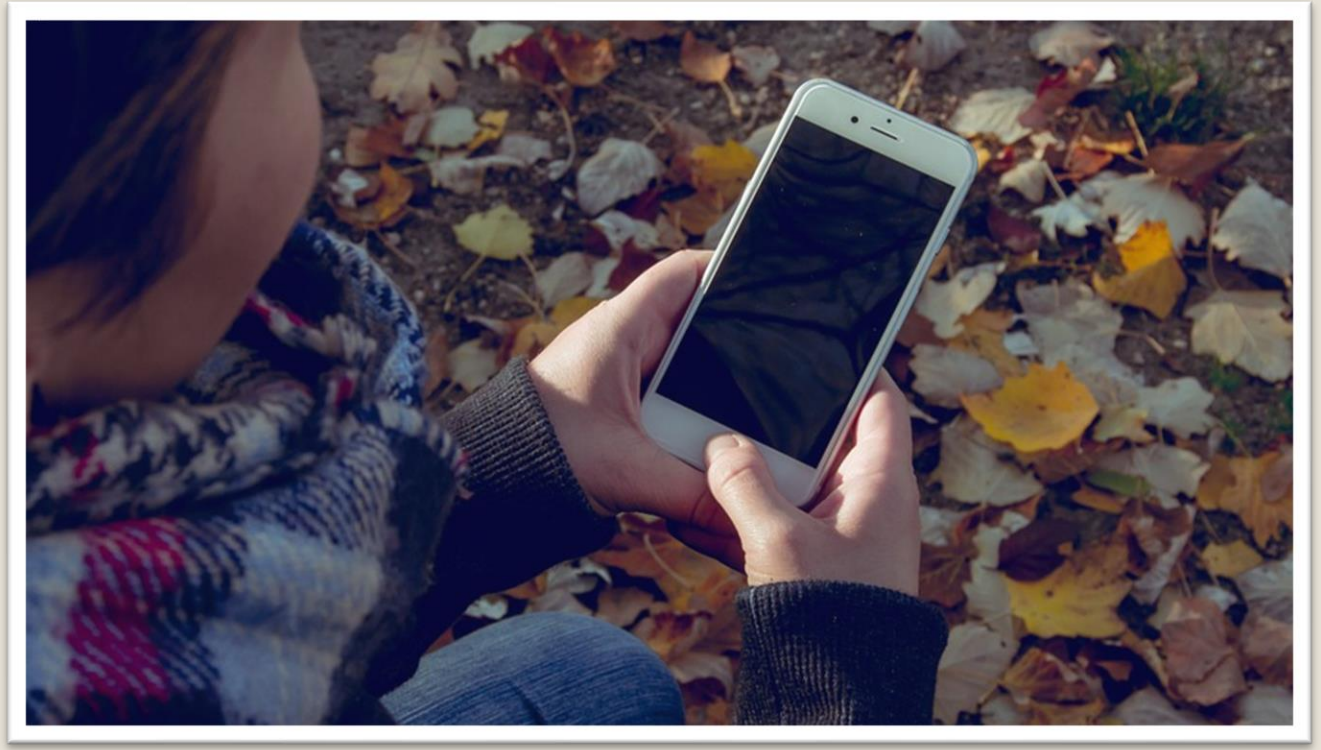




Education
Scotland
Foghlam Alba

Using Digital Tools to Capture, Create and Share Outdoor Learning Experiences



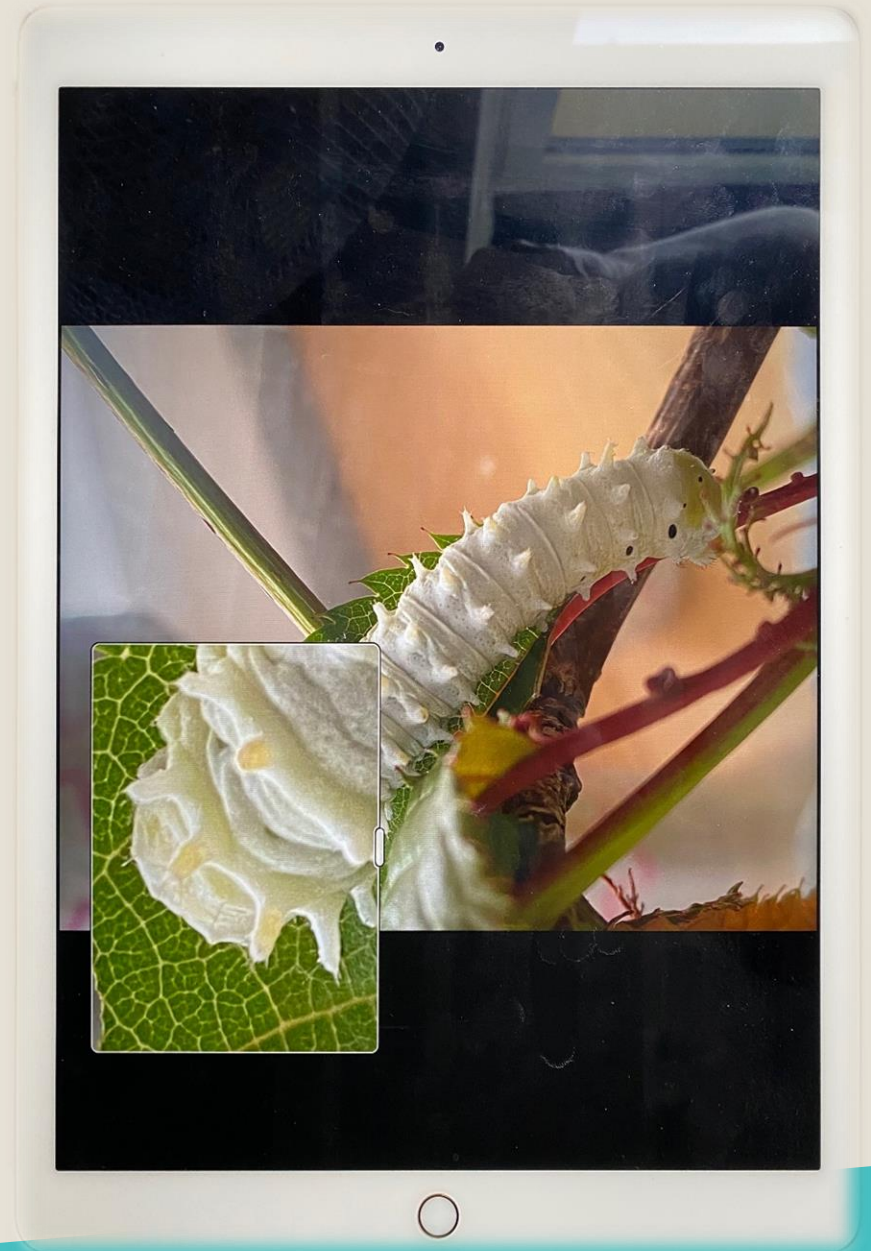
Susan Sey, Digital Skills Development Officer
Education Scotland

 @seysusan

For Scotland's learners with Scotland's educators

Items Covered

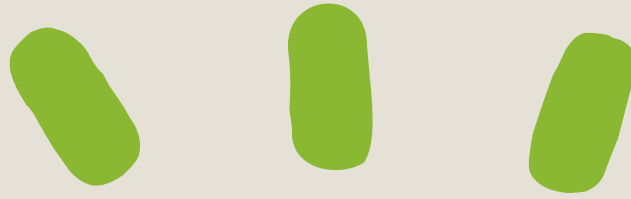
- Benefits of embedding Digital Tools in Outdoor Learning
- How can we Capture content?
- Computing Science Activities
- How can we Create content?
- How can we Share content?
- Links to other curriculum areas
- Help and Support



Benefits of embedding digital tools in Outdoor Learning

- Enhances digital skills
- Embeds learning
- Content can be used as evidence of learning
- Allows opportunities for creativity
- Story Telling





What digital tools can we use?





Weather Measurements

- Ambient Temperature
- Barometric Pressure
- Wind Speed
- Wind Direction (true)
- Relative Humidity
- Absolute Humidity
- Dew Point
- Wind Chill
- Heat Stress Index

Light Measurements

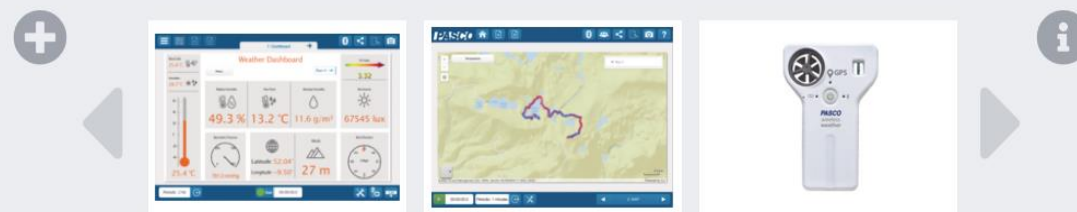
- Ambient Light (lux)
- UV Index
- PAR
- Irradiance

GPS Measurements

- Latitude
- Longitude
- Altitude
- Speed
- Magnetic Direction
- True Direction

Home / Products / Sensors / Wireless

Wireless Weather Sensor with GPS • PS-3209



QTY: 1

Add to Cart



This sensor is packed with GPS and 19 different measurements that can be monitored live or collected over the long term.

WHAT'S INCLUDED

1x USB charging cable

WHAT TO CONSIDER

See the [Buying Guide](#) for this item's required, recommended, and additional accessories.



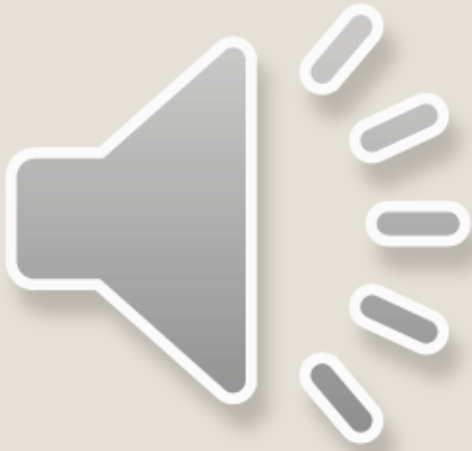


How can we Capture content?



How can we Capture content?

- Soundscapes
(Recording
Sounds)



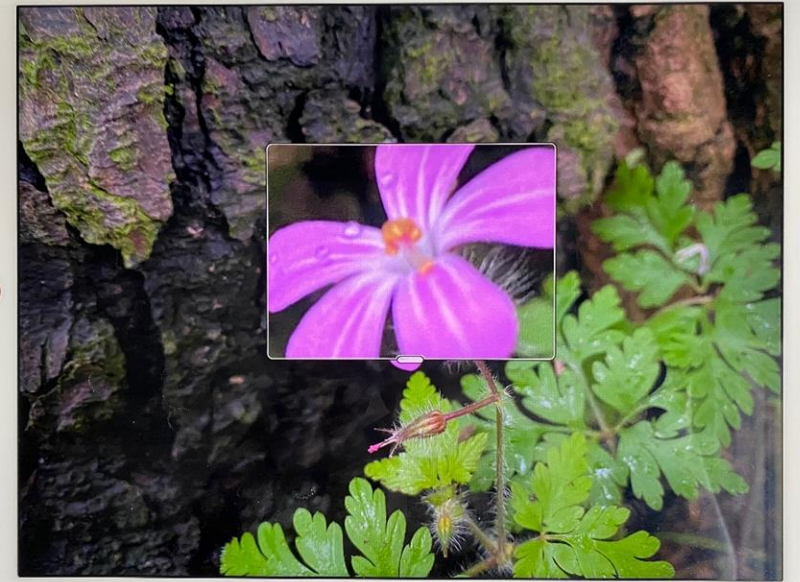
How can we Capture content?

- Capture Photos and Videos linking to a theme (e.g. Shapes around us)



How can we Capture content?

- Look closer using magnifying tools



How can we Capture content?

- Measure speed, time and distance on a daily walk or run



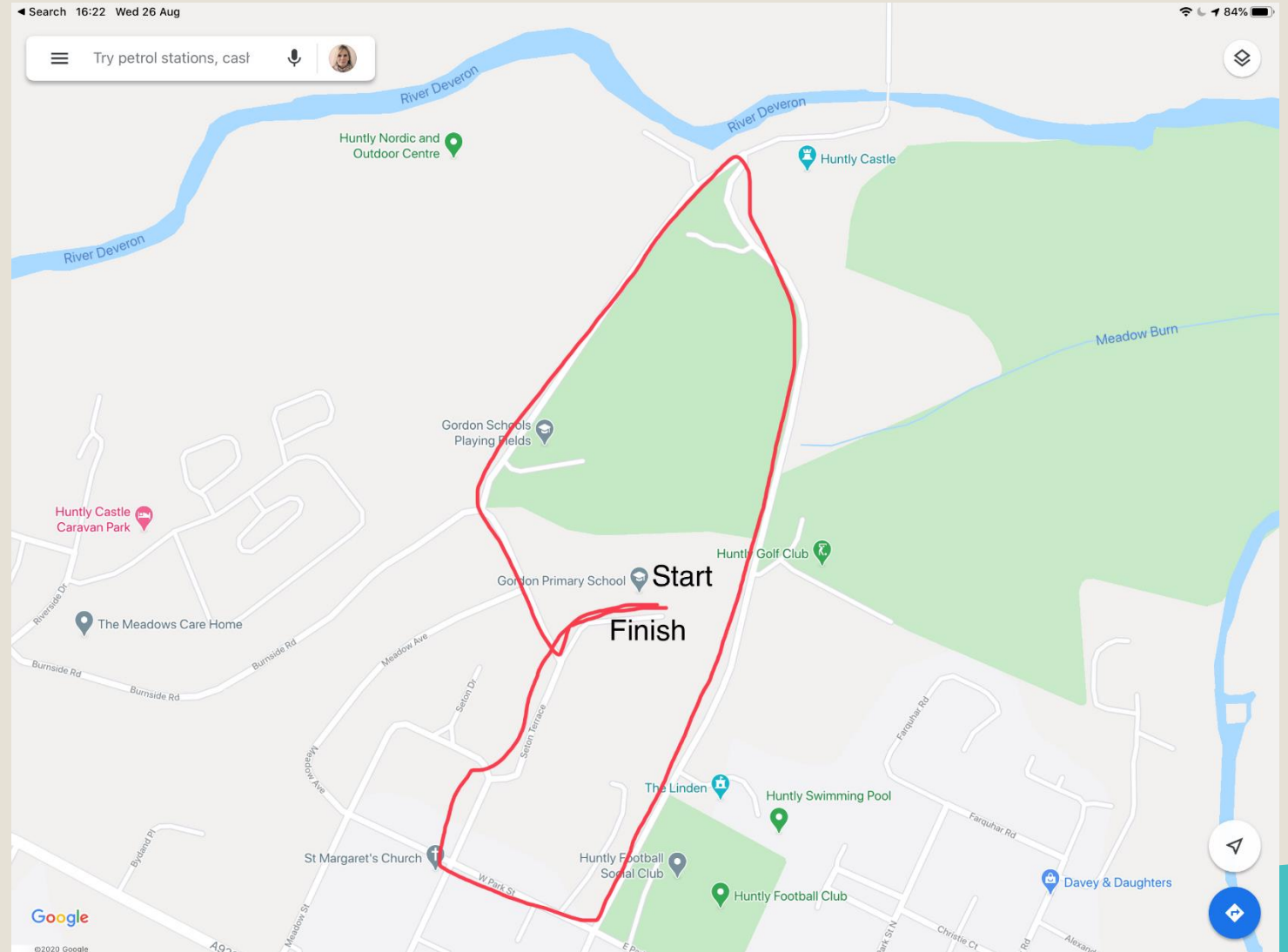
How can we Capture content?

- Measuring things around us



How can we Capture content?

- Record a daily walk using digital maps



How can we Capture content?

- Using Slo-Mo to capture sport or what happens when you jump in a puddle



How can we Capture content?

- Recording a time lapse and investigating the results



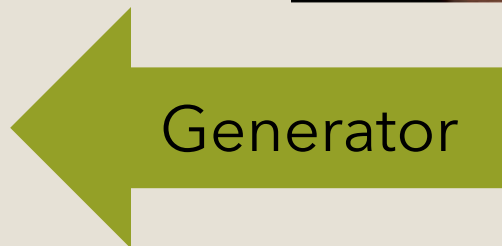


How can we Create content?



How can we Create content?

- Create and outdoor treasure hunt using QR Codes



How can we Create content with the data we have captured outside?

- Movie

How can we Create content with the data we have captured outside?

- News Report



How can we Create content with the data we have captured outside?

- Sway /
PowerPoint /
Slides
Presentation



How can we Create content with the data we have captured outside?

- Animation



How can we Create content with the data we have captured outside?

- eBook





Capture/Create Computing Science Activities



Make a micro:bit weather station

06 Jul 2020

You can use your micro:bit to monitor the weather and environment around you.

As well as a built-in temperature sensor, you can use the micro:bit's compass, accelerometer, light-sensor and radio features to record information about the weather. We even have a **brand new data logger project** that stores sensor readings on your micro:bit and keeps the data safe even when you unplug the power source.

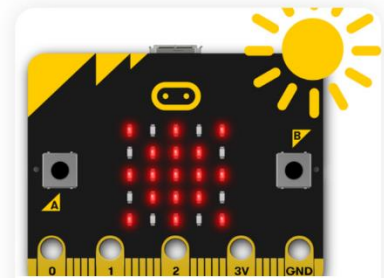
We love this inspirational video from our friends at [Kids Code Jeunesse](#) in Canada:



Micro:Bit Weather Station



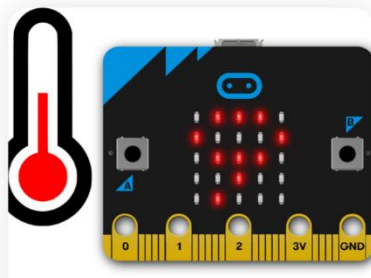
Projects to get you started



Sunlight sensor

Make your micro:bit light up...

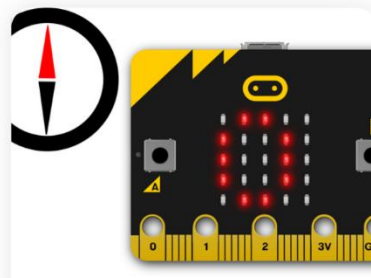
■ □ □ Beginner



Thermometer

Make a simple thermometer wit...

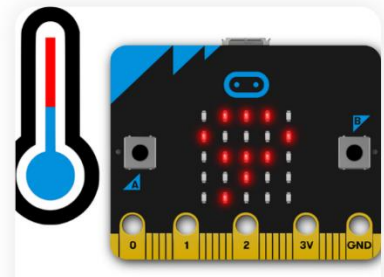
■ □ □ Beginner



Compass bearing

Turn your micro:bit into a simple...

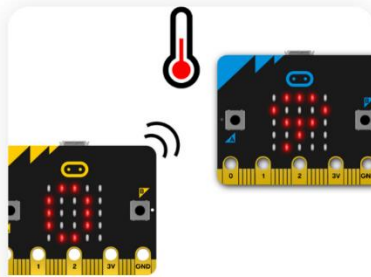
■ □ □ Beginner



Max-min thermometer

Track high and low temperatures wit...

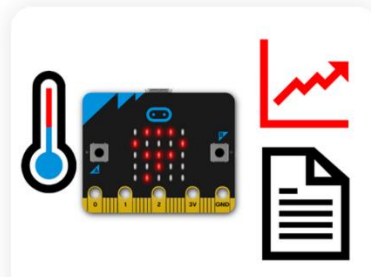
■ ■ □ Intermediate



Indoor-outdoor thermometer

Sense how warm or cold it is...

■ ■ □ Intermediate



Max-min temperature logger

Store temperature readings

■ ■ ■ Advanced



Other Micro:Bit Activites



Watch wildlife with a Raspberry Pi nature camera | Hackspace 33



23rd Jul 2020 Rosie Hattersley 9 comments

The past few months have given us ample opportunity to stare at the creatures that reside outside. In [issue 33](#) of Hackspace Magazine, out today, Rosie Hattersley looks at ways to track them.

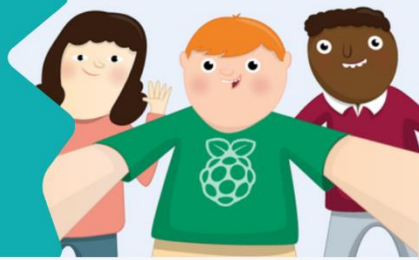


It's been a remarkable spring and early summer, and not just because many of us have had more time than usual to be able to appreciate our surroundings. The weather has been mild, the skies clear, and pollution levels low. As a result, it ought to be a bumper year for plants and wildlife. Unfortunately, the lockdown limited

Raspberry Pi Nature Camera

Getting started with the Camera Module

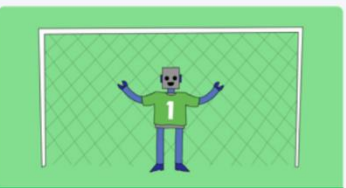
PI Camera Module Electronic components Python



- Introduction
- What you will need
- Connect the Camera Module
- How to control the Camera Module via the command line
- How to control the Camera Module with Python code
- Take still pictures with Python code
- Record video with Python code
- How to change the image settings and add image effects
- What next?

Introduction

Learn how to connect the Raspberry Pi Camera Module to your Raspberry Pi and take pictures, record video, and apply image effects.



Save your progress! Sign in to (or create) a Raspberry Pi account to save your project progress and come back later.

Sign In >

Step by Step Guide



MAKE | BUILD | HACK | CREATE

HackSpace

TECHNOLOGY IN YOUR HANDS | hsmag.cc | August 2020 | Issue #33

OSCILLOSCOPE:
FIND AND FIX FAULTS



LEGO
3D-print extra parts to build useful stuff



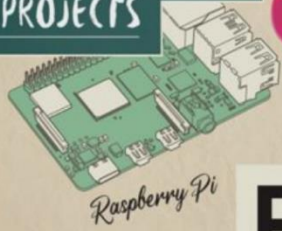
14 WILD HACKS

MONITOR, PHOTOGRAPH, AND RECORD NATURE WITH THESE SUMMER PROJECTS



Alicia Gibb

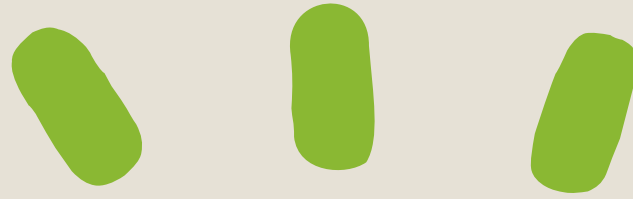
Why Open-Source Hardware makes sense



HACK A FURBY



HackSpace Magazine



How do we Share content?

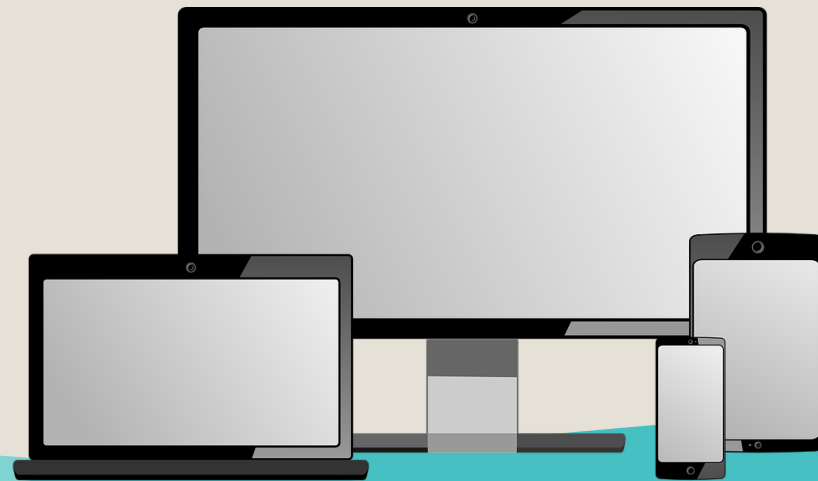
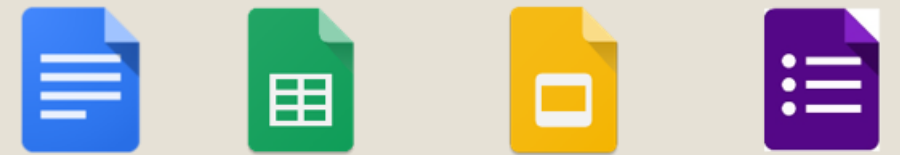


Glow

 Office 365



G Suite For Education

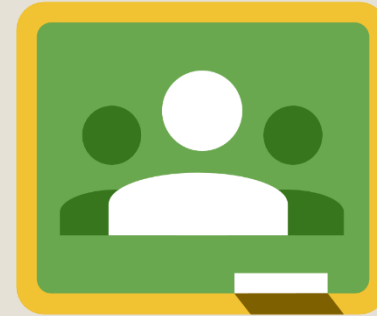


For Scotland's learners with Scotland's educators

How can we Save and Share content we have created?



WordPress Blogs



Google Classroom

Glow



Microsoft Sway



Google Sites



Microsoft Teams



Microsoft OneNote



Parental Engagement



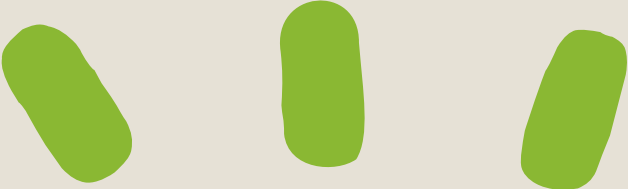
2019 NATIONAL IMPROVEMENT FRAMEWORK AND IMPROVEMENT PLAN

ACHIEVING EXCELLENCE AND EQUITY




TheScottishGovernment 
@ScotGov 
www.gov.scot





Outdoor Learning across the Curriculum



For Scotland's learners with Scotland's educators

How can we use digital tools for Outdoor Learning across the Curriculum?



For Scotland's learners with Scotland's educators




Help and Support



For Scotland's learners with Scotland's educators

Outdoor Learning

Practical guidance, ideas and support for teachers and practitioners in Scotland



Outdoor Learning within the Curriculum



What Digital Learning Might Look Like

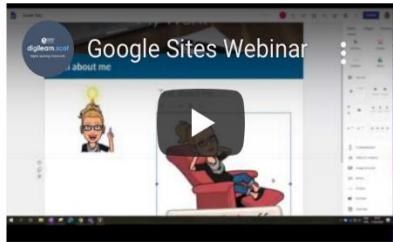
Examples of digital literacy and computing science
learning at Early, First and Second levels



What Digital Learning Might Look Like



Google Sites

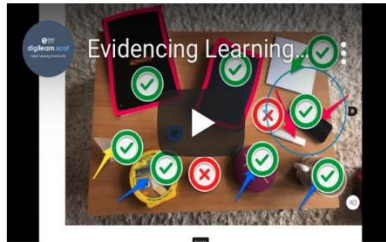


This session demonstrates how to

- create a Google site
- customise a Google site
- manage a Google Site.

This session also considers how sites can be used across the curriculum.

Evidencing Learning with iPad



This cross curricular session will look at tools that can be used to evidence learning and engage with learners.

The session will look at the built in iOS features on iPad that can be used to gather feedback and share experiences for all.

Creating Blogs with WordPress in Glow



This session will demonstrate how to create, customise and manage a WordPress Class Blog.

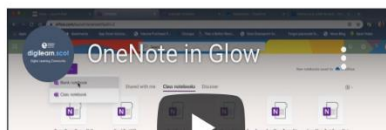
- add posts,
- upload rich media
- organise posts into categories
- how to add additional administrators
- how to share the Class Blog.

Additional help with glow blogs can be found [here](#)

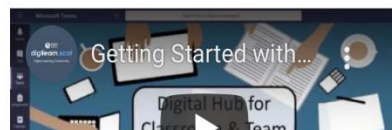
Getting started using Glow



Using Class OneNote within Glow



Using Microsoft Teams in Glow



DigiLearnScot Webinar Catch Up



Learning for Sustainability/ Outdoor Learning Wakelet



Outdoor Learning : The Extended Classroom - A&DS
 Historically, geographically, climatically and culturally, Scotland offers schools and their pupils one of the richest and most varied outdoor classrooms in the world. Our own back yard - whether that is rural, urban or suburban - is one of the greatest resources available in taking forward the aims, principles and values of Curriculum for Excellence.



Resources | Outdoor and Woodland Learning



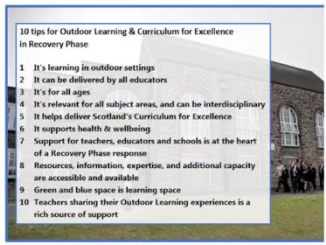
Professional Learning
 6 steps to learning in local greenspace
 NatureScot
 Learning in local greenspace



STEM By Nature
 John Muir Trust
 STEM By Nature resources
 FSC Scotland and the John Muir Trust have made the professional learning sessions piloted in Tayside freely available online (with Climate and Coasts & Waters to follow) - along with a supporting Information &



Inspiring Scotland Thrive Outdoors Guides
 Inspiring Scotland
 Really useful short guide for practitioners and families on being outdoors from the Thrive Outdoors Series. enquiries@inspiringScotland.org.uk.



10 Tips for Outdoor Learning
 Nnolscotland
 Blog from Rob Bushby on top 10 tips for outdoor learning in recovery phase

Digital literacy in the outdoors



Digital Literacy in the Outdoors

Apps



Camera trapping films created by schools
working with NatureScot:

[https://www.nature.scot/professional-
advice/education/schools-camera-trapping-
project](https://www.nature.scot/professional-advice/education/schools-camera-trapping-project)

[https://www.youtube.com/watch?v=gBAFb0NbC
zY&list=PLSTn6yg6zH -
rjQgcO5_JbMQsdTVkpLAf&index=6](https://www.youtube.com/watch?v=gBAFb0NbCzY&list=PLSTn6yg6zH_rjQgcO5_JbMQsdTVkpLAf&index=6)

Camera Trapping Films



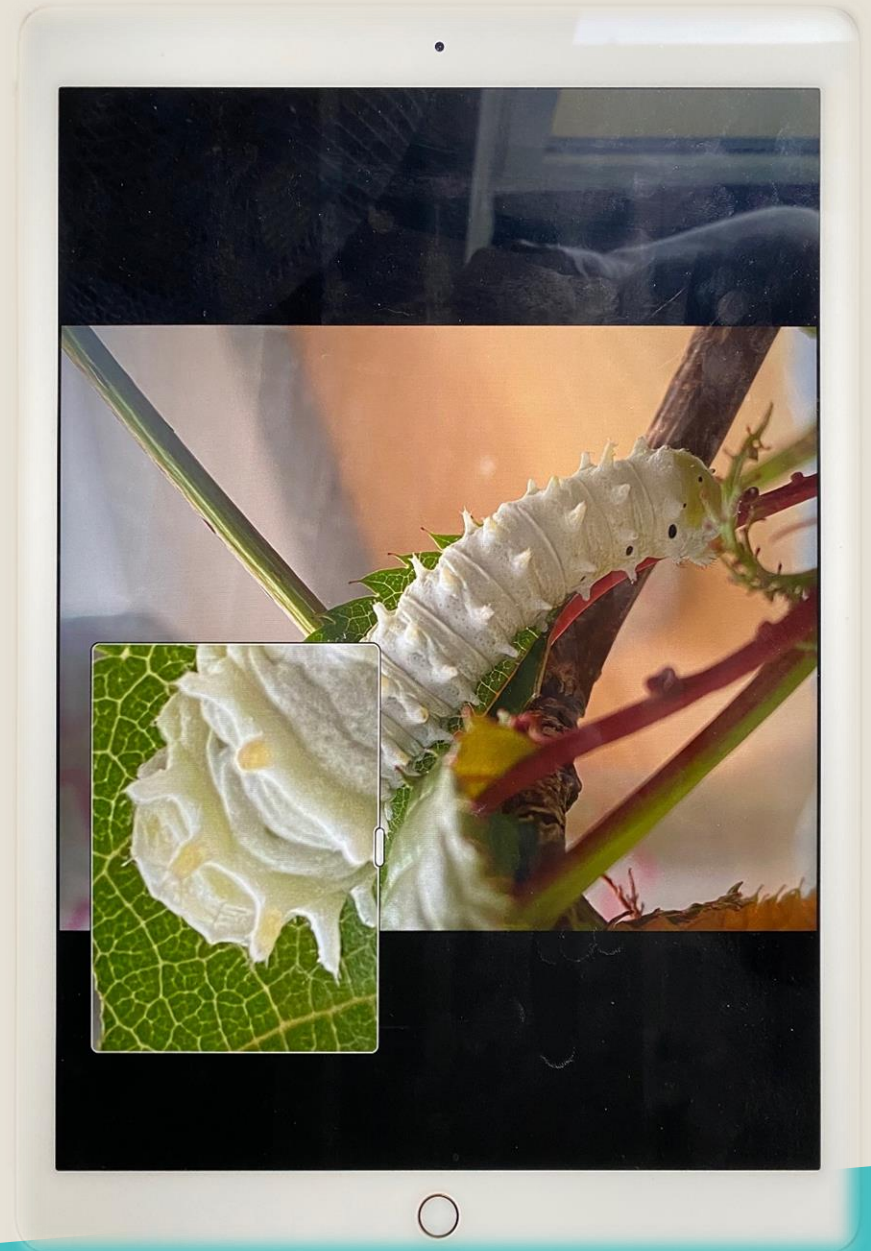


What have we looked at?



Items Covered

- Benefits of embedding Digital Tools in Outdoor Learning
- How can we Capture content?
- Computing Science Activities
- How can we Create content?
- How can we Share content?
- Links to other curriculum areas
- Help and Support



Any Questions?





Evaluation



<https://bit.ly/32e1LkJ>



Links included in the presentation

<https://bit.ly/33ekdJ5>



Education
Scotland
Foghlam Alba

**Using Digital Tools to
Capture, Create and
Share Outdoor Learning
Experiences**



Susan Sey, Digital Skills Development Officer
Education Scotland
@seysusan

For Scotland's learners with Scotland's educators



For Scotland's learners with Scotland's educators