



Citizen Science

CLPL Twilight
Outdoor Learning
St Joseph's Campus
1st October, 2019

Why do Citizen Science?

- to deliver the Science curriculum
- develop curiosity and understanding of the environment and my place in the living, material and physical world
- demonstrate a secure knowledge and understanding of the big ideas and concepts of the sciences
- develop skills for learning, life and work
- develop the skills of scientific inquiry and investigation using practical techniques
- develop skills in the accurate use of scientific language, formulae and equations
- apply safety measures and take necessary actions to control risk and hazards
- recognise the impact the sciences make on my life, the lives of others, the environment and on society
- recognise the role of creativity and inventiveness in the development of the sciences
- develop an understanding of the Earth's resources and the need for responsible use of them
- express opinions and make decisions on social, moral, ethical, economic and environmental issues based upon sound understanding
- develop as a scientifically-literate citizen with a lifelong interest in the sciences
- establish the foundation for more advanced learning and future careers in the sciences and the technologies

<https://education.gov.scot/Documents/sciences-eo.pdf>

SUCCESSFUL LEARNERS

with

- enthusiasm and motivation for learning
- determination to reach high standards of achievement
- openness to new thinking and ideas

and able to

- use literacy, communication and numeracy skills
- use technology for learning
- think creatively and independently
- learn independently and as part of a group
- make reasoned evaluations
- link and apply different kinds of learning in new situations

CONFIDENT INDIVIDUALS

with

- self respect
- a sense of physical, mental and emotional wellbeing
- secure values and beliefs
- ambition

and able to

- relate to others and manage themselves
- pursue a healthy and active lifestyle
- be self aware
- develop and communicate their own beliefs and view of the world
- live as independently as they can
- assess risk and take informed decisions
- achieve success in different areas of activity

TO ENABLE ALL YOUNG
PEOPLE TO BECOME

RESPONSIBLE CITIZENS

with

- respect for others
- commitment to participate responsibly in political, economic, social and cultural life

and able to

- develop knowledge and understanding of the world and Scotland's place in it
- understand different beliefs and cultures
- make informed choices and decisions
- evaluate environmental, scientific and technological issues
- develop informed, ethical views of complex issues

EFFECTIVE CONTRIBUTORS

with

- an enterprising attitude
- resilience
- self-reliance

and able to

- communicate in different ways and in different settings
- work in partnership and in teams
- take the initiative and lead
- apply critical thinking in new contexts
- create and develop
- solve problems

Research and policy

- Curriculum for Excellence through Outdoor Learning
- How Good Is Our School 4
- GTCS Standards 3.1.3
- Vision 2030 – entitlement to LfS experiences 3-18
- Biophilia – Bird, RSPB
- Learning Away, 2015 (5yrs, 60 schools)
<http://learningaway.org.uk/wp-content/uploads/LA-Final-Report-May-2015-1.pdf>
- Natural England, 2016 (4yrs, 125 schools)
<http://publications.naturalengland.org.uk/publication/6636651036540928>

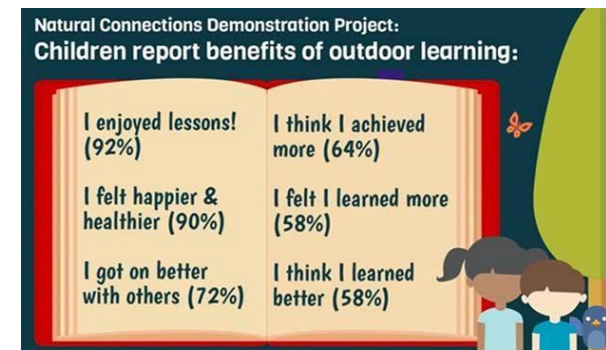
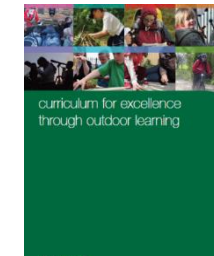
Improve students' knowledge, skills and understanding

Staff and students felt that residential supported their knowledge, skills and understanding in a variety of ways.

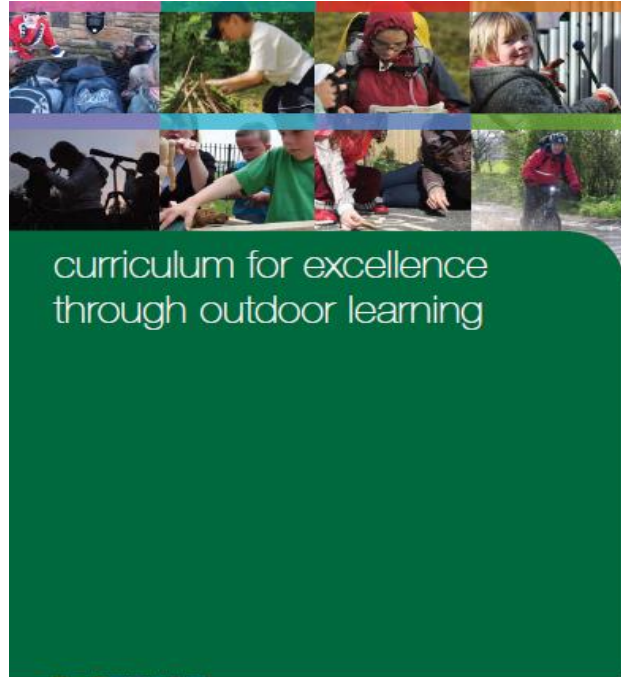
"It showed me how to study, what's effective. Now I know what's best for me."
(Secondary Student Focus Group)

"It was a lot easier to understand stuff there, so I think my understanding back in school is going to be better. You can reflect back to stuff you've seen, so I think I can use it again and again."
(Secondary Student Focus Group)

In long-term follow-up surveys, 82% of KS2 pupils said their teachers and lessons on the residential helped them learn; 60% of secondary students felt they had a better understanding of what they were trying to learn.



Our vision for outdoor learning in Scotland:



- all children and young people are participating in a range of progressive and creative outdoor learning experiences which are clearly part of the curriculum.
- schools and centres are providing regular, frequent, enjoyable and challenging opportunities for all children and young people to learn outdoors throughout their school career and beyond
- teachers and educators embed outdoor learning in the curriculum so that learning in the outdoor environment becomes a reality for all children and young people

Possible Starting Points

TCV (The Conservation Volunteers)

<https://www.tcv.org.uk/scotland/discover/citizen-science/scotland-counts/>

The TCV website provides links and summary information about Citizen Science opportunities in Scotland.

The Big Butterfly Count

<https://www.bigbutterflycount.org/>

19th July to 11th August 2019

Run by Butterfly Conservation and conducted annually and the survey results can be used for data analysis for pupils working at 2nd Level There is an app (android and iPhone). Lots of resources to support.

The website includes an interactive map that allows you to look at survey in your school's immediate area. Look at counts through time back to 2010.

Make your school grounds more butterfly friendly in the coming months to ensure a good count.

<https://www.gardenersworld.com/plants/make-your-garden-butterfly-friendly/>

Starting Points (continued)

The Big Garden Birdwatch

<https://www.rspb.org.uk/get-involved/activities/birdwatch/>

25th to -27th January, 2020

OPAL

<https://www.opalexplornature.org/>

Provides survey resources (including ID Guides). Some Surveys are available as hardcopies but all can be accessed through the website.

https://www.opalexplornature.org/sites/default/files/7/image/TREE%2016pp%20booklet_0.pdf

OPAL also provide other education resources (e.g. *Painting with Soils, Bark Art*)

Marine Conservation Society

<https://www.mcsuk.org/beachwatch/>

Website includes lots of information on plastics pollution – its impact, what steps we can take