



Learning opportunities

The **Little Inventors Pioneers Energy Challenge** provides great opportunities for children to develop their creative and problem-solving skills while exploring the role of energy in climate change and using inventing to think about ways to generate, store, save or stop wasting energy.

Learning objectives

- To understand that inventions are all around us, that invention is a way to create solutions to problems or challenges.
- To understand that energy production is a major contributor to climate change.
- To understand that energy is the capacity to do work and present whenever there is movement, action or life, in our bodies and everyday actions and objects.
- To understand that better solutions to create, use, store or stop wasting energy are essential to the future of the planet.
- To learn about the relationship between humans and energy throughout history and its future.
- To understand the production of carbon dioxide by human activity and the impact on climate.
- To learn about different non-renewable and renewable sources of energy.
- To identify potential problems/areas where an invention could be useful.
- To use art as a way to express their ideas.
- To make hypotheses and evaluate their invention ideas.
- To develop visual literacy.

Learning outcomes

- To generate ideas for inventions.
- To use drawing and artwork as a means to develop and express their ideas.
- To demonstrate an understanding of the challenges of using energy and its impact on the environment.
- To demonstrate understanding of natural materials and the processes to produce finished objects.
- To articulate and communicate their ideas in drawing, writing and speech for an audience, as well as plan and evaluate their writing.
- To start using scientific methodology through making predictions, planning and evaluating.



Curriculum fit

By promoting creative thinking and problem-solving skills, the Little Inventors Pioneers Energy Challenge offers many opportunities to link to several curriculum areas in elementary schools, in particular:

Science

Hypothesising, experimenting, evaluation based on results and drawing conclusions are all scientific skills which are key to science education. Participating in the challenge is a great way to invite your children to work and think scientifically in the context of sustainability and the future of scientific development.

Children will have opportunities to:

- observe the world around them
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates
- recognise that scientific ideas change and develop over time.
- recognise the need for scientific knowledge to understand the uses and implications of science, today and for the future.

Literacy

The Pioneers Energy Challenge offers children opportunities to:

- write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences
- use discussion in order to learn
- use technical and challenging vocabulary
- present their findings to a group/class

Art and design

The challenge fully supports the art and design curriculum by encouraging children to produce creative work and explore their ideas using drawing and design.

This resource offer children opportunities to:

- use drawing to develop and share their ideas, experiences and imagination
- develop their confidence in their own imagination and creativity
- develop techniques with creativity

Design and technology

Using creativity and imagination, the challenge allows children to think freely about objects that could solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Children learn how to become resourceful and innovative.



This resource offers children opportunities to:

- draw purposeful, appealing products for themselves and others
- develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals
- generate, develop, model and communicate ideas through annotated sketches

Social awareness

The challenge offers children opportunities to consider the world around them including

- what improves and harms their local, natural and built environments and develop strategies and skills needed to care for these
- living in harmony within their community and the wider world
- that they have responsibilities towards the environment