

Powering the future: South Tyneside and beyond!

Learning Opportunities and Curriculum Fit - Year 4

Learning Opportunities

Little Inventors provides great opportunities for students to develop their creative and problem solving skills.

Learning objectives

- To understand that inventions are all around us, that invention is a way to create solutions to problems or challenges.
- To identify potential problems or areas where an invention could help reduce the use of fossil fuels.
- Students will discuss topics around building a greener world.
- Investigate how they can create inventions for a better planet.
- To describe and evaluate their invention ideas.

Learning outcomes

- To understand the importance of energy and how it affects climate change.
- To articulate what energy is, why it matters, and understand human's relationship with energy through history.
- To identify better ways to make use, use or stop wasting energy.
- To be able to communicate ways in which people can take necessary action to improve the health of the planet.
- To articulate and communicate their ideas in drawing, writing and speech for an audience, as well as to plan and evaluate their writing.
- Expand skills in STEM learning.
- Understand fossil fuels, pollution and renewable energy.
- Articulate and communicate their ideas in drawing, writing and speech for an audience, as well as plan and evaluate their writing.
- Become innovative designers through use of a deliberate design process for generating ideas, testing theories or solving problems.

By promoting creative thinking and problem-solving skills, Little Inventors offers many opportunities to link to several curriculum areas with an integrated approach.

Science

Students can base their invention ideas on observations of the world around them that present opportunities for innovation. They can:

- Ask relevant questions and using different types of scientific enquiries to answer them
- Set up simple practical enquiries, comparative and fair tests
- Gather, record, classify and present data in a variety of ways to help in answering questions
- Record findings using simple scientific language, drawings and labelled diagrams.

- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Gather, record, classify and present data in a variety of ways to help in answering questions
- Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

English and Literacy

Students can write both descriptively and persuasively. They can plan and evaluate their writing and communicate their ideas in speech. They can:

- use language to represent their idea.
- 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
- elaborate and explain clearly their understanding and ideas.

Art and design

Students can produce creative work and explore their ideas using drawing, design and optionally craft. They can:

- use drawing to develop and share their ideas, experiences and imagination
- optionally, use a range of materials creatively to design and make products
- be exposed to the work of craft makers and designers.
- analyse and evaluate their own work, and that of others.

Design and technology

Students can use their observations and insights to design innovative, functional, appealing products aimed at particular individuals or groups in a variety of situations.

They can:

- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

