



# ENVIRONMENTAL TOOLKIT FOR SCHOOLS

# Introduction

The Suffolk Climate Change Partnership (SCCP) consists of Suffolk's Local Authorities and the Environment Agency, working with other organisations locally including Groundwork East and the University of Suffolk.

SCCP has a shared interest in supporting Suffolk's communities, businesses and residents to reduce carbon emissions, realise the economic benefits of reducing energy consumption and adapt to the future impacts of climate change.

In 2019, SCCP's Local Authority members all declared a 'climate emergency'. As part of this, the ambition is to make Suffolk County Council (including schools) carbon neutral by 2030. There is also a wider ambition for Suffolk as a county to become carbon neutral by 2030.

To strengthen Suffolk's climate action agenda and to engage, educate and empower individuals and organisations to act. Suffolk County Council is working with Ricardo Energy and Environment, and stakeholders from across the county to create a Suffolk Climate Emergency Plan, due to be published later in 2021.

The Suffolk Climate Emergency Plan, Technical Report, published in 2020, notes that the Suffolk Local Authorities cannot achieve these ambitions on their own and it will require the efforts of individuals, and organisations. This includes schools and not just local-authority owned schools, academies and independent schools too.

Schools in England alone are responsible for 9.5 million tonnes of carbon dioxide (tCO<sub>2</sub>e) which offers the potential for significant reductions. Not only that, but schools are best placed to raise awareness, generate knowledge and create understanding of the sustainability issues facing future generations.

This information pack contains opportunities for your school to reduce its carbon footprint along with case studies, curriculum linked activities, and further support to help you along the journey of improving your school grounds, encouraging behaviour change, and contributing to growing action against climate change.

This toolkit has been produced by Groundwork East on behalf of SCCP, with thanks to funding from John Laing Charitable Trust. Groundwork East is the community and environmental charity, that is empowering local people to improve their lives, and the places in which they live across the East of England.

This toolkit contains six chapters to allow you to choose the theme that you are interested to find out more about:

Energy Efficiency and Renewables.....	3
Sustainable Transport.....	12
Waste Minimisation and Recycling.....	18
Water Efficiency.....	24
Biodiversity.....	32
Sustainable Procurement.....	38







# > Energy Efficiency and Renewables

Schools are pushed to make the most of their resources, while continuing to provide a sound education for students. Being energy efficient saves money, so is an excellent way to release funds for curricular resources or facilities.

In addition to economic benefits, there are social and environmental advantages to reducing consumption, such as preserving fossil fuels and minimising the impact on the environment. This is becoming increasingly important to the reputation of schools, as students, teachers, and parents become increasingly aware of climate change.

Moreover, actions taken to become energy efficient provide an excellent opportunity for practical learning and real-life application for students.

## How can your school benefit from energy efficiency?

- Reduced costs and enhanced learning environments.
- Staff and students will have improved comfort conditions which will boost productivity.
- Students will learn about and experience 'real world' activities when exploring energy efficiency in Maths, English, and Science.
- Parents and the wider community will reduce their own energy use as a result of students action and awareness.
- The environment will benefit from reductions in energy use and carbon emissions which will enhance school image.

# Opportunities

## Heating

### Temperature setting

Children have higher metabolic rates than adults and so are comfortable at lower temperatures. The recommended temperatures by activity are:

18°C - Normal teaching

15°C - Circulation spaces e.g. corridors, and for areas with high levels of activity e.g. sports halls.

21°C - Special needs schools, low activity areas, or areas with very young children.

Maintaining optimum internal temperatures for staff and students will improve comfort conditions which will help boost attentiveness and morale. It is generally accepted that anything above 24°C is too warm and will affect the ability of both staff and students to concentrate and to work effectively, and cause physical discomfort and illness. If people get too hot, they risk dizziness, fainting, or even epileptic fits.

Try turning your thermostat down by 1°C and see how comfortable students are, you will save up to 10% on your heating bills.

### Check thermostats regularly

Discourage staff from using them as on/off switches - turning to maximum does not speed up the heating process, it usually just results in an overheated space. It's important to ensure thermostats are not influenced by draughts, sunlight, or internal heat sources like radiators or ICT equipment. Settings should reflect the activity taking place in the space.



### Keep systems clear and unobstructed

Schools have lots of activities going on, and furniture is constantly being rearranged to accommodate students' needs. Make sure radiators and vents are not obstructed by any equipment and that filters are kept clean and free of dust. This ensures better circulation of heat into the space and reduces the energy required to meet the heating demand.

### Maintain boilers and pipework

Make sure boilers are serviced regularly by a reputable firm. Gas-fired boilers should be serviced once a year; oil boilers twice a year. A regularly serviced boiler will save as much as 10% on annual heating costs. Boilers, hot water tanks, pipes and valves should be insulated to prevent heat escaping. Payback is usually achieved within a few months of installation, with additional savings in subsequent years.





# Opportunities

## Upgrade controls

Controlling heating systems is difficult with old, inefficient time controls. Upgrades are well worthwhile implementing as the payback time is very quick. New heating systems adjust themselves in line with the changeable UK climate. A compensator is a form of control for heating systems that automatically regulates the heating temperature based on the weather. An optimum start controller learns how quickly the building reaches the desired temperature and brings the heating on at the optimum time prior to building occupancy, again depending on the weather.

## Building Fabric

### Shade for comfort

Curtains and blinds help to keep rooms comfortable. Closing them at the end of the day during winter months will reduce draughts and help the room retain more of its residual heat overnight. This also helps in summer to reduce heat gain in rooms that receive early evening direct sunlight.

### Improved glazing

Different types of glass and coating will have an impact on the light of the room and its insulation. For new or replacement windows, the minimum standard is double glazing. Triple glazing is also available and is a particularly good option for north-facing or exposed windows. Some schools have highly glazed areas, however, the heat gain often makes it uncomfortable for staff and students. Consider replacing some of the panes with black panels which will reduce the light but improve the temperature and glare.



### Insulation

25% of a building's heat escapes via an uninsulated roof, adding hundreds of pounds per year to heating costs. Insulating any roof spaces and unfilled external cavity walls is an effective and inexpensive way of reducing heat losses. Insulating flat roofs, which many schools have, is more costly and disruptive, and so are most cost effective during refurbishment projects.

## Lighting

### Switch off

The simplest way to reduce energy use and cost, is to turn off lights when they're not needed, this can also be extended to other electrical appliances. Place stickers above light switches to remind staff and students to turn off.



# Opportunities

## Install LED lighting

Upgrading lights to LED will dramatically reduce the amount you spend on lighting, they also have a much longer life-span than fluorescent bulbs, reducing the amount you spend on bulb replacements. LED lighting also has wider health, safety and performance benefits, including increased productivity and improved reading comprehension.

## Controls and sensing technology

Installing time switches in teaching areas, and occupancy sensors for corridors, toilets etc. will also have an impact on energy use, and removes the need to remember to turn lights off. It is estimated that having sensors installed can save around 10% of your lighting costs.

# Electrical Equipment

## Office and ICT Equipment

ICT equipment is one of the largest single users of electricity in many schools. Make sure you switch off any equipment when not in use, this will also reduce heat production and reduce the risk of overheating, therefore, improving occupant comfort. It will also help equipment last longer. During the teaching day, it's fine to use standby modes, but at the end of the day, make sure equipment is switched off fully.

## New equipment

When purchasing new equipment, it's important to choose equipment that meets your current and predicted requirements. Don't over specify, for example, choosing high-spec PC monitors with large screens and fast processors consume more energy.

# Swimming pools

## Use a pool cover

Swimming pools in schools may only be used for a few hours a day, yet maintain 24-hour heating and ventilation regimes. Using a pool cover when the pool is not being used will save considerable amounts of money as the need for heating and ventilation is reduced.

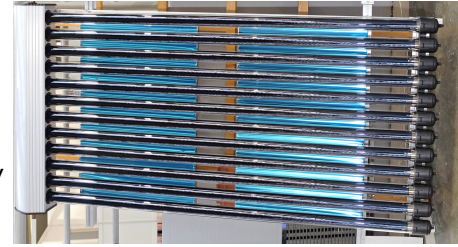




# Opportunities

## Solar heating

Unlike solar photovoltaic panels, which generate electricity from the sun's energy, solar thermal panels generate hot water using the sun's energy. If a school has a swimming pool it is an ideal candidate for a solar hot water system as they will be very high users of energy, so significant financial and carbon savings are to be expected.



## Renewable energy

### Solar photovoltaic panels

Solar panels are increasingly popular for schools, and increased popularity has seen costs fall, although they are still be an expensive upfront cost. They should be located in a southerly direction and away from shaded areas. If your school has a large amount of outdoor land, you could consider installing ground-mounted panels, although this is more costly.



### Biomass

Biomass can be wood from trees, plants such as crops and seaweed, or animal waste. Biomass gets its energy from the sun and is a renewable energy source. When biomass is burned, it produces heat, and in some cases electricity. If considering biomass, it is essential you consider how sustainable your fuel is, for example, using wood pellets or wood chips requires trees to be cut down, if the trees are replaced, and sustainable land management practices are adhered to then there is no issue.

### Heat pumps

For existing buildings with oil, LPG or electric heating, air source heat pumps are a popular choice due to their speed of installation and efficiency which will quickly reduce running costs. Ground source heat pumps are more suited to new build or major refurbishment projects due to the significant ground works required.

As well as a space heating demand, schools and colleges have high hot water demand that can easily be served solely by a high temperature heat pump, or the heat pump can work as part of a combined system to pre-heat the water which is topped up by a boiler. Many education facilities will have swimming pool and gymnasium facilities which are suited to being heated by an air source heat pump which offer quick returns on the investment as swimming pools have high heat demands all year.



# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Carry out spot checks at the end of everyday to make sure lights and electrical equipment are fully switched off
- Investigate how the schools' energy use changes according to the time, the day, and the activity e.g. energy use will go up when staff and students arrive in the morning but decrease again when they leave at the end of the day.
- Look at the different ways in which electricity is generated e.g. solar, wind.

## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Analyse the school's electricity and/or gas consumption, look at how much is used at different points of the day and how much this costs. Students can also present this information using bar charts, line graphs, or pie charts.
- If your school has solar panels, investigate how much of the school's electricity is generated by solar power.
- Use an appliance monitor to investigate how much energy different appliances use over a period of time, and how much this costs.

Curriculum links for key stages 1 and 2:

- Science: electricity.
- Science: working scientifically.
- Mathematics: measurement.
- Mathematics: statistics.



## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Carry out an energy audit in different classrooms, using an appliance monitor to identify the top five pieces of equipment that consume energy and identify areas where energy is being wasted. Students can then think about how to share this message with other students and staff.
- Investigate how classroom temperatures vary over a seven day period. Calculate the mean temperature across the seven day period, the mean temperature during school hours, and the mean temperature outside of school hours. Look at the school's gas consumption to see how temperature and consumption relate.

## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3, but at a higher level. For example, carrying out energy audits of the school kitchen, science labs, and food technology rooms and presenting their findings to key staff members.

Curriculum links for key stages 3 and 4:

- Science, Physics: energy and electricity.
- Science: working scientifically.
- Mathematics: ratio, proportion and rates of change.
- Mathematics: statistics.





# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

The checklist below is for your own reference, to keep track of your school's journey. But we'd also like to know how useful this section of the toolkit has been for you, please [complete a short quiz](#).

Energy	Implemented	Underway	Take Action
Establish an energy awareness campaign amongst staff and students.			
Implement a 'switch off' policy for all equipment when not in use.			
Take regular meter readings and record these, keep a note of fuel deliveries.			
Ensure boilers and air-conditioning units are well-maintained and serviced regularly by qualified personnel.			
Where heating equipment is old and inefficient consider upgrading to low carbon alternatives.			
Keep light fittings and skylights clean to make the best use of the light available.			
Where sufficient hot water is used on site, install solar thermal water heating.			
Generate renewable electricity on site by installing solar PV.			
Switch to a renewable energy tariff supplying and investing in low carbon electricity and/or gas.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)

# Case Studies

## Northgate High School

In 2019, Groundwork began working with Northgate High School, Ipswich to provide the school with an environmental review. The project began by engaging students with a questionnaire and running a series of student assemblies. This was followed by a detailed on-site environmental review which included analysing current electricity and fuel use, water consumption and waste production across the whole school site.

Opportunities were identified to achieve carbon savings of around **205 tCO<sub>2</sub>e per year** with associated cost savings of **£43,000 per year**. Follow-up work also included recommending actions and activities that students and their families could undertake at home.



## Beaumont Primary School

Completed in 2003, Beaumont Primary School, Ipswich was designed with sustainability in mind and includes many environmental and energy saving features. It was designed and built on the principle that school is the ideal place to provide a living example of science and the environment working together, creating opportunities for children to learn about the technologies used. key features include:

- A building management system which connects all the sustainability features and displays real-time data on a TV screen in the school, allowing students to learn about their immediate environment.
- A wind turbine, generating 6kW electricity.
- Solar panels generating a further 1kW electricity, enough to power the lights in two classrooms. Any surplus electricity is used to heat water.
- A sedum roof aids summer cooling and winter insulation and prolongs the life of the roof. It also provides a rich habitat for birds, butterflies, and other insects.





# Support

## How can Groundwork help?

Groundwork is able to offer a wide range of environmental support services to help schools and students engage with energy management and reduction. The services detailed below are just examples of previous work we've done with schools, and are by no means our limit. Many schools choose to complement an audit with an engagement programme to maximise the opportunities but we will create a bespoke support package that meets your needs and expectations. Please note, we may charge for our services but where possible, we will seek to use external funding, or we can help you fundraise.

## Environmental Audits

Groundwork can carry out an environmental review which includes an assessment of the schools' current carbon footprint and identifies a series of wider environmental recommendations that both the school, and students can take. Students are also involved in the process, with surveys carried out to find out what mattered to them, and the findings were also shared with them.

## Green Guardians

Groundwork can help establish, and work with a team of 'Green Guardians', made up of staff and students. The team will work together on promoting sustainable behaviour and raising awareness of key issues across the school and sustaining interest and engagement around these issues. Our advisors can also show students how to carry out an effective energy audit.

## Switch on To Turning Off (SOTTO)

SOTTO is a student-led behavioural change and carbon reduction programme run by Groundwork that engages students, teachers, parents and the wider communities to help schools implement long term changes to their energy use. As part of this, Groundwork can provide a series of engagement activities for students and staff.

If you are interested in any of these services we would be delighted to provide you with more information or if you have something specific in mind that you would like our help with that isn't mentioned, please get in touch as we are able to tailor our services to you.

## Resources

[Solar for Schools](#) - this social investment business specialise in working with schools to cut carbon and cost savings with solar energy. It provides a suite of services from project viability analysis all the way through to asset management. It will even help assess the funding opportunities available to the school.

[Energy Saving Trust](#) - the Trust have a range of free teaching resources available as part of its Energy Savings Schools Challenge. The resources are aimed at students aged 11-15.

[Let's Go Zero](#) - this is a national campaign bringing together UK schools who want to be zero carbon and supporting them to take action.

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)



## > Sustainable Transport

Sustainable transport includes active travel (walking, cycling, etc.), public transport, or car sharing.

With increasing levels of childhood obesity, and growing air pollution concerns, encouraging children to walk or cycle to school and help families build physical activity into their daily routine.

It is recognised that not everyone can travel to school in an active manner but the messages around physical activity and engaging with local environments are still relevant and important when contributing to the successful development of children.

### How can your school benefit from sustainable travel?

- Active travel to school will increase concentration by up to four hours.
- Active travel helps reduce anxiety and stress.
- Cycling, walking or scooting to school increases awareness of road safety.
- Active travel improves muscular strength, endurance and flexibility.
- Promoting sustainable transport will also reduce congestion at the school gates at drop off and pick up times which will in turn reduce air pollution from idling vehicles and improve the safety of children walking, cycling, or scooting to school.

# Opportunities

## Cycle training

Organising a cycle training programme for students and their families to take part in, allows them to gain practical skills and understanding how to cycle on today's roads.

## Walking buses

A walking bus is a great way to encourage more children to walk to and from school. Each 'bus' consists of a group of children, who are escorted by a minimum of 2 parent volunteers - a 'driver' at the front, and a 'conductor' at the back.



## Five minute walk zones

Set five minute walk zones around your school to encourage parents to park away from the entrance gates and walk the last five minutes. As well as increasing the safety of children, their exercise, and concentration levels, the scheme also reduces congestion and parking issues in the schools immediate vicinity. Get students involved by asking them to time the walking routes and place stickers on lampposts at the start of a zone.

## Improve infrastructure

If you want to encourage more children to cycle, or even scoot to school, there needs to be suitable cycle and scooter parking available.



## Permit scheme

Introduce a permit scheme, whereby parents/students who have no other option but to drive, are able to apply for a permit to park close to the school gates. Parents without a permit are unable to park there.

## Electric Minibus

Some schools are fortunate enough to own minibuses. Upgrading these to electric versions creates the opportunity to save on carbon and diesel costs. It doesn't have to be a minibus solely for school use either, you could generate an income by hiring it out to other groups in the community when the school aren't using it. Electric minibuses are still relatively new to the market so will have a higher purchase price than existing diesel models but this will be offset with increased fuel savings.



# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Look at how transport has changed over time and how it might change in the future. Students could also design their own futuristic form of transport. Also look at transport in different countries, like rickshaws in India.
- Survey students to find out how they travel to school.
- Teach students how to cross the road, be seen and travel safely.

## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Compare different types of transport and their impact on the environment.
- Explore active travel and the benefits of walking, cycling, scooting.
- Ask students to plan their safest route to school using maps, including directions and compass points.

Curriculum links for key stages 1 and 2:

- Science: exercise
- History: changes in living memory.
- Geography: skills and fieldwork.
- Health education: physical health and mental wellbeing.



## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Consider the impact different transport methods have on air quality and discuss the ways in which towns and cities can encourage sustainable transport e.g. congestion charging, cycle lanes, and public transport.
- Debate the pros and cons of different transport methods.

## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3 and:

- Debate whether HS2 or a third runway at Heathrow should be built.

Curriculum links for key stages 3 and 4:

- Geography: human and physical geography.
- Health Education: physical health and mental wellbeing.
- Science, Chemistry: Earth and atmosphere.



# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

The checklist below is for your own reference, to keep track of your school's journey. But we'd also like to know how useful this section of the toolkit has been for you, please [complete a short quiz](#).

Sustainable Transport	Implemented	Underway	Take Action
Develop a sustainable travel plan.			
Ensure secure cycle and scooter parking is available.			
If staff drive a minibus, provide them with driver efficiency training to develop a more fuel-efficient driving style.			
Install electric vehicle charge points for staff and visitors.			
Carry out a travel survey and investigate what barriers are preventing students or parents from travelling to school sustainably.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)

# Case Studies

## Shepherd Primary School

Shepherd Primary School, Rickmansworth, have worked with a carrot and stick approach to encourage active travel to school. They have worked with the District Council to put in place a Public Space Protection Order to stop parents parking outside the school during drop off and pick up times and parents will be fined if they park within a certain distance of the school. This has made the environment outside the school safer and more pleasant for children walking, scooting and cycling. The school also held a Walk to School Week with Trainer Tuesday and Funky Footwear Friday to raise the profile of the week and encourage walking.

**Cycling has increased from 2.8% to 13.25%, scooting 8% to 16.34%, park and stride 12.4% to 25.61%.**



## Sandringham School

Pedestrian-friendly grounds, safer routes in the surrounding area, and travel awareness work with students, had all helped to support journeys on foot to Sandringham School in St Albans, Hertfordshire. A series of changes have improved safety within the school grounds, including zebra markings and speed restrictions in the school car park and the creation of a separate entrance for pedestrians next to the main gate. At the start and end of the day the main gate was closed to traffic for 10 minutes, to allow students on foot or bicycle to arrive or leave in safety. Wooden fencing had been replaced by metal railings so that children could see traffic more easily when leaving school.

The school also invited parents and students to enter into a voluntary home-school partnership. One of the 10 commitments that parents were asked to sign up to was to: "encourage my child, wherever possible, to walk, cycle, or use public transport to travel to and from school."





# Support

## How can Groundwork help?

We are always looking at developing new projects to help schools become more efficient, so if you have an idea for a project, or would like support implementing any of the opportunities mentioned, please do contact us to see how we can help.

## Resources

Suffolk on Board - Provides useful travel guidance specifically for schools.

Modeshift STARS - This scheme recognises schools, businesses and other organisations that have shown excellence in supporting sustainable and active travel. The online Travel Plan Toolkit will help your school develop a comprehensive travel plan.

Suffolk Travel Planning - Suffolk County Council have a team dedicated to travel plans, so if you need advice or guidance on writing a travel plan you can contact them at [schooltravelplans@suffolk.gov.uk](mailto:schooltravelplans@suffolk.gov.uk)

Bikeability - Bikeability is an improved, updated and more relevant version of the old cycling proficiency scheme. Courses are available throughout the year, in every local authority.

THINK! - THINK! is a road safety campaign run by the Department for Transport and have a variety of educational resources available to support students in becoming more road aware.

Sustrans - Work with organisations, including schools, to improve active travel. The charity run a national competition for schools each year, The Big Pedal, and also provide lots of resources and projects for schools to get involved with.



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## > Waste Minimisation and Recycling

Primary and secondary schools in England throw away the equivalent weight of 185 double decker buses of waste every school day. That is 258,300 tonnes of waste in a year arising from the whole education sector!

The vast majority of day-to-day waste can easily be avoided if schools make a concerted effort to reduce, reuse and recycle where possible. If schools cut down the amount of waste they create, they will save money, and reduce their impact on the environment.

### How can your school benefit from waste minimisation and recycling?

- Learning about recycling in schools means that children are more likely to adopt it as a habit, helping to make them conscientious adults.
- By instilling a sense of environmental awareness in students, children are inspired to get involved in other environmentally friendly practices.
- By handling school waste efficiently, you will reduce the amount being sent to landfill and therefore save money. You may also earn a small income if you choose to send some of your existing waste to local recycling schemes.

# Opportunities

## Food

Food waste costs schools and colleges around £250m a year, and eliminating avoidable waste would cut 22p off an average school meal. Much of the food found in children's lunchboxes also contain needless wrapping and single-use drink cartons. Of course, it is difficult to monitor what food and packaging children bring in from home. However, you could suggest tips and techniques to parents and carers to encourage more sustainable food packaging habits. Encouraging children to take home the food they don't eat will help parents understand what exactly their child eats and adjust the lunch accordingly.



## Paper

Paper is the main type of waste in schools, typically comprising at least a quarter of school waste. Set printers to print double sided by default and ask staff to think before they print. Where printing is necessary, ensure paper bins are set up in every classroom so that paper is recycled after. Rather than sending each child home with a printed newsletter, send them direct to parents via email.

## Plastic

Install water fountains and encourage students to bring in re-usable water bottles, you could even bulk buy water bottles with the school logo printed on. The cafeteria is often where most plastic waste is produced, but for many products there are sustainable alternatives, for example, swap plastic cutlery with wooden alternatives and replace sauce sachets with bottles. These alternatives may be more expensive upfront, however, you will save money by reducing waste sent to landfill.

## Electronics

Electronic waste is among some of the most hazardous. The majority of UK schools use electronic devices, whether it's a computer monitor or a printer. Under the Waste Electric and Electronic (WEEE) Regulations 2013, electrical equipment such as old computers must be correctly disposed of. This means ensuring any equipment is recycled, rather than ending up in landfill. There's also associated waste that needs consideration. For example, printers produce a lot of waste like ink cartridges that often get sent to landfills once they have run out, having serious consequences for the environment. These plastic ink cartridges take up to 1,000 years to decay, often contaminating the land beneath as they still contain some traces of ink.

Organisations such as [Empties Please](#) will recycle your old ink cartridges in exchange for a small donation to the school. This means the school generates a small income simply by recycling old ink cartridges.

## School uniform

It is estimated that 1.4 million wearable school uniforms are thrown away each year and it's not only the waste, it's the quantity of raw materials needed to make the items. Wearing something for an extra nine months reduces its carbon footprint by 20-30%. Setting up a Second Hand Uniform shop will help schools reduce these environmental impacts but it's also a more affordable option for parents. Schools also generate an income through sales.





# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Ask students to bring in something from home that would otherwise go in the bin and ask them to create some art with it.
- Ask students to identify and describe different materials and learn which of them can and can't be recycled.



## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Make recycled paper and discuss how and why waste should be recycled.
- Learn what litter is and what problems it causes. Ask students to take part in a litter pick around school grounds and discuss the benefits this has.
- Understand where our waste goes and what the benefits of recycling are.

Curriculum links to keys stages 1 and 2:

- Art and Design.
- Science: everyday materials.
- Science: living things and their habitats.

## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Design posters to be put up around school, encouraging staff and students to recycle more.
- Introduce students to the circular economy model and ask students to design a produce or service that fits this model.

## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3 and:

- Undertake a waste audit of the school, including where the waste goes and produce a set of recommendations to the school that will either reduce waste, or increase recycling.

Curriculum links to keys stages 3 and 4:

- Art and design.
- Design and technology.
- English: writing.
- Science, Chemistry: Earth and atmosphere.



# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

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Waste Minimisation and Recycling	Implemented	Underway	Take Action
Introduce alternatives to single use plastics, particularly in the school cafeteria.			
Run a waste campaign to ensure staff and students know what can and can't be recycled.			
Ensure there are enough recycling bins around the school.			
Separate out food waste and either compost it or arrange for a food waste collection.			
Identify all your different waste streams and find out where the waste goes.			
Engage with your waste contractor to find out what other opportunities there are to increase recycling.			
Set up collection points for textiles, and other hard to recycle items that the wider community can also donate to.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)

# Case Studies

## Birchwood Primary School

Birchwood Primary School are currently in the 7th year of holding the Eco School's Green Flag. to maintain this achievement they have undertaken a range of projects, including:

- Recycling or reusing a variety of materials including paper, batteries, ink cartridges and mobile phones; plastic bottles/cartons. Any money raised through rebates goes to the schools' Eco-Council to decide how it should be spent.
- Students place their fruit and veg waste in compost bins.
- Students are taught to minimise waste too and the school provided every student with a personalised water bottle to fill up from water fountains.
- A number of students have become 'Eco Helpers' to monitor litter around the school and the school ran a 'Litter free' poster competition.
- Children from all classes take part in regular litter picks, making them aware of their environment and giving them a sense of pride.



## Yellow Fish

Groundwork visited Woodley Primary school in Stowmarket and Bosmere Primary School in Needham Market. At both schools, Groundwork delivered an assembly to the students explaining how litter and not disposing of our waste correctly is be harmful for our waterways and why we should dispose of our waste correctly.



# Support

## How can Groundwork help?

Groundwork is able to offer a wide range of environmental support services to help schools and students engage with waste minimisation and recycling. The services detailed below are just examples of previous work we've done with schools, and are by no means our limit. Many schools choose to complement an audit with an engagement programme to maximise the opportunities but we will create a bespoke support package that meets your needs and expectations. Please note, we may charge for our services but where possible, we will seek to use external funding, or we can help you fundraise.

## Waste Audit

A waste audit is a great way to get an understanding of how much of each type of material your school throws away, where the waste is being produced, and what the greatest opportunities for waste reduction are.

## Yellow Fish

The Yellow Fish project promotes the message 'only rain down the drain' to remind the local community that all litter or pollution entering the system causes direct contamination of our rivers and waterbodies. Groundwork can run engagement sessions with schools and lead outdoor activity sessions with students to inform them about the consequences of littering.

## Resources

[Suffolk Schools Recycling](#) - managed by Suffolk County Council Waste team, this website provides useful information and resources for teachers. You can also arrange site visits to see what happens to waste when it is collected for recycling and disposal.

[Recycle Now](#) - provides information, advice and activities for primary and secondary schools. It also guides you through the process of setting up and maintaining effective recycling schemes.

[Keep Britain Tidy](#) - runs the international Eco Schools programme in England and is all about getting school communities to be more sustainable.

[Recycle More](#) - offers information for students and teachers, key stage activities, game and facts.

[Eco Schools](#) - is an international award programme that guides schools on their sustainable journey, providing a framework to help embed these principles into the heart of school life.

[WRAP](#) (Waste and Resources Action Programme) - is a registered charity that works with businesses, individuals and communities to achieve a circular economy by helping them to reduce waste, develop sustainable products and use resources in an efficient way. It has an online database of free resources for schools including lesson plans, artwork and teacher packs.

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)



## > Water Efficiency

Schools in the UK spend at least £70 million annually on the provision of potable water and the disposal of wastewater. The average annual water and sewerage bill for primary schools is £1,600 and for secondary schools between £3,200 and £8,600, although a large secondary school might spend up to £20,000.

Careful water management, together with an education programme, has shown that water use in schools can be reduced to four cubic metres per student per year. For a school with 600 students this equates to an annual saving of £5,000.

### How can your school benefit from water efficiency?

- Water efficiency reduces your schools water and energy costs, meaning that you will be able to do more with your current school budget.
- When the school is involved in water efficiency activities it connects with the community through partnerships and local networks. This is increasingly important for the reputation of schools as students, teachers and parents look for ways to combat climate change and other environmental issues facing our communities.
- Water efficiency activities provide excellent leadership opportunities and practical learning activities for your students.

# Opportunities

## Percussion taps

Replacing conventional screw taps with percussion taps that close automatically after a pre-set period of between 1 and 30 seconds, virtually eliminates the possibility of taps leaking or being left running. Some models also have an adjustable flow rate restrictor which can be set to deliver a lower flow rate than conventional taps.

Spray taps will also save up to 50% in water consumption, although the slow rate of flow on hot water taps means a long wait for warm water resulting in minimal savings.



## Toilets

Installing water dams and displacement devices in toilet cisterns reduces the water consumption required for flushing. It is, however, important to ensure that there is sufficient water to remove all soils. Replacing a nine-litre flush toilet with a dual-flush toilet with three- and six-litre flushes can also save up to half the water used for WC flushing.

## Install point of use heaters for school holidays

During school holidays, very little hot water is actually needed, so rather than keeping it switched on, install point of use hot water heaters so that if hot water is needed for cleaning etc. it will still be available. Point of use heaters use electricity to heat water and don't produce excess hot water.



## Greywater or rainwater

Using greywater or rainwater represents a considerable water-saving opportunity for certain appliances. For example, if you could collect enough greywater or rainwater you could supply the total demand for toilet flushing at your school, reducing mains water consumption by up to 35%. However, it's important to review how much greywater and/or rainwater is available to ensure there's enough to meet demand.

## Frost protection

Adequate frost protection is vital to prevent burst pipes and leaks. Caretaking staff should always visit the school when frost is expected, especially during weekends and holidays. Be especially careful to protect incoming cold water mains from frost. Cold water tanks should be insulated, pipework lagged and clustered together to reduce the risk of freezing. An outside thermostat set at 2°C should be used to start all heating and hot water pumps. An internal thermostat in a normally heated room should turn on the boilers and heating when the internal temperature falls below 5°C.

# Opportunities

## Pipe Lagging

Lagging simply means adding insulation to the water pipes and is easy to do with foam tubes. It prevents them freezing and also helps any exposed hot water pipes retain their heat when running through the school.



## Check for Leaks

Leaks are one of the biggest wastes of water and are often left undetected for some time. An easy way is look for water stains, marks, damp patches, or puddles. You can also use the water meter to help detect leaks. To do this, turn off the internal stop tap and take a reading from your water meter. Wait 30 minutes and take a second reading. If the readings are different, it could suggest there's a leak somewhere.

## Water butts

Water butts collect rainwater from downpipes such as building guttering. In any one year, 3,600,000 litres of rain falls on to a typical primary school roof (4000 square metres), enough to fill almost 19,000 water butts. This water can be used to water plants, fields, and any vegetable patches you have.



## Swimming Pool

If your school has a swimming pool, ensure it's maintained correctly. Once full, swimming pools should only require small amounts of water to top up. The water is filtered and chemically treated so that it can be reused. It is, therefore really important to make sure that the pool is properly maintained as to empty and refill a pool requires a lot of water.

## Showers

Some schools have showers in changing rooms or staff areas. The flow from showers is measured in the same way as measuring the flow of taps. Installing low flow shower heads or restrictors, shower timers, or low flow showers are just some examples of how water efficiency in showers will be improved.



# Opportunities

## Sustainable Drainage Systems (SuDS)

For a long time rainwater has been treated as waste. Our towns and cities are engineered to quickly channel rain into traditional drains that take it to the surrounding streams. Towns have grown and climate change is causing rain to fall more heavily and erratically, overloading the drains. In some areas the drains then spill into the sewage system, releasing foul water into our rivers and even our homes. Even in areas where rain and sewage are kept separate, rainwater washes chemical pollution from our streets into our water.

SuDS are sustainable drainage systems that manage the rain at the point it hits the ground or roof, slow the flow of water and clean it up along the way. They retain water in a system of ponds, swales, rain gardens and filter strips. Much of the rainwater is then taken up by plants, percolates into the ground or evaporates into the air. What rainwater remains only reaches the drains slowly if at all. It is less polluted, and there is no sudden surge of water that overloads the system. Because SuDS incorporate water and plants, they can help wildlife in the same ways as natural wetlands. Using a variety of SuDS across a neighbourhood will work together as blue and green corridors, to help animals move between larger areas of urban habitat such as parks and nature reserves.

Examples of SuDS include:

- Green roofs

A green roof is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

- Filter strips

Filter strips are vegetated sections of land designed to accept runoff as overland sheet flow. In order to be effective they should be 5-15 metres wide and they may adopt any natural vegetated form, from grassy meadow to small wood. The wider the strip and the more dense the plant cover the better the pollutant removal.

- Detention basin

Detention basins are designed to hold back storm runoff for a few hours to allow solids to settle. Bypasses may be included to ensure the 'first flush' is detained. Detention basins drain via an orifice plate or similar hydraulic structure into a watercourse or surface water drainage system. Detention basins are dry outside of storm periods. They are designed to retain flood events, reducing peak flows and limiting the risk of flooding.

- Swales

Swales are linear grass covered depressions which lead surface water overland from the drained surface to a storage or discharge system, typically using road verges. Unlike a conventional ditch, a swale is shallow and relatively wide. It provides temporary storage for storm water and reduces peak flows. A swale is dry during dry weather but in wet weather, rainwater flows into it along its length and moves slowly through the grass area.



# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Ask students to list some of the things we need clean water for and what would happen if we didn't have access to clean water - would we still be able to carry out those tasks/would we have to change how we do things? Then explain to the students that not everyone has access to clean water.

## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Ask students to place a large measuring jug/bowl under their shower at home and turn the shower on. After one minute, turn the shower off and measure how much water is in the jug. Back in the classroom, ask students to multiply this number by the number of minutes they shower for. Compare these values among the class, plot them on a graph and ask students to think about ways to save water.
- Explain how water differs from between countries and even within countries e.g. in the UK some areas have hard water and some have soft water. Explain that this is due to the presence of different minerals. Carry out an experiment, asking students to see how long it takes for sugar, salt, and sand to dissolve in water.
- Introduce students to the water cycle by drawing the different stages onto a ziplock bag, fill the bottom of the bag with water and tape the bag to a window. Make observations over the next few days and watch the water cycle in action.

Curriculum links for key stages 1 and 2:

- Science: Working scientifically.
- Science: Properties and change of materials.
- Mathematics: Statistics.
- Geography: human and physical geography.

## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Ask students to research drought resistant plants and then design a small garden using these plants.
- Show students how to read a water meter, ask them to record the readings every morning and afternoon for a week to calculate the schools' daily and weekly water consumption. You could team up with another local school to compare the two.
- Investigate the reasons why water might cause conflict and why dams aren't always the solution.

## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3 and:

- Ask students to research the Grand Renaissance Dam in Ethiopia and its advantages and disadvantages. Split the class into small groups and give each group a stakeholder to represent e.g. the Ethiopian Government, the Egyptian Government, farmers in Ethiopia, an environmental charity worried about the impact on wildlife, and a community who will be displaced. Ask the class to then debate whether construction of the dam should go ahead.

Curriculum links for key stages 3 and 4:

- Science, Chemistry: Earth and atmospheric science.
- Geography: human and physical geography.
- Art and design.
- Mathematics: statistics.



# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

The checklist below is for your own reference, to keep track of your school's journey. But we'd also like to know how useful this section of the toolkit has been for you, please [complete a short quiz](#).

Water Efficiency	Implemented	Underway	Take Action
Take regular meter readings and compare your consumption to help you identify any leaks.			
Take a walk round your school to check for dripping taps or WC cistern overflows.			
Use signs and posters to raise awareness of water efficiency around school.			
Install water saving equipment like push or spray taps, low flush toilets, and waterless urinals.			
Consider the opportunities for a water butt to provide water for gardening activities.			
Ensure staff and students are are aware the surface drains are only designed for rainwater, even pouring non-harmful liquids down may cause harm to wildlife.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)

# Case Studies

## St Andrews High School

A site-wide water efficiency audit was conducted in December 2013 at St Andrews High School. A bespoke water efficiency action plan was created outlining several areas where water efficiency could be improved in the school grounds.

By late January 2014 the water efficiency action plan had been implemented in full and led to an estimated **64% reduction** in projected annual water consumption, saving **£32,021** per annum.



## Beaumont Primary School

The school has a built-in system to harvest rainwater. This collects water from the roof and stores it in an underground tank. The water is then pumped into the school where it is used to flush toilets and urinals, and to water the garden.

The building management system monitors the water, automatically collecting data on the use of mains water and rainwater. It also monitors any mains water top-up used during dry periods. In the first year, the school used a 170m<sup>3</sup> of water, of which 37% was harvested rainwater. This equates to an annual figure of 1.66 m<sup>3</sup> per pupil.

Key to success was teaching staff and children how to use water wisely. A colour information display screen in the school entrance shows the school's water use in tabular and graphical forms. Teachers use this information in maths and science lessons as a 'real life' example of data collection.





# Support

## How can Groundwork help?

We are always looking at developing new projects to help schools become more efficient, so if you have an idea for a project, or would like support implementing any of the opportunities mentioned, please do contact us to see how we can help.

## Resources

Anglian Water - have a range of free teaching resources on their website. They also have educational centres for schools to book school trips to.

Waterwise - also have free teaching resources available and tips for saving water.

Wateraid - is a global charity working to provide access to clean water for all. They have a range of teaching resources on their website and can arrange a speaker to visit your school.



For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)





## > Biodiversity

School grounds represent a significant land area where there is enormous potential to create, protect and restore habitats. They also offer the chance to improve land management practices to provide food, shelter and nest sites for a diverse range of pollinating insects.

Many schools are already creating these spaces in order to improve the biodiversity of their school grounds and establish opportunities for education about the natural environment.

### How can your school benefit from biodiversity?

- There are physical health benefits from contact with nature and natural play, including reducing the effects of childhood obesity, and improving mental health and emotional well-being.
- Improving school grounds influences children's values and attitudes towards the wider environment. It will also raise environmental awareness in the local community.
- Carefully-planned school grounds offer lots of exciting learning opportunities and help to bring a range of topics to life in a way that would be difficult or impossible to achieve in an indoor classroom.



# Opportunities

## Wildlife Gardens

Creating a wildlife garden will be truly rewarding when the birds and insects come rushing in. It may be as simple as cordoning off an area of the school field and leaving it to get growing, mowing a few paths through the middle to allow access for intrepid bug hunters. However, if you want to get more involved with your local creatures, you could also include ponds, wildflower meadows, and a weather station.

## Hedges, Trees and Shrubs

Plant native species of trees, shrubs and hedgerows. These will help to attract a wide range of insects, birds and small mammals that feed on them. Choose species with berries or nectar rich flowers (rowan or guelder rose), and that are characteristic of local semi-natural habitats (birch, oak, ash, alder, elm and willow). Plant shrubs closely together in groups or as a hedge to provide living space and food for all sorts of wildlife. Native choices include Hawthorn, Blackthorn, Wild rose, Holly, Hazel and Elder.



## Bird and Bat Boxes

With bird and bat populations decreasing, making bird and bat boxes is an excellent idea to help our flying friends live and breed. January and February are the ideal times to build the box and use in the spring. Make sure the boxes don't face the sun and are not exposed to the rain.

## Bug Hotels

Insects and other minibeasts need safe spaces to shelter, hide from predators and raise their young. Building your own bug hotel will provide this shelter and they can be as small or as large as you like. Bricks, wooden boxes or pallets make a good outer structure which is then be filled with dry leaves, twigs, hollow stems, dead grass, pine cones and bits of bark.

## Bird and Butterfly Feeders

By providing food for birds and other animals you will help to attract them to your grounds where they will be watched and studied. Different birds eat different foods in different ways and different places. Provide nuts, seeds, fat and kitchen scraps in feeders, trays and on the ground to allow for the various diets and feeding methods of many species particularly in Winter. Move feeding places occasionally to guard against predators, disease and unwelcome visitors such as rats.



# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Organise a bug hunt. Take students to different areas within the school grounds and count how many bugs they find in each area. Discuss which habitats bugs like most and why.
- Ask students to create a collage using natural materials such as leaves and small twigs.
- Ask students to choose one minibeast and investigate what food they like to eat, what type of habitat they like etc. This could be done by asking students to take on the role of news reporters and report the findings of their investigation back to the class.

## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Make a poster explaining why we shouldn't pick flowers from our local parks or woodlands.
- Provide students with a map of the school grounds (an aerial image from Google will do, or ask students to draw their own) and ask them to walk round the school grounds, marking all the different types of habitats they find. When back in the classroom, ask the students to review their maps and identify any areas for improvement.

Curriculum links for key stages 1 and 2:

- Science: Living things and their habitats.
- Art and design.
- Design and technology.
- English: writing.
- Geography: skills and fieldwork.



## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Split the class into two groups and debate the re-introduction of species into the environment.
- Ask students to research a particular ecosystem e.g. boreal forest, tundra, lake, urban and how species are adapted to living there.

## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3 and:

- Research some of the laws and regulations in place to protect wildlife and biodiversity in the UK and how they compare LEDCs like Brazil
- Discuss how humans affect biodiversity and debate whether projects like HS2 should go ahead, given its impact on UK wildlife and biodiversity.

Curriculum links for key stages 3 and 4:

- Science: Ecosystems.





# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

The checklist below is for your own reference, to keep track of your school's journey. But we'd also like to know how useful this section of the toolkit has been for you, please [complete a short quiz](#).

Biodiversity	Implemented	Underway	Take Action
Consider opportunities to leave 'wild' areas around your site, as unmown areas will provide food and shelter for a range of wildlife.			
Bird and bat boxes installed around your school will also support biodiversity.			
Establishing outside eating areas will allow staff and students to 'connect with nature' which will increase productivity and improve wellbeing.			
Ensure staff and students are aware the surface drains are only designed for rainwater, even pouring non-harmful liquids down may cause harm to wildlife.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)

# Case Studies

## Cranbourne Primary School

Cranbourne Primary School had a grass mound amphitheatre in their grounds which was largely unused. The school asked Groundwork to design a space that could be used a multi-functional facility within the scope of the national curriculum.

Groundwork's team of expert landscape architects took this brief and designed an outdoor space that featured:

- A gravel herb garden
- 'No mowing' areas
- Willow tunnel
- Stepping stones made from various materials including grass and pebbles
- Sensory planting throughout

Once the project had been complete, Groundwork Project Officers ran sessions with staff and students showing them how to make the most of their new outside space.



## River Ver Junior River Wardens

The River Ver is an important habitat for wildlife within St Albans but at present the water levels are very low. This is having a major effect on the wildlife. To help boost the health of the river, Groundwork is working with schools and youth groups in St. Albans to train their students as Junior River Wardens (JRW).

The schools involved are:

- Maple Primary Fleetville Junior School
- Aboyne Lodge School
- St. Peter's Primary School
- 4th St. Albans Scout groups

As JRWs, children learnt how to undertake river monitoring, whilst looking for a variety of geographical changes, conducting chemical tests, and spotting wildlife. They learnt how the measurements they take impact the river, what the changes in these measurements tells us about the river, and what they can do to help the readings improve.

# Support

## How can Groundwork help?

Groundwork is able to offer a wide range of environmental support services to help schools and students engage with biodiversity and improve their outdoor spaces. The services detailed below are just examples of previous work we've done with schools, and are by no means our limit. Many schools choose to complement our landscape services with teacher training to maximise the opportunities but we will create a bespoke support package that meets your needs and expectations. Please note, we may charge for our services but where possible, we will seek to use external funding, or we can help you fundraise.

## Landscape services

Groundwork has an experienced team of landscape architects that will turn your ideas and proposals into well designed attractive spaces that meet the needs of the school.

## Teacher Training

Teacher training - our experienced Environmental Education Officers, design and deliver courses to inspire teachers to take curriculum learning outdoors and develop confidence in using school grounds and local outdoor spaces to teach all key stages. Courses cover the benefits and risks of using the outdoors as a learning environment and include a range of hands-on practical activities as well as signposting to a range of useful resources for learning outdoors.

## Laing Services

Laing services - through funding from the John Laing Charitable Trust, Groundwork East is offering schools in your area help to improve your grounds and support your staff to provide sessions for students around growing, outdoor play, and wildlife exploration. Your school can access a range of support from a Groundwork, including help to:

- Identify improvements that could be made to your outdoor area / unused space
- Prepare a design for your outside area
- Commission Groundwork's Practical Implementation Team to complete the works
- Train/upskill your teachers and support staff to run outdoor sessions that meet curriculum needs
- Run themed outdoor educational workshops with students
- Fundraise successfully – tips and guides on where to access, and how to bid for, funding.

## River Wardens

Groundwork's Junior River Wardens project educates school students on the importance of maintaining the health of their local river and what they can do to preserve it.

## Resources

Suffolk Wildlife Trust - the Trust manage nature reserves across the county and have a team of wild learning officers to help children get closer to nature. You can also arrange school trips to one of their outdoor learning locations.

RSPB - the RSPB has a variety of resources available. It also runs the Wild Challenge which supports school-based learning. It enables students to apply curriculum knowledge and skills, as well as helping children to connect with and learn about nature. There are bronze, silver and gold awards to achieve. School trips to their reserves can also be arranged.

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)





## > Sustainable Procurement

All procurement decisions will have some impact on sustainable development. A good procurement decision is one that evaluates these impacts in the same way that other procurement factors are evaluated. Initial cost, quality, durability, running costs, management, and disposal issues need to be assessed, and will all influence the final procurement decision.

42% of carbon emissions from the schools sector come from procurement – the day-to-day buying choices and decisions made by each school. This is nearly 1% of total carbon emissions in the UK.

Sustainable procurement considers the environmental aspects, potential impacts and costs, associated with the life cycle assessment of goods and services being acquired.

### How will your school benefit from sustainable procurement?

- Financial savings can be achieved when considering whole-life costing. For example, a higher initial investment could reduce the need for maintenance and lower operational and disposal costs.
- Encouraging supplies to be sourced locally reduces the emissions associated with transportation and improves the local economy and employment.
- Communicating the principles of sustainable procurement to staff and students will help them make more sustainable choices when buying goods for personal use.



# Opportunities

## Sustainable Procurement Policy

A sustainable procurement policy signals the buy-in, the ambition and the intentions of an organisation. It also provides a mandate for action by budget holders as well as procurement practitioners and will also help to motivate staff, raise awareness and the profile of the benefits associated with procuring sustainably. Externally, it promotes co-operation and dialogue with staff, students, the wider community, and the supply chain, and influences the market to develop more sustainable products and services.

The following provides examples of criteria to consider when determining potential environmental and social impacts of goods, services and works:

Environmental factors:

- **Fit for the purpose and provide value for money**  
Ensure that the product you are considering does the job you want it to do for all potential users, including groups with specialist needs where appropriate.
- **Biodegradability**  
Some products, particularly in cafeterias, may be suitable for composting. Where this is the case, ensure that the materials will break down speedily and safely.
- **Design for disassembly**  
When products are made up of thousands of different types of materials, particularly plastics and metals, it helps if they are designed to be easily taken apart or disassembled so that the materials can be recycled. This is particularly relevant to electronic products such as computers and printers.
- **Minimum use of virgin and non-renewable materials**  
Wherever possible, the use of recycled or re-used materials should be encouraged, as these generally have a much lower impact on the environment. Examples include computer processor cases and buying recycled paper.
- **Resource, energy and water efficiency**  
Running costs are often overlooked when procuring products. Seek equipment that is energy efficient, such as Energy Star rated products. Also check that your product does not have a 'knock-on' effect of using more resources, e.g. specifying paper towels over hand-driers may increase the volume of paper you dispose of, which also has a cost.
- **Fault controls to prevent unnecessary waste**  
When specifying plant equipment, such as boilers, ensure that you specify metering and monitoring equipment. Whilst it might increase acquisition costs it will alert you to inefficient use and enable you to reduce running costs, spills or waste problems.

# Opportunities

- **Maximum durability, can the produce be repaired, reused, or recycled easily?**  
Seek long-life products, that will survive being mistreated, that can be repaired, reused and ultimately recycled. Importantly, seek products that enable you to upgrade them and improve performance over time rather than having to buy new equipment to do the same job.
- **Minimum packaging**  
Most products are bought with excessive levels of packaging, either to add cosmetic value, or to enable the product to survive poor handling. Packaging has to be disposed of once it has performed its task, and in most cases the cost of disposal falls to the customer, not the supplier.
- **Maximum use of post-consumer materials**  
There are many grades of recycled materials. Where possible seek materials that have been used once and are being reused to perform a repeat or new function, rather than materials that have been reused from a manufacturing process waste which has never been used by the consumer. An example of this is buying recycled paper.
- **No (or reduced) polluting with minimum use of toxic chemicals, CFCs, ozone and other pollutants.**  
Not only do these products help reduce your environmental impact, but choosing low-polluting alternatives often means you avoid lengthy COSHH assessments and training, e.g. cleaning staff or lab technicians.



## Social factors:

- **Local production**  
Sourcing your purchases from local suppliers means that the economic benefits will be felt in the communities in which you live and work. This inward investment will help ensure the ongoing economic sustainability of your local area through job creation. For vegetables, could your school create a vegetable patch and grow your own?
- **Ethically sourced**  
You should seek to ensure that the products you buy are not exploiting child labour, or labour and economies in the developing world and that you meet recognised fair trade standards wherever possible.



# In the classroom

## Key Stage 1

Activity ideas for students in key stage 1:

- Show students different food products and using a world map, ask students to guess where they've come from.
- Ask students to bring in an item of clothing (or use something in their PE kit), find out where the item was made, and show them where their clothes were made.

## Key Stage 2

Activity ideas for students in key stage 2 are as above for KS1 and:

- Look at different sustainability schemes e.g. Fairtrade, Red Tractor, or FSC and what the advantages and disadvantages of these are.

Curriculum links for key stages 1 and 2:

- Geography: locational knowledge.



## Key Stage 3

Activity ideas for students in key stage 3 are as above for KS2 and:

- Research which fruits and vegetables are in season when, and design a school dinner menu for winter and for summer. Students can also make seasonal meals in food technology classes.

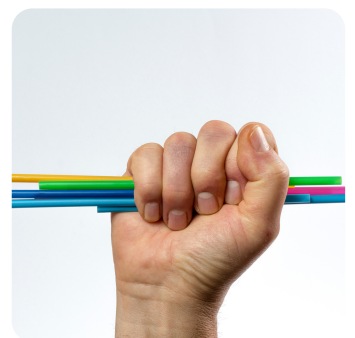
## Key Stage 4

Activity ideas for students in key stage 4 are as above for KS3 and:

- Ask students to carry out an audit of the schools' goods and services, then ask them to choose one item e.g. single use plastic in the canteen, and identify a suitable alternative that is more sustainable. Ask them to carry out a cost benefit analysis and prepare a business case for switching to the more sustainable option. Students may then present their findings to the relevant staff member(s).

Curriculum links for key stages 3 and 4:

- Cooking and nutrition.
- English: Speaking and writing.
- Mathematics: solve problems.



# Taking Action Checklist

To help you get started, we've devised a handy checklist with a series of recommendations ranging from basic to more advanced. Every school is at a different stage when it comes to improving environmental performance so some of the recommendations may seem too advanced for where you are, or you may have already implemented some of the recommendations. By assigning 'Implemented', 'Underway' or 'Take Action' to each recommendation, the checklist should allow you to assess your schools progress and highlight areas for for improvement.

The checklist below is for your own reference, to keep track of your school's journey. But we'd also like to know how useful this section of the toolkit has been for you, please [complete a short quiz](#).

Sustainable Procurement	Implemented	Underway	Take Action
Develop a sustainable procurement policy.			
Communicate your policy to staff, and key suppliers.			
Offer staff basic training in green procurement principles.			
Engage with your suppliers to minimise waste in your supply chain and identify more sustainable products with less packaging and a longer life expectancy.			
Bulk buy and refill where possible to reduce packaging waste (e.g. food, soap, cleaning products etc.).			
Identify a Sustainable Procurement Champion. This should be a senior figure that will influence decision making.			

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)



# Case Studies

## Thomas' London Day School

Thomas' London Day School operates across four different locations in London and have recently placed sustainability at the top of their agenda.

Some of the sustainable procurement decisions they've made include:

- Switching to a supply of plant-based cleaning products which they order more of so that deliveries are reduced.
- The school previously supplied students with a 330ml plastic bottle of water daily, they have now stopped providing these, instead asking parents to provide their child a reuseable water bottle.
- Disposable products are now made from recyclable or compostable materials.
- Yogurts used to be served in individual cartons, the school now buys yogurt in 5 gallon containers which is decanted into food bowls.
- The school menu now has changed where one day a week is now meat-free, This has saved the schools around 200kg meat per week.



## Birchwood Primary School



Birchwood Primary School have renewed their Eco Schools status for a 7th time and as part of their commitment, the school tries at all times to use local companies for work carried out at school. For example, the School purchased two recycled plastic picnic benches from a local organisation that employs adults with learning disabilities.

The school also grow their own fruit and veg to help children understand where their food comes from. Cookery club also include seasonal produce in their recipes; they include apple muffins, stir fry and harvest soup.

# Support

## How can Groundwork help?

Groundwork is able to offer a wide range of environmental support services to help schools and students engage with the principles of sustainable procurement. The services detailed below are just examples of previous work we've done with schools, and are by no means our limit. Please note, we may charge for our services but where possible, we will seek to use external funding, or we can help you fundraise.

## Veg Fest

Veg Fest supports schools to set up growing areas and gardening clubs that teach children about where food comes from and how to grow it. The project is run as an inter-schools competition, culminating in a fun vegetable festival competition, complete with judging panel. It's a 'country show' style celebration event run by Groundwork staff. At this finale, held at the end of the summer term, each school will be invited to create a display stall to show off its produce, and prizes will be given out for various categories. During the project, Groundwork provide the following:

- Growing beds built in school grounds if needed
- Compost, seeds, etc.
- Support from trained staff to establish weekly after-school growing clubs at each school for 15-20 pupils
- At selected schools, an assembly to encourage participation
- Training for teachers / teaching assistants, local volunteers and parents who want to take part in the project

## Resources

Sustainability and Environmental Education (SEEd) - is a charity that aims to empower, facilitate and catalyse the learning required to live sustainably. They also have a range of resources available on their website.

Eco Schools - is a global educational programme empowering children to drive change and improve their environmental awareness through the simple Seven-Step framework in order to achieve the international Eco-Schools Green Flag.

Lets Go Zero Carbon - this is a national campaign bringing together UK schools who want to be zero carbon, and supporting them.

For more information, please fill in an [enquiry form online](#), or email [east@groundwork.org.uk](mailto:east@groundwork.org.uk)



# Get in touch

If you need some more advice, or you'd like to tell us how your school is getting on, get in touch on the details below.



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