- Skeletal Systems
- Electricity and Circuits

Bermuda Education Network partnership allows for focused labs for 10-12 schools per topic:

- P3 Pirates
- P3 Forces and Magnetism
- P3 Earth and Beyond
- P4 Light Lab
- P5 Waves and Sound

Landforms with P3 Saltus



- Using local examples of landforms to describe where land and sea meet.
- Students designed their own clay islands and investigated changes to land with sea level changes.



P5 Shark Senses Class with BHS

- Exploring shark's incredible senses
- Shark smell experiment
- Shark skin under the microscope
- Magnetoreceptor experiment



P2 Electricity Lab with Heron Bay



- Exploring electricity in nature
- Lighting and static electricity
- Constructing simple circuits

Tide Pools and Bermuda's Formation Lab with BHS

- Investigate Bermuda's rocky shore mollusks and echinoderms
- Lesson on Bermuda rocky shore crustaceans
- Tide pool exploration through AR



Skeletal Systems with St. George's Prep

- Differentiating between invertebrates and vertebrates.
- Exploring the skeletons of marine animals including turtles, crustaceans, fish, and whales.
- Looking at armored fish and the defenses of puffer fish.



Climate Change Class with Somerset Primary



- Understanding greenhouse gases
- Climate change threats to the oceans
- Ocean acidification and its effect on corals and mollusks
- How plastic production contributes to climate change

BEN P3 “A Pirate’s Life” Aboard the Spirit of Bermuda

- Expeditions in collaboration with Bermuda Education Network (BEN) and Spirit of Bermuda Foundation crew.
- Role play 18th century pirates with cannon fire reenactment
- Tour of a Bermuda sloop



BEN Public P4 Light Lab



- 9 P4 classes experimented with properties of light, opacity and water clarity
- Students created a table of observations while changing water clarity and noted differences in light penetration

Forces and Magnetism Lab with BEN

- Identifying types of forces that act on objects
- Investigating gravity and friction by manipulating variables with toy cars and ramps
- Exploring magnetism with different activities



P3 Earth and Beyond Labs



- BEN partnership 11 P3 groups from 10 schools
- Planets and solar systems
- The moon and its phases
- Gravity and rock lab
- Rotation of planets

Bermuda Homeschool Network (BHN)

Monthly classes for
ages 7-13

Explores a variety of
ocean related topics
ex: Cephalopods and
making an octopus



Field Investigation at Hungry Bay Nature Reserve with BHN



- Field Investigation at Hungry Bay Nature Reserve with Bermuda Homeschool Network
- Learning about the mangrove habitat
Discovering threats to the shoreline and restoration

Bermuda College Excursion

- Hungry Bay Nature Reserve exploration
- Held March 3rd, 2023
- 18 students from Environmental Science course participated

Investigating mangrove habitat



Overseas Student Group: A+ Academy



60 teens from a Norwegian tall ship school visited BUEI for a orientation on the Bermuda seamount geology class and museum tour.

K. Margaret Carter Centre Prehistoric Seas



BUEI Education provides presentations on a variety of ocean literacy topics such as the diversity in ancient seas, timelines and exploring ice age mammals and continental drift.



Eco-Schools Bermuda (Donor Based)

Eco-Schools Bermuda is an environmental education programme that works with local schools to form student-led eco-clubs focused on making sustainable change.

BUEI (Bermuda Underwater Exploration Institute) has been the National Operator for the programme in September 2019.

- 17 schools participated in 2023
- Delivery Partners supported schools on their respective pathways
- 11 public schools earned Eco-Schools Awards (Green Flag, Green Shoot and Green Seed)



Programme Overview

The Eco-Schools methodology consists of 10 sustainability pathways, from “Waste and Litter Minimization” to “Energy Consumption” and provides a 7-Step Framework (Figure 2) to keep schools on track throughout the academic year.



Figure 2: The Eco-Schools 7-Step Framework, moving clockwise from "Eco-Committee".

Eco-Schools remains committed to recognizing and rewarding students for their sustainable efforts.

We believe that promoting sustainability is essential for the well-being of our planet and future generations. We encourage our students to develop a deep understanding of environmental issues and

adopt sustainable practices in their daily lives.

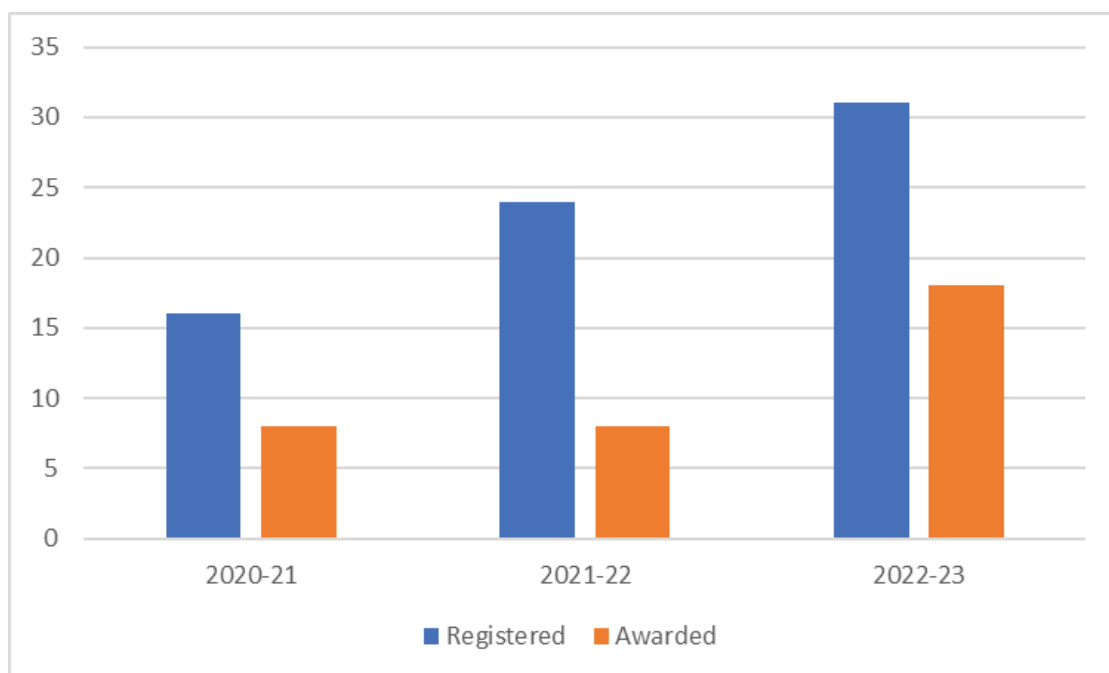
We recognize and celebrate their efforts through various initiatives, such as green awards, sustainability fairs, and community service projects. We also collaborate with local organizations and businesses to provide our students with hands-on learning opportunities and real-world experiences in sustainable practices.

Eco-Schools Programme 2023 Metrics

Eco-Schools Bermuda promotes sustainability from early childhood education through Bermuda College, with public schools representing the majority of student engagement.

In the 2021-2022 school year, seven public schools earned awards. In the 2022-2023 school year 11 public schools earned Eco-Schools awards. The recent awards were at higher achievement levels than those earned during the previous school year; demonstrating increased engagement and commitment to sustainability among participating public schools.

During the 2022/23 academic year there were 1,070 participants in total and 770 hours of Greening Education were attributed to this program. At year-end 5 Green Flag Awards, 1 Green Shoot Award and 6 Green Seed Awards were presented.



Eco-Schools 2020-2023

World Oceans Day 2023

Over 250 students and educators from various local schools participating in the Eco-Schools Programme visited BUEI on June 8th and 9th to celebrate World Oceans Day.

Click [**HERE**](#) to view the highlight video.



Green Flag Raising 2023

This recognition showcases their unwavering commitment to sustainability and highlights the positive impact of student-led initiatives. Click [**HERE**](#) to view the highlight video.



Delivery Partner Support for Schools

The Eco-Schools programme works with local experts in the field, referred to as Delivery Partners, to support schools across their respective pathways.



The **St. George's Rotary Club** supported **Francis Patton** during their 'Say No to Plastic' Lemonade sale.



The **Bermuda National Trust** supported **Paget Primary School** in their biodiversity pathway through railway excursions, clearing of invasive plant species and planting of native and endemic trees.



KBB supported **West End Primary** through their Waste and Litter Minimization Pathway.



Waste Management Bermuda supported **The Berkeley Institute** during their Waste Audit which was also a part of YCS activities.



Bermuda 3D Printing supported **Purvis Primary** through their School Grounds Pathway by helping to enhance their school sign design.

Collaborative Projects

The Eco-Schools programme also partners with environmental organizations to cross-promote shared calls to action.

- In April 2023 the Department of Parks became the Delivery Partner of four local public schools including our newest Eco-Club School, Prospect Preschool.
- Prospect Preschool became our newest Eco-Club School and is partnering with Cedarbridge Academy and the Department of Parks to support their school garden project.
- This year, in April 2023, West End Primary and Somerset Primary participated in Earth Day activities as a part of FEE's Global Action Days campaign.



Eco-Clubs in Action



**West End
Primary School:**
Waste and Litter
Minimisation Pathway



Somerset Primary:
Beach Cleanup as a part
of their sustainable
activities



**Francis Patton
Primary:**
Displaying their Eco-Club
school garden

2023 Eco-Schools and Delivery Partners

2022 - 2023 Eco-Schools

- West Pembroke Primary School
- Francis Patton Primary School
- Paget Primary School
- Purvis Primary School
- Victor Scott Primary School
- Prospect Preschool
- The Homeschool Network
- Warwick Academy
- Somerset Primary
- Harrington Sound Primary
- West End Primary
- Sandy's Middle School
- Whitney Middle School
- The Berkeley Institute
- Bermuda High School
- Chatmore International School
- Bermuda College

2022 - 2023 Delivery Partners

- Keep Bermuda Beautiful
- Waste Management Bermuda
- Bermuda National Trust
- Bermuda Underwater Exploration Institute
- Department of Parks Bermuda
- St. George's Rotary Club
- SPCA
- AgraLiving Institute
- Bermuda 3D Printing
- KOOM Consulting

The Eco-Schools Bermuda program expresses its gratitude for the unwavering support received from local foundations and donors, and the invaluable time invested by our Delivery Partners in facilitating school projects.



Bermuda Community Foundation, Garden Club of Bermuda, RenRe and the XL Foundation



Young Reporters for the Environment (YRE) (Donor Supported)

YRE is a FEE accredited environment-focused community journalism programme offered to schools, youth groups or individuals aged 11-25.

The YRE programme allows students to use three media tools (writing, photography and film) to engage their audience in local environmental topics whilst building constructive journalism and investigative skills.

Similar to Eco-Schools, this programme helps to support environmental awareness and community engagement. Click [**HERE**](#) to learn more about YRE Bermuda.



Collaborative Projects for YRE



BUEI collaborated with the Youth Climate Summit (YCS) to deliver the YRE curriculum to the YCS students along with their trip to NonSuch Island through Nonsuch Expeditions.



BUEI collaborated with Geminii Photography to offer an environmental photojournalism workshop to Bermuda College and Berkeley Institute students.



BUEI incorporated the YRE curriculum into its Half-term and Spring and Summer camps for students ages 9-13.



YRE students presenting their photographs.

YRE Global Competition

In April 2023, the first national Young Reporters for the Environment Journalism Competition was held. This event consisted of students aged from 11-25 with a passion for the environment. They were encouraged to be a voice for their environment by sharing their thoughts, spreading awareness and advocacy through writing, photography and videography.

The 2023 theme was Exposing Marine Pollution.



A few student submissions for the YRE Environmental Journalism Competition.



Zoë Mir and Joanne Ball-Burgess

6 Students received YRE National Awards During World Oceans Day.

Bermuda was recognized as a winner in the YRE Global Competition Article Submission. Zoe Mir's won second place. Click [**HERE**](#) to read.

Bermuda College Photo Lab With Gemini Photography



- Gemini Photography's Bryant Richards as a delivery partner for YRE photography competition
- Bermuda College Environmental Systems class participated in a photography workshop

Partnering with CariGenetics

- CariGenetics visited various schools to talk about genetics and their project to understand cahow genetics
- BUEI Education team was invited to help facilitate DNA activity



YCS and YRE Groups - Nonsuch Island Excursion



- Youth Climate Summit project participants practiced environmental journalism skills on telling the story of Nonsuch Island.

Middle School After School Program





Education Events

BUEI was involved in numerous educational events throughout 2023. These events included:

- Eco-Schools participants were invited for a free one-hour tour to celebrate World Ocean Day
- BUEI's support and attendance with two school tours hosted by CariGenetics at Port Royal Primary and Prospect Primary School.
- BUEI's support for the Beyond Plastic Campaign was an introduction to Eco-Schools for non-participating schools.



- BUEI's support for the Earth Day Challenge through Greenrock which helped promote Eco-Schools and YRE during the press release. Click [HERE](#) to read.



Beyond Plastic Assemblies



- Feb – April 2023
- Beyond Plastic Assemblies were delivered to 20 primary schools and 3 preschools, reaching 2344 students and 191 teachers. Many schools followed up with actions supporting #SNTSUP.

Plastics Assemblies with Preschools

- Lyceum Preschool, Devonshire Preschool and Prospect Preschool had special Beyond Plastic presentations with Ms. Joanne.





BUEI Explorer Camps (Fee Based)

BUEI Explorer camps are designed for campers aged 5 – 12.

Our camps have a variety of themes that are guaranteed to keep campers excited about the ocean and the Earth. Each week offers hands-on science projects, eco arts and crafts, exhibit visits in the BUEI Ocean Discovery Centre, and field trips to local parks on the BUEI Tram.

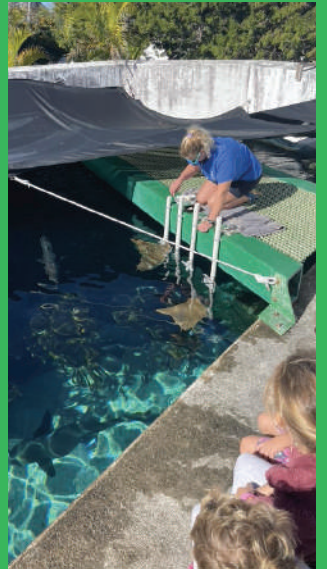


AR sandbox created by Mikhail Nisbett

- Topics cover a wide range of science and environmental themes
- Teddy Tucker Scholarships available

January - Shark Camp

- Anatomy and evolution of sharks and cartilaginous fishes
Cultural importance
Learning about the importance of shark protection
- Special tour with BAMZ Aquarist



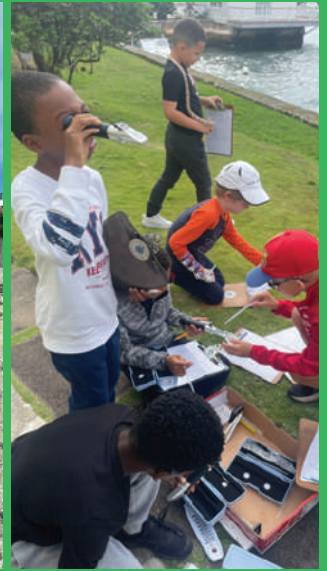
February Camp



- Weird and Wonderful World of Sea Creatures
- 2 weeks of camp held during the mid-term
- Field trips to Arboretum, Spittal Pond & Fort Hamilton

Spring Week 1 - Ocean Science Camp

- Exploring buoyancy and salinity, ocean currents
- Building edible coral polyps and making hydrothermal vents
- Field Trip to Ocean Avenue



Spring Week 2 - Eco Easter



- Making Miniature gardens in upcycled detergent bottles
- Field Trip to Botanical Gardens and Agra Living garden tour
- Investigating flora under the microscopes

Summer 2023 - Myths and Monsters

- Learning about different myths and sea monsters from around the world
- Encourages an appreciation for different cultures
- Field trip to Dockyard



Summer 2023 - Bermuda's Habitats and Caves

- Creative crafting - constructing their own caves inspired by the mysteries of underground caverns
- Searching for wildlife at Waterville
- Field trip to Tom Moore's Jungle



Summer 2023 - Shipwrecks and Pirates

- Learn about the history of pirates

Creative crafting - building pirate ships and drawing treasure maps

- Field trip to Fort Hamilton and Glass Bottom Boat tour



Summer 2023 - Wicked Wild Weather

- Learning about water cycles and weather patterns
- Creative crafting - campers made their own kites and tested them outside in the wind



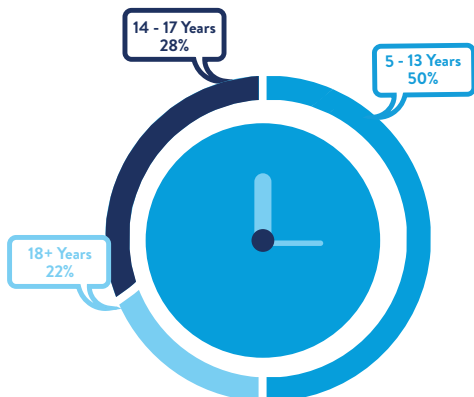
Education Metrics

Education Hours

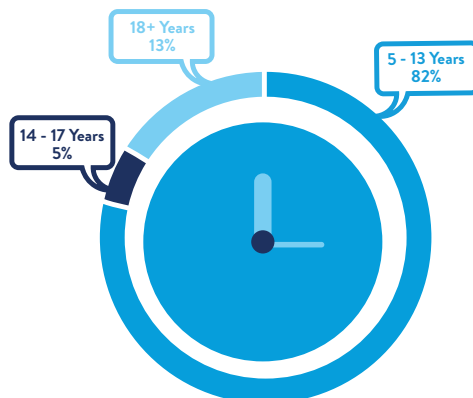
2023 Target	Q1 Total YTD	%
20k	7078.5	35%
2023 Target	Q2 Total YTD	%
20k	9844.5	14%
2023 Target	Q3 Total YTD	%
20k	21657.5	108%

Education Hours Separated by age group.

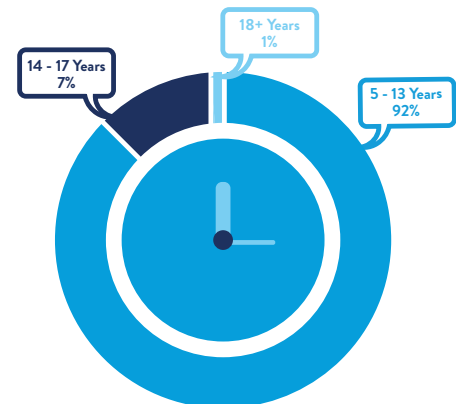
Q1



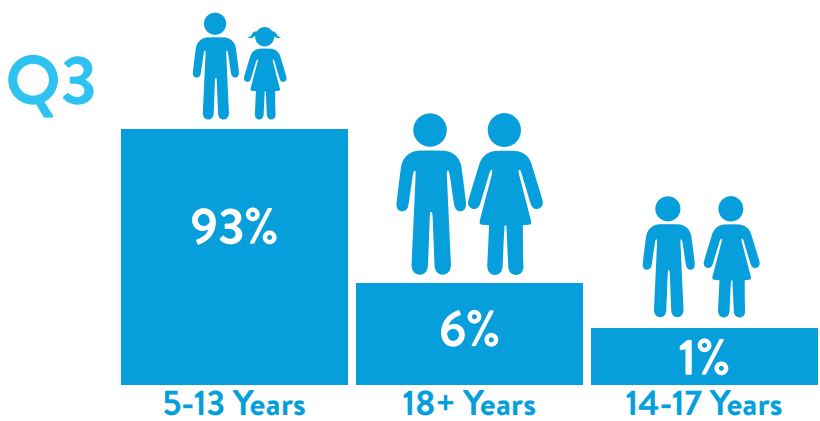
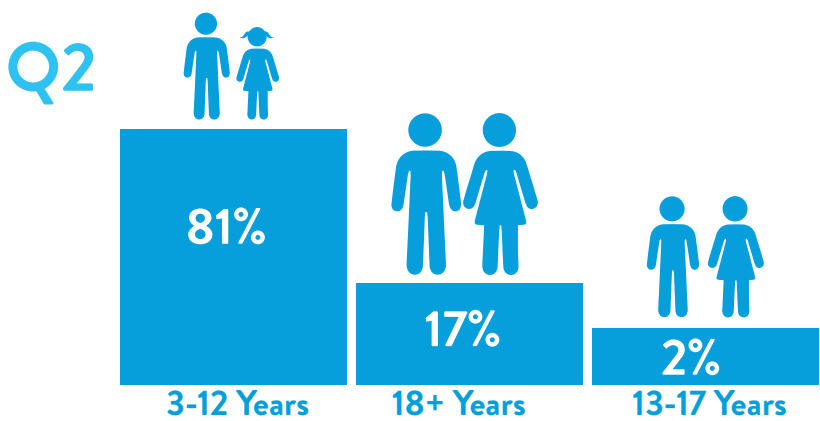
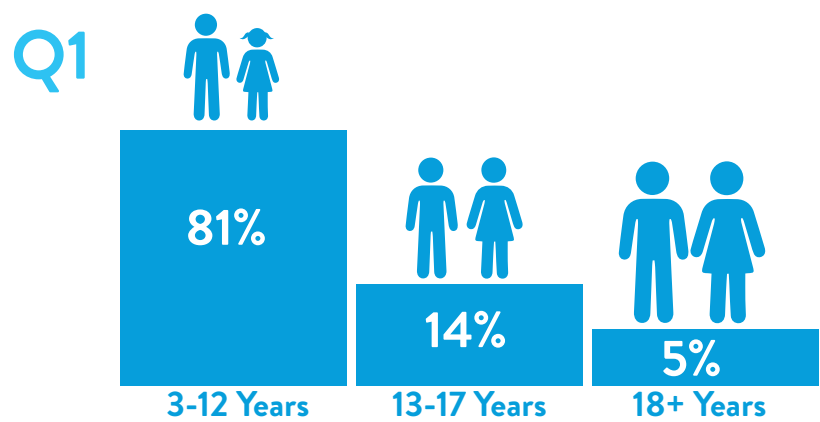
Q2



Q3

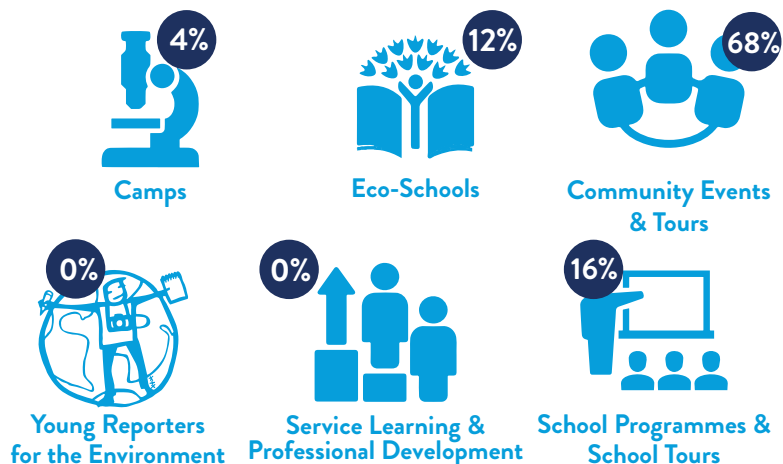


Education Participants

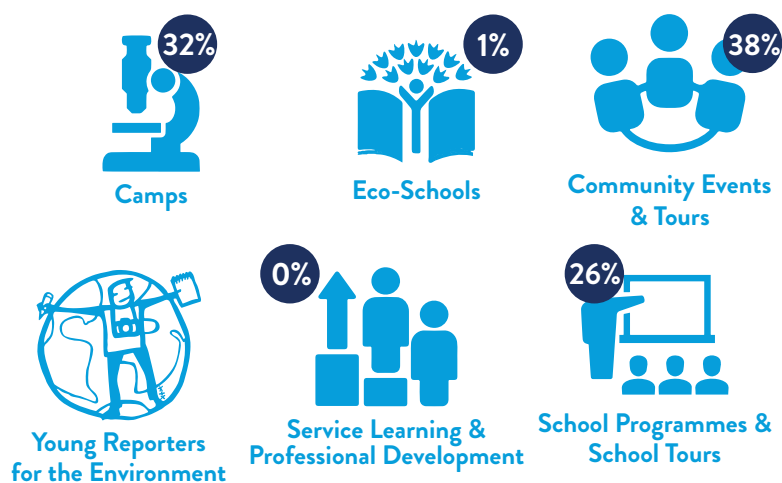


Education Hours by Programme

Q1



Q2



Q3

