# TEACHER'S PACK PICK AND MIX

# KEY STAGE 2

## Renewable Energy and Energy Saving

An introductory tour of the site looking at some of the ways we aim to reduce carbon emissions, save energy and use eco friendly building materials. Pupils will see photovoltaic panels, learn about the biomass boiler, discover what low embodied energy means for a building and see inside a tipi and a yurt. We will also visit the wood workshop, the straw bale shower block, wet system and compost toilet! Great if you have an eco-schools group or for a whole class experience to introduce the topic of sustainability. This is good as an overview of the site before starting the hands on activities. There are lots of thought provoking things for pupils to think about and the tour can be can be adapted to suit many topics and all KS2 visits as it can be offered as a discover trail as well as tutor led activity.

Post visit activities could include designing an eco building or planning an eco town based on some of the ideas used on site (1-1.5 hours)

**Human and physical geography KS2**

- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Design and technology KS2**

- investigate and analyse a range of existing products,
- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups

# Eco Buildings

Pupils will have a go at building using some eco - friendly buildings materials that have been used in developing countries or can be applied to projects in school or in the community. Pupils work with clay and sand, with sand bags, with willow and mini shingles to understand how an earth oven is built, how a sandbag arch can be made to carry their weight and how shingles are applied to a roof for maximum waterproofing. With potential applications explained this is a chance to get really hands on and get a feel for the materials. Pupil's will learn that they can handle materials effectively, working in groups and gain knowledge of simple eco-building processes. A design activity can be included to link the tour with the hands on activity and help to focus ideas for sustainable community buildings.

Post visit activities could include building model eco houses to include some of the features seen on site. Ideal for years 5 and 6 but year 4 can also enjoy the activities as part of a school eco topic Allow (1.5 – 2 hours)

**Human and physical geography KS2** ▪ human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Design and technology KS2** ▪ investigate and analyse a range of existing products**,** ▪ use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups**,** ▪ apply their understanding of how to strengthen, stiffen and reinforce more complex structures

# Farming, Food and Seasonality

Pupils go on an exciting and informative safari on a trailer towed by tractor across Lower Farm lands. Local farmer George Atkinson will engage pupils with many aspects of farm life. Depending on the seasons pupils will see crops and animals and learn how George manages his farm with respect for the environment. (Spring is a great time for younger children to see lambing). Pupils are out and about for two hours with George who is great at relating to young people of all ages. This is an exciting adventure especially for pupils who are not familiar with the countryside.Adaptable for all KS2 this activity aims to familiarize pupils with a farmer's work and illustrate medium scale mixed farming in Britain. (2 hours)

Back at the Centre optional classroom activities allow pupils to match raw foods to their packaged finished product and to choose a healthy meal from cards with organic, local products and supermarket options. Considering food miles and Fairtrade, GM crops and organic farming pupil's can place their experience on the farm in a more global context. Can we afford to or do we choose to take these options? Classroom activities are most suitable for years 5 and 6 but the tour can be enjoyed by all KS2 pupils. (1.5 hours)

Allow a full day to cover both farming activity programmes and a half day for the farm safari by itself. Pre and post visit study could focus on seasonality and nutrition

**Design and technology KS2** ▪ understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed

**Science KS2** ▪ identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

**Human and physical geography KS2** ▪ human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

## Wood for Good



Pupils will discover how important forests are globally and locally. There will be a short classroom session with artefacts and pictures to show some of the very diverse products people make from wood and what products we harvest from forested areas of the world., We will look at a globe and identify biomes and vegetation belts and then head out into our native mixed deciduous woods to explore first hand. Pupils will focus their senses on collecting and experiencing the textures, colours and sounds around them. They can compare their findings from our woodland with their expectations of

what would be found in a rainforest. Continuing outside pupils will go on a discovery trail to collect and sort rainforest fact cards to help them to consider how important the world's forests really are. The concerns they will look at range from increase in carbon dioxide levels to habitat loss and the silting up of rivers and include more immediate human concerns such as looking after tribal peoples rights.

In the afternoon with plenty of hands on crafts pupils can have a go at shingling a miniature roof in small groups, make their own elder beads and weave a section of willow hurdle. Pupils will learn that we need to give value to our woodlands in Britain and find wise uses for our native trees that enhance rather than destroy our forests.

Most suitable to years 4, 5 and 6. There are lots of examples on site of traditional woodland crafts, there are experts to meet and a chance to find out how our woodland is managed for biodiversity on this popular site. Post visit studies might include locating woodland areas near your school or researching global rainforests. (Allow a whole day in the woods)

**Human and physical geography KS2**

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle,
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Design and technology KS2**

- investigate and analyse a range of existing products,
- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups,
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures

## Forest Skills

Getting hands - on as a class in the natural environment is one of the keys to learning respect for the world around us and can also introduce a greater sense of belonging and of self esteem. Pupils will be guided by our Forest School trained leaders through some classic bush craft tasks which may include shelter building, fire lighting, tracking and craft activities such as chalk carving and clay tree spirits. Where possible our shelter will be our beautiful woodland classroom and the woods themselves. Suitable for all KS2 learners we can only work with one class during the day to ensure that

pupils get the most from their experience. The smaller the group the more focused the activities can be. There are opportunities for pupils to develop their group skills and their individual skills.

We can also work with small groups over a longer period of time.

Many of the '**Learning Outside the Classroom'** expectations are met during the Forest Skills day. Focused practical tasks cover a broad range of design technology, science, history and art topics and can be adapted to suit the school's needs

Forest Skills can act as an introduction to a full **Forest School** programme and will work well for visits where hands on woodland activities and outdoor study are the main focus of the trip

For further information go to the Forest Schools page of our website

## Waste and Worms



Pupils can enjoy using their observation skills on the rubbish trail in the woods and then add their finds to the bio- degrade time line. Pupils will learn how long familiar items take to break down in soil and in water. We will look at the process of composting and that we need Carbon, Nitrogen, Oxygen and Moisture to create ideal composting conditions for micro organisms to do their work. Examples of 5 different composting systems on site will be visited and pupils will learn some fascinating facts about worms and get close up to some live worms. Pupils will be encouraged to consider the difference between materials that compost and those that do not rapidly return to soil. Recycling is a great way of re-using these materials that do not naturally biodegrade and pupils will see some examples of ingenious recycled products.

Pre or post visit studies might include setting up a wormery at school or an experiment in the time objects take to rot once buried. Most suitable for years 3 and 4 (1.5 hours)

**Design & Technology KS2** ▪ investigate and analyse a range of existing products

**Science KS2**
▪ identify and name a variety of living things in their local and wider environment ▪ recognise that environments can change and that this can sometimes pose dangers to living things ▪ that soils are made from rocks and organic matter ▪ identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

# Water Conservation



Discover how much freshwater we have on the planet and how people in some countries struggle to collect water to drink. Hear the stories of lining up for water in a Calcutta slum and how drought causes problems for an Al Paso Farmer. Pupils will then carry out a hands on activity to find the water conservation measures in place on the Sustainability Centre site and then play the water collection game to get enough water to make tea for an Indian family in a Calcutta slum. Pupils can see that our position globally affects the amount of water we can access. They will use the site to explore their ideas about water usage and accessibility and find some answers to the question. Why are some countries short of water? Why are some people short of water? Pre or post visit studies might include organising water saving ideas and competitions at school. Most suitable for years 3 and 4 (1hour 30 mins)

**Human and physical geography KS2**

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle,
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Science KS2**

- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

**English KS2**

- participate in discussions about books that are read to them and those they can read for themselves, building on their own and others' ideas and challenging views courteously
- continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks

# Habitats and Food Chains



Groups of one class at a time will undertake a hands – on pond dip in the new purpose developed dipping pond and will also carry out a mini-beast hunt in the woods to explore and compare two habitats and consider the adaptations needed by the creatures they study. They will use classification keys, magnifiers and underwater cameras and will be encouraged to record their findings using worksheets or drawings and models. Most suitable for all KS2 with a range of study adapted to the different year groups.

Pupils will also look at examples of food chains and consider the fact that all living things need energy which derives from the sun. Getting out of the classroom they hunt for evidence of food chain activity in the grounds of the Centre in small groups and present their evidence showing the relationship of predators to prey. The consequences of reducing a link in the chain are considered as they sort cards and materials into order and play the food web game. How can we protect fragile habitats?

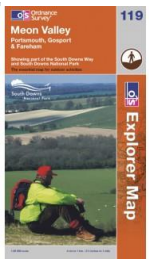
This can be a half day or a full day depending on the depth of study required and is a hands-on, outdoor activity that helps to reinforce classroom teaching. Pre visit classroom study could include use of scientific terms such as Primary and Secondary consumer, Predator and Prey, Photosynthesis and Inter-dependance.

**Science**

- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment,
- recognise that environments can change and that this can sometimes pose dangers to living things,
- construct and interpret a variety of food chains, identifying producers, predators and prey.

## Eco Exploration





This activity offers a chance to explore the local history of the Sustainability Centre site, use maps and consider the impact of human exploration locally and globally.

Pupils will have a chance to explore the location themselves by navigating their way around site in groups with their school leaders. They will discover how the land at the Centre has changed over the past 100 years and learn to relate this to human impact, resources and settlement on this ex naval site. Pupils will use a compass to set their ordnance survey map and practice 6 grid references and then use a simple map with symbols to undertake the explorer trail. This is a fun and challenging, hands on set of activities which is really focused on the many ways in which humans use the earth's resources and change the land. The history of the site covers the period of WW2.

A full day can be spent on this topic with a literature focus based on 2 Victorian Explorers and their contrasting regions (North Pole and Africa). In this longer version we will look at the motivation for exploration from Victorian missions to the present day exploration of space. Pre or post visit work might include map drawing and creative writing projects based on the sites history. Most suitable for years 5 and 6. (A half day or a whole day).

**History KS2** ▪ a local history study, ▪ a study of an aspect or theme in British History that extends pupil's chronological knowledge beyond 1066

**Human and physical geography KS2** ▪ human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Geographic skills and field work KS2** ▪ use the eight points of a compass, four and six figure grid references, symbols and key (including Ordnance Survey Maps)

**English KS2** ▪ participate in discussions about books that are read to them and those they can read for themselves, building on their own and others' ideas and challenging views courteously ▪ continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks

## Leave only Footprints – Saxons in the Meon Valley

This program focuses on Anglo Saxons life in the Meon Valley and current practices here at the Sustainability Centre. Children engage in a hands on challenge to build a sandbag arch similar to the rare arch in the Saxon church of nearby Corhampton. Other pupils might weave mini-hurdles with willow, while learning about coppiced woods used by Saxons to build homes and fences. Exploring the site's plants, herbs and 'hedges', a word derived from Anglo Saxon 'haga' meaning enclosure, we see how people then and now value biodiversity in the landscape. Finally pupils hear about the evidence left behind by Saxon settlements and consider what impact the buildings on our site have on the land and what evidence will be left for future generations.

(Allow 2 hours) This session can be extended into a whole Saxon themed day by including activities in our working woodland such as fire lighting and bread cooking, understanding natural burial in various cultures and time, or art work and clay pots.
Pre visit studies can include resources from http://www.saxonsinthemeonvalley.org.uk/ including the trailer film of The Meon valley: A journey of discovery

**History KS2** ▪ Anglo Saxon settlements, village life, art and culture

**Design & Technology KS2** ▪ understanding how key events and individuals in design and technology have helped shape the world

**Human and physical geography KS2** ▪ human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

## Sensory Discovery and Mini Art

This is a light and refreshing look at some of the natural areas of the site. Using a combination of the senses and imagination pupils are encouraged to look afresh at familiar objects. Ideal for preparing a sense of place, or for reinforcing a lasting sense of the site's natural beauty. We may create a story or a poem, collect the scents of nature in the herb garden and make fantastic potions to share or make twig and wool God's Eyes. There are plenty of creative options that can be tailored to suit the other activities chosen, making temporary sculptures in the woods, making tree spirits or working in teams on the scrap art challenge. Explore and cover some English and Art requirements outdoor and in.

Adaptable to all KS2 and can be used as part of a day that focuses on a science or geography topic. Post visit work might include environmental artists or woodland literature. (From 30 minutes to a whole day)

**Art KS2**

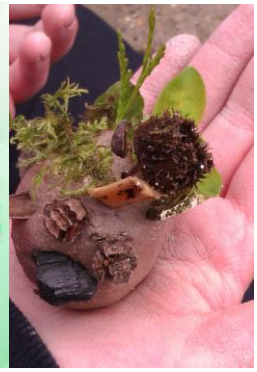
▪ improve their mastery of art and design techniques, including, drawing, painting and sculpture with a range of materials

**English KS2**

▪ preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action ▪ discussing words and phrases that capture the reader's interest and imagination

# KEY STAGE 1





## Exploring Materials and Change

Leaf buds in spring, flowers in summer, seeds in autumn, chalk, flint and soil year round ensure there are plenty of natural materials for pupils to handle in our outdoor setting. We will go out into the woods to collect, sort, identify and name materials and objects and then use our finds to make pictures, sculptures and art. Children are encouraged to learn the names of plants and their parts. We will handle man made materials in the classroom and sort them into recycle bins in an introduction to recycling. Finally by asking what will happen to our natural art in the weather outside we consider change, decay and recycling in nature. Pre or post visit work at school might include recycled and scrap art. (Allow a short day and bring lunch)

**Science KS1**

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify basic plants and their parts
- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock

**Art and Design KS1**

- to use a range of materials creatively
- to develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space

## Mini-beasts in their habitat



All living things need food, water and shelter. Let's get out and about to discover what lives in our herb garden, meadow, hedge or woodland. We look at camouflage with a a wooly worm game and take the opportunity to identify plants and animals, their parts and life stages while hunting for a range of mini-beasts. Pupils can build mini-beast shelters and make mini-beasts out of clay. We will explore habitats in different ways using our senses to discover colour, scent, sound and texture. We care about all our creatures on site and try to help by providing healthy habitats. Post visit work might include a healthy habitat survey at your school (Allow a short day and bring lunch)

**Science KS1**

- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including micro-habitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

## Where is Katie Caterpillar?

Sammy Snail has lost his friend Katie Caterpillar and your children set out to discover where she is. A fun way to learn about Katie caterpillar's life cycle using songs and outdoor activities, including a min-beast hunt in the woods and creating with clay. We follow the story to Katie's chrysalis and see what unfolds. Enjoy discovering Katie and her friends here at the Sustainability Centre.

Suitable for Reception children (Allow a short day and bring lunch)

Science: Find out about the different kinds of plants and animals in the local environment

For more information contact Janet Hammerton on education@sustainability-centre.org
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