What are the curriculum highlights?

The process of students actively building, exploring, investigating, inquiring and communicating together develops a huge range of benefits. Here is an overview:

Science
Carrying out practical and investigative activities; testing ideas and explanations; obtaining, recording and analysing; and evaluating scientific evidence and working methods.

Design & Technology
Using appropriate strategies for planning and organising activities; solving technical problems; reflecting critically when evaluating and modifying design ideas and proposals to improve products; responding creatively to design briefs; developing own proposals and producing specifications for products testing prototypes for performance against a specification; evaluating; and assessing quality of construction and finish.

Mathematics
Making accurate mathematical diagrams, graphs and constructions on paper; estimating, approximating and checking work; recording methods, solutions and conclusions; forming convincing arguments based on findings and making general statements; making connections between the current situation and outcomes, and situations and outcomes they have already encountered; communicating findings effectively.

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Using the LEGO® Pneumatic set to meet the requirements of the program of study for design & technology

You can use the LEGO Pneumatic set to engage with the following key concepts for design & technology

Designing and making
- Applying knowledge of materials and production processes to design products and produce practical solutions that are relevant and fit for purpose.

Creativity
- Making links between principles of good design, existing solutions and technological knowledge to develop innovative products and processes.
- Reinterpreting and applying learning in new design contexts and communicating ideas in new or unexpected ways.
- Exploring and experimenting with ideas, materials, technologies and techniques.

Critical evaluation
- Analysing existing products and solutions to inform designing and making.
- Evaluating the needs of users and the context in which products are used to inform designing and making.
- Exploring the impact of ideas, design decisions and technological advances and how these provide opportunities for new design solutions.

You can use the LEGO Pneumatic set to engage with the following key processes for design & technology
- Generate, develop, model and communicate ideas in a range of ways, using appropriate strategies
- Respond creatively to briefs, developing their own proposals and producing specifications for products
- Apply their knowledge and understanding of a range of materials, ingredients and technologies to design and make their products
- Plan and organise activities and then shape, form, mix, assemble and finish materials, components or ingredients
- Solve technical problems
- Reflect critically when evaluating and modifying their ideas and proposals to improve products throughout their development and manufacture.

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You can use the LEGO® Pneumatic set to meet the requirements of the following range and content for design & technology in systems and control

- The practical application of systems and control in design proposals
- Electrical, electronic, mechanical including pneumatic, microprocessor and computer control systems and how to use them effectively
- Using systems and control to assemble subsystems into more complex systems

You can use the LEGO Pneumatic set to meets the following features of curriculum opportunities for design & technology

- Analyse products to learn how they function
- Undertake focused tasks that develop knowledge, skills and understanding in relation to design and make assignments
- Engage in design and make assignments in different and progressively more complex contexts, including for purposes and uses beyond the classroom
- Work individually and in teams, taking on different roles and responsibilities
- Make links between design and technology and other subjects and areas of the curriculum.

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Using the LEGO® Pneumatic set to meet the requirements of the program of study for science

You can use the LEGO Pneumatic set to engage with the following key concepts for science

Scientific thinking
- Using scientific ideas and models to explain phenomena and developing them creatively to generate and test theories.
- Critically analysing and evaluating evidence from observations and experiments

You can use the LEGO Pneumatic set to engage with the following key processes for science

Practical and enquiry skills
- Use a range of scientific methods and techniques to develop and test ideas and explanations
- Plan and carry out practical and investigative activities, both individually and in groups.

Critical understanding of evidence
- Obtain, record and analyse data from a wide range of primary and secondary sources, including ICT sources, and use their findings to provide evidence for scientific explanations
- Evaluate scientific evidence and working methods.

You can use the LEGO Pneumatic set to meet the requirements of the following range and content for science

In Energy, electricity and forces
- Forces are interactions between objects and can affect their shape and motion

In Chemical and material behaviour
- The particle model provides explanations for the different physical properties and behaviour of matter

You can use the LEGO Pneumatic set to meets the following features of curriculum opportunities for science
- Research, experiment, discuss and develop arguments
- Make links between science and other subjects and areas of the curriculum

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