The Green-Schools programme is run by the Environmental Education Unit of An Taisce
What is Green-Schools?

- Green-Schools is an international environmental management programme for schools
- Award scheme
- Long-term programme
- Holistic programme
Green-Schools in Ireland...
Green-Schools Water theme

• Water is the third theme of the Green-Schools programme and is sponsored by Irish Water.

• Poster Competition – details to be announced shortly, deadline usually March.

• The Irish Water Green-Schools of the Year Award will recognise innovation and creativity among schools that are applying for the An Taisce Green Flag for Water in the 2019/2020 academic year.

• Green-Schools Ambassador Programme for secondary schools - Friday 11th of October (Handout)

• Water Workshops nationwide for both primary and secondary

• Three official regional Walk for Water events

• waterevents@eeu.antaisce.org
Why care about water?

• A very important resource?
• Essential to all forms of life
• Water shortages and contaminated supply is not just confined to Third World Countries
• ~884 million people worldwide don’t have access to clean water
• Almost 300,000 children under age five die of diarrhoea, linked to dirty water and poor sanitation annually
• It is projected that by 2025 almost 50% of the world population will struggle to meet their basic needs. (UNESCO-IHE Institute for Water Education, Delft, Holland)
• Water costs money to treat
A blue planet...

71% of the Earth’s surface is water-covered. Can you guess the breakdown of saltwater and freshwater?

<table>
<thead>
<tr>
<th>Salt water</th>
<th>Fresh water</th>
</tr>
</thead>
<tbody>
<tr>
<td>97.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>
A World of Salt
Total Global Saltwater and Freshwater Estimates

Saltwater 97.5%
1 365 000 000 km³

Freshwater 2.5%
35 000 000 km³

0.3% Lakes and river storage
30.8% Groundwater, including soil moisture, swamp water and permafrost
68.9% Glaciers and permanent snow cover

Where is water used in your school?

- **Toilets** ~ 60%
- Sinks
- Dishwasher
- Cleaning
- Gardens
- Laboratories
- Taps
- Kitchens/staffrooms
- Radiators
- Home Economics/Woodwork
- Showers
- Washing
- Swimming Pool
Seven Steps

1. Green-Schools Committee
2. Environmental Review
3. Action Plan
4. Monitoring & Evaluation
5. Curriculum Work
6. Informing & involving the school & wider community
7. Green-Code
Step 1: Green-Schools Committee

- Do you have your Green-Schools Committee set up?
- Designate sub-committees e.g. Water Wardens or Leaky Detectives to check taps are not left running.
- Maintain previous themes by designating committee members to monitoring these themes e.g. Litter Wardens or Bright Sparks.
- Meet regularly to discuss progress and update Action Plan, keep minutes of committee meetings.
Water Workshops!

- Free Interactive Workshops
- Learn about Water Conservation & Why it’s Important!
- Hear from a Model School
- Learn about Water Treatment from an Irish Water Engineer
- Explore the 7 Steps & Make your Green-Schools Action Plan!
- Fun, Games & Spot Prizes!

Provisional Dates - Subject to Change!

- Thurs 14 January - Cork City
- Thurs 16 January - Dublin City
- Fri 31 January - Ballybrack, Co. Dublin
- Fri 24 January - Tralee, Co. Kerry
- Fri 30 January - Killarney, Co. Kerry
- Wed 5 February - Bridgend, Co. Louth
- Wed 12 February - Tallaght, Co. Dublin
- Wed 19 February - Castlebar, Co. Mayo

Sign Up Now!

Our Free Water Workshops are open to primary schools registered on the Green-Schools Programme & currently working towards their Water Flag.

Places are limited to 4 students + 2 adults per school. Limited Availability - to secure your place, email: waterevents@antaisce.org or call (01) 4002222

www.greenschoolsireland.org
Water Ambassador Programme

Free programme for secondary students in schools on or awarded the Water flag. Ambassadors take part in:

• Regional training day (November 2019)
• Beach clean-up (January 2020)
• Support session (March 2020)

Why take part?

• Career guidance in the field of engineering, environmental education and protection
• Improve communication skills
• Network with other ambassadors
• All participants will receive goodie bags, ambassador hoodies, lunch and on completion, a certificate
• Regional ambassador winners will receive a trophy and prize.

To apply go to www.greenschoolsireland.org or contact Green-Schools on waterevents@eeu.antaisce.org. Deadline for applications: Friday 11th of October 2019
Step 2: Environmental Review

Investigate the current water consumption in the school by carrying out three Essential Actions:

1. Water Usage
   Review: read water meter/check bills/do manual estimates (2 main reviews)

2. Water Audit
   Examine: Number of taps, toilets, radiators, kettles...

3. Leak Tests (small and big)
   Drips/leaks survey, checking taps, toilets, radiators, pipes underground etc.

The Environmental Review provides you with baseline information about water use and water awareness in school; this information is crucial to track your progress from Year 1 to Year 2.
How to read your water meter

• Locate the meter – usually on a footpath under a black plastic “water” cover

• Irish water meters use cubic meters ($1m^3 = 1000l$)

• Record the water usage on a daily/weekly basis and plot on a graph

• A change in usage on the meter when there is no water usage in the school (e.g. weekends or holidays) indicates there may be a leak
Where is your water meter?

- Situated outside the boundary wall of your school under a cover marked ‘WATER’.

- Check the ID number on the meter and compare it to the number on your bill

- If you are having trouble finding the meter, contact your Local Authority
Essential Action 1: Working out your water usage

• To calculate daily water usage subtract the morning reading from the evening reading. The result is the amount of water used in the course of the day.

• You can do weekly readings by taking a reading on a Monday morning and a Friday evening.

Test yourself now...

BLACK DIGITS are m³
RED DIGITS are litres
Sometimes water metres include a third red digit, this is the “ones” and sometimes this is a dial. There may also be a dial for millilitres.

<table>
<thead>
<tr>
<th>Afternoon reading</th>
<th>0</th>
<th>0</th>
<th>1</th>
<th>3</th>
<th>9</th>
<th>8</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning reading</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Water used:</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

The answer is...
12 metres cubed and 630 litres OR **12,630** litres
Work out Per Person Per Day water use

Scenario:
St Brigid’s NS has 90 students and 4 staff members. The Green-Schools Committee want to work out the average water use per person per day in their school. To do this they have taken a meter reading on Monday morning of 0021595 and again on Friday evening of 0022324. Can you work out their usage per person per day?

Friday: 0022324
subtract -
Monday: 0021595
= 729 => 7,290 litres used in the week.

7,290/5 days = 1,458 litres used per day on average.
1,458/94 people = 15.5 litres average use per person per day (pppd).

Can’t access your meter? You can still measure usage using your water bills, or failing that through manual estimation e.g. tick sheets for toilet flushes, calculating how long is spent washing hands etc.
Essential Action 2: Water Audit

• Locate and record the exact number of taps, toilets, radiators, showers, dishwashers etc. in the school.

• Work out the amount of water used in each toilet flush.
Essential Action 3: Leak tests

- Check for large leaks by calculating water use when the school is empty e.g. over a weekend. If a large amount of water is still being used you may have leaking pipes.

- Check for small leaks during your water audit, check taps close properly, radiators aren’t leaking and toilets aren’t continually flushing. You can check toilets for leaks by putting food colouring dye in the cistern, unless you flush the toilet the dye should not end up in the bowl.
Recommended Actions

- Water Use Survey in school
- Behavioural Survey (at home) i.e. general water usage, showers, tooth brush/detergent surveys etc.
- Investigate the Lifecycle of Water in the school
- Use of detergent and cleaners – can you make eco-friendly ones?
- Local water amenities (rivers, streams, lakes, beaches)
- Rainwater collection and usage – set up a water butt or harvesting system!
Step 3: Action Plan

The Action Plan is your working document where you will set down how you will 1) reduce water waste 2) raise awareness of water conservation. The key elements to the Action Plan are:

- **Action** – what exactly you will do.
- **Person responsible** – assign tasks.
- **Timeframe** – when you plan to achieve your goal by.
- **Progress** – keep track of set-backs and achievements.

<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish the Green-Schools Committee</td>
<td>Mrs. Murphy</td>
<td>By the middle of September</td>
<td>Achieved</td>
</tr>
<tr>
<td>Establish sub-committees to maintain monitoring of Litter and Waste and Energy</td>
<td>Mrs. Murphy</td>
<td>By the middle of September</td>
<td>Achieved</td>
</tr>
<tr>
<td>Read water meter daily and formulate weekly and monthly graphs on Water Consumption.</td>
<td>Green-Schools Committee</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>Organise a “Turn it off” campaign, with posters in both Irish and English in every classroom to remind students and teachers to turn off taps.</td>
<td>All Classes</td>
<td>September 2010</td>
<td>Achieved</td>
</tr>
<tr>
<td>Hold a water quiz to find out levels of awareness</td>
<td>All Classes</td>
<td>September 2010</td>
<td>Achieved</td>
</tr>
<tr>
<td>Form a “Water squad” (with volunteers from each class – not committee members) to ensure “turn it off” campaign is being fully implemented – Classes to be checked daily.</td>
<td>All Classes</td>
<td>Ongoing</td>
<td>Continuous</td>
</tr>
</tbody>
</table>
Ideas for Actions...

Start with no cost/low cost options:

“Turn it off” campaign – raise awareness about running taps
Hippos Bags in cisterns (see Resources on Green-Schools Website)
Adopt a local beach/river/lake (Clean Coasts)
Run a Water Poster competition (or enter Green-Schools’!
Collect rainwater for gardens etc.
Switch to environmentally-friendly cleaning products

Higher costs:

Install water-saving taps, dual-flush toilets, sensor urinals
Rainwater harvesting – use grey water for flushing, art, school garden
Step 4: Monitoring & Evaluation

Keep track of your progress through ongoing monitoring and evaluation across Year 1 and Year 2:

• Assign roles to Committee members e.g. Water Wardens to check bills or read meter, Leak Detectives to keep an eye out for leaks.
• Repeat Water Audit if changes made.
• Follow-up Survey to see if behaviours have changed after awareness raising e.g. how many turn off the tap when brushing their teeth?
• Design and display water saving pledges around the school
• Check and Revise Action Plan, are you achieving your targets?
• Update the Green-Schools Notice-Board
• Keep records for your Green-Schools application
Example monitoring chart

Water Watch

The water squad will check at each break that the taps are not left on or dripping.

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Week 1

Week 2

Week 3

Week 4

Week 5
Virtual Water is the volume of freshwater used to produce a product from start to finish: it refers to the sum of the water use in the various steps of the production chain.

The water footprint measures the amount of water used to produce each of the goods and services we use. It can be calculated for an individual person, a process, a product’s entire value chain or for a business, a river basin or a nation.

Why is this useful?

- Virtual Water indicates the pressure we exert on our freshwater resources
- This information helps drive strategic action toward sustainable, efficient and equitable water use

www.waterfootprint.org
What is the virtual water content of these products? Guess!

1 cup of coffee = 140 litres of water

1 kg of beef = 16,000 litres of water

1 kg of rice = 3,000 litres of water
Step 5: Curriculum Work

- **Maths**
  - Reading water meter
  - Measuring volume
  - Calculating usage

- **Charts and graphs**

- **Science**
  - Water experiments
  - Filtration

- **Pollution**

- **Mascot design**

- **Art**
  - Poster competition
  - Awareness campaigns
  - Creative writing
  - Languages
  - Green Code

- **Poetry**

- **Languages**

- **Geography**
  - Water cycle
  - Water availability & society

- **Water treatment process**

- **Science**

- **Climate change**

- **Water experiments**

- **Filtration**

- **Water availability & society**

- **Poetry**

- **Creative writing**

- **Languages**

- **Green Code**

- **Art**
  - Poster competition
  - Awareness campaigns
  - Creative writing
Activities from Water Resource

Interactive Water Resource for Primary and Secondary Schools

The resource looks at:

• The Water Cycle
• Journey of a Water Drop
• Water Conservation
• Climate Change
• Water People

There are lesson plans for each topic. The resource can be found on our website at: https://greenschoolsireland.org/resources/
Step 6: Informing and Involving

Inform the whole school and involve the wider community through awareness-raising campaigns and an Action Day!

**UN World Water Day 22\textsuperscript{nd} March**

- Blue Days
- Walk for Water
- Clean Up a Water Course Day or Beach Clean Up (involve coast care group)
- Water Foot Print Day
- Low Water Lunch
- Visit a treatment plant, hydro power station, reservoir, lakes or river
- Invite a guest speaker – environmental experts, engineers, local businesses ..
- Debates
- Fundraising Day e.g. cake sale
- **Poster competitions**
- Themed fancy dress or mascot design
Experiments

- Balloon test (Climate Change)
- Taste test (Pollution)
- Tornado in a bottle (Pollution and Climate Change)
- Carnations (Pollution)
- Wet wipes V toilet paper (Think Before You Flush)
- Skittles experiment
Walk for Water

• Download our infographic which has some tips on how to host an event - in pdf and in image format, from: www.greenschoolsireland.org/water/walking-for-water

• Visit the UN World Water Day 2019 materials section for downloadable resources, focused on the theme of Water & Sustainable Development. www.unwater.org/worldwaterday/

• Download lesson materials for your class from the Walking for Water website www.walkingforwater.eu/
Documentaries & Video Clips

- www.water.ie
- You Tube Clips
- National Geographic Clips and Documentaries
- Water First Film (Reaching MDGs)
- Water for the Ages: waterfortheages.org/water-films/
- (Water Detectives)
- TED (Technology, Education and Design) Talks: http://www.ted.com/search?q=water+conservation
- One Water: http://www.onewater.org/movie
- http://ec.europa.eu/environment/generationawake/
- Green-Schools Water Clips
Step 7: Green Code

While I’m brushing my teeth,  
I turn off the tap.  
When I’ve mud on my feet,  
I shower, not bath.  
Water is special,  
it falls from the sky.  
It does lots of jobs,  
like keeping plants alive.  
That’s why with water,  
I should always spare.  
To show Mother Nature,  
just how much I care.

Water is precious, we drink it every day  
Please don’t waste it in any single way

Wait until night to water your lawn  
Always use a pail when you wash your car  
Turn off the faucet when you brush  
Every leak wastes water - fix it  
Rain barrels save water
St. Mary's N.S., Milltown, Dublin

Primary Regional Winner of Water School of the Year Award

• St Mary’s NS is a 14 teacher school with 275 students.
• They reduced their water usage from 15l ppd to 9 lppd.
• They organised for ALL classes to complete a thematic unit on water with a main focus on its value, where it comes from, conservation and treatment.
• Sixth class designed a Water Saving Leaflet that was published on recycled paper and sent to every family in the school who then made pledges which were collected and displayed on the Green-Schools Notice Board.
• They also created a life-size Water Saving Board Game and a Water Mascot- Happy the Hydro Helper!
Application Process

• Fill out the Online Application Form
• Organise a Renewal Visit in Year 2 with your Local Authority Environment Awareness Officer
• Award Ceremonies are held in May
• Raise your Green Flag!
Climate Action

- **Climate Action Week** will run from October 14th-20th 2019
- Download the poster, pledge and other resources: [www.greenschoolsireland.org](http://www.greenschoolsireland.org)
- If you host an Action Day during Climate Action Week, it will count towards your Green Flag application!
- Regional training for secondary teachers on the new *Climate Action Teacher Resource* in:
  - Tipperary (30th Sept)
  - Dublin (1st Oct),
  - Waterford (3rd Oct)
  - Sligo (date TBC)
- Contact Gráinne to book your place: gryan@eeu.antaisce.org
Climate Ambassador Programme

• Accepting applications from secondary students and teachers (both primary and secondary) from Monday 14th October.

• Find out more and get ideas for actions at: www.climateambassador.ie

• Contact our Climate Action Officer Gary with any queries: gtyrrell@eeu.antaisce.org
What’s available?

Workshops for teachers & children
- Primary and post primary workshops
- Facilitators visit the school for a day of workshops
- Content of workshops: sustainable energy, climate change & how everyone can make a difference to the environment

Resources
- Online & hard copy teaching resources for primary and post primary
- Posters for raising awareness
- Many available in Irish
- Developed by teachers and educational experts

One Good Idea competition
- Schools are in with a chance to see their film on the big screen (cinema)
- Open to all schools, submit ideas by end October

www.seai.ie/schools
Green-Schools Online

• Find us on social media @GreenSchoolsIre and on our website www.greenschoolsireland.org
• Join the Green-Schools Coordinators facebook group for help and advice from Green-Schools staff and other Green-Schools Coordinators
Thank-you...Any questions?!

For Water queries contact Ruth Gaj-McKeever or Caoimhe O’Brien Moran at waterevents@eeu.antaisce.org or call (01) 4002222.