Name of session	**Earth Care**		
	Level: Key stage 2	Length of session: 2 hrs (half day)	Available at: Sutton Ecology centre & at your school

Curriculum Links

Science

Properties and changes of materials

Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible.

Design and Technology

Make

Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Geography

The impact humans have had, and will have in the future, on the local and global environment. This topic can link to the finite nature of many resources, the impact of mineral extraction and energy production

Previous knowledge expected from students	Key concepts/key words
To understand that materials are made from different sources and	Reduce, Re-use, Recycle, Landfill, materials, resources, paper, glass, plastic, metal, compost

Learning objectives

To learn that everyday objects are made from different materials and which resources materials are made from: paper and cardboard from trees; plastic from oil; metal from metal ore; glass from sand
To learn that we don't have to throw rubbish in the bin, it can be Recycled, Re-used or Reduced, and what each of these terms means.
To be able to distinguish which materials can be recycled and which can't.
To learn that materials can be changed and recycled into new things, such as recycling paper.
To understand how composting works as a type of recycling and how this compares to what happens in a landfill site.
To be able to use appropriate materials to make model form 'junk'.

Outcomes

Pupils will be able to suggest alternatives to throwing rubbish in the bin, i.e. recycle it, re-use it or not use it in the first place.
Pupils will have sorted everyday objects into what can and cannot be recycled.
Pupils will have observed how composting works and placed everyday objects on a degrading timeline in relation to a landfill site.
Pupils will all make a piece of recycled paper from paper pulp.
Pupils will have selected appropriate junk materials and made a model of a recycling robot or a minibeast.

Introduction (20 mins)

Welcome, and introductions.
Talking Rubbish: looking at some everyday objects we throw away, what materials are they made from and which resources do they come from. What will happen eventually, if we keep using all our resources? This leads on to a discussion of the three R's: Reduce, Reuse and Recycle.

Main Activities

Timings	Student Activity
15mins	**Recycling Relay Race Game** In teams, pupils sort a bag of rubbish into what can and cannot be recycled at home/the local area.
10mins	**Nature's Recycling** Visit to the compost bays at the Ecology Centre and discovering how composting happens.
15mins	**Degrading Timeline**

45mins	What happens to rubbish that isn't recycled? It goes into Landfill sites. Pupils are shown a pictre of a landfill site. Then some pictures of everday objects that end up in the landfill site. They have to place these on a timeline from a few weeks to a million years as to how loing they think they take to degrage in the landfill site. **Paper making** Using paper pulp and paper making equipment, each pupil makes a piece of recycled paper to take back to school to dry. **Junk modelling** Using a variety of different junk, pupils can choose to make a 'recycling robot' or 'invent a minibeast'.

Plenary (15mins)

What can we do at home or school? Is anyone going to do anything different?
Wash hands and prepare to leave.

Extension work

Improving your junk model.

Pre-course preparation work suggestions

Research homework suggestion: find out three reasons why it is important to recycle (ask adults at home for ideas) - draw 5 items that go in to the rubbish bin and 5 items that can be recycled. This provides the teacher with information on what they already know. Also, collect junk to make a class mascot to remind the children to recycle.

Further Work (post course) suggestions

Design and create a 3 R's poster for school.
Visit your local recycling plant/ landfill site.
Do a waste audit at school, weigh what is thrown away, and how much could be recycled?
Write formal letters: thank you letters, which activities did you like, which did you not?
Evaluate each others junk models.

Alternatives (field sites and wet weather)

This session is not translatable inside, and therefore will go ahead in wet weather.
The introduction and plenary can be done inside if the weather is wet or too cold/windy.
The session will be cancelled only due to severe weather warning such as flooding, high winds and stormy weather.

Opportunities for evaluation

Teacher evaluation: Photograph pupils in action for evidence, observation throughout the session, assess understanding post session through activities and questioning. By providing appropriate level of adult/child ration to ensure pupils are kept 'on task'.

Leader evaluation: The session leader will assess progress throughout the day by open ended Questioning and plenary session. Through observation, the session leader will ensure that all pupils are engaged in learning and complete the tasks required.

Resources

Selection of everyday objects.
Recycling relay Race game: bins, bags of clean rubbish
Landfill timeline, picture of landfill, picture of objects in landfill
Paper pulp, paper-making frames, j-cloths, sponges, labels, pencils.
Selection of junk for junk modelling, scissors, string, glue.

Key H&S

Sutton Ecology Centre provide one Education Officer for your group. Schools must provide a suitable number of adults to ensure pupils safety and engagement in the tasks.
Dress and prepare for the outdoors. Long trousers due to tall grass, brambles and nettles.
Sensible footwear in all weather conditions.
Waterproofs in wet weather. Sunhats, suntan lotion and water bottles in hot sunny weather.
All pupils and teachers should wash their hands prior to leaving the site or eating.
Teachers should arrange a pre-visit to discuss specific health & safety requirements to generate their own risk assessments.
Course leaders: Site check and dangerous litter pick. Health & Safety talks when appropriate.