

Scientix STEAM Partnership Lesson Plans

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Imagineering with lego: environmentally themed fairground attractions



Malahide Portmarnock Educate Together National School. <https://www.mpetns.com/>



1 hour x 4 Class: 6th Class Subjects: Visual Arts, Maths, SESE

Strands:

- Drawing
- Construction
- Algebra
- Shape and Space
- Data
- Measures
- Environmental Awareness and Care
- Living Things
- Energy and Forces

Learning outcomes: Students will:

- Work collaboratively to achieve a common goal.
- Brainstorm, design and build a functioning fairground attraction.
- Research an environmental, ecological or sustainability topic of their choosing.
- Effectively communicate their chosen topic in a creative and artistic manner.

Resources:

- Lego Spike Essentials kit (one per four children)
- Additional assorted Lego pieces
- Devices for research (iPad / Chromebook)
- Book Creator App
- Arts and Crafts materials as required



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Lesson 1: Introduction

- Students are introduced to the concept of imagineering through the website:
<https://4thclass.wixsite.com/website-1/imagineering435345623461>
- Students should identify how stories can be told through feats of engineering such as building a rollercoaster based on a movie.
- Students are then introduced to Lego Spike Essentials Kits and complete the unit titled Funfair (6 builds and associated coding to realise how the various components can be utilised to achieve different movements and effects).
- Group discussion: How could you tell an environmental story through some of the builds created during the lesson?

Lesson 2: Research

- Students choose an environmental, ecological or sustainability topic to base their project on (eg. Photosynthesis).
- Students are tasked with researching this topic and creating an eBook to tell 'the story' of the topic through Book Creator. Students can add photos, videos, audio recordings etc. to help tell their story in a multifaceted capacity.

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- Students should consider the colour scheme, imagery and major points within the process.
- Students can share their book with the rest of the class and present their topics as required.

Lesson 3: Design

- Students are now challenged with designing their own fair ground ride based around their topic. The ride could be a swing, a roller coaster, a slide etc.
- Students should consider the various actions available to them when coding the Lego pieces.
- Students should ensure that the colour scheme, imagery and major points of their topic are represented through their design.
- Students should produce a drawing of their final design with text indicating how the ride will function as well as how it will communicate their chosen topic.
- The completed drawing and text should be added to the Book Creator project of each student from Lesson 2.



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Lesson 4: Build

- Students are afforded one final hour to build their ride and add cosmetic or experiential elements to add to the aesthetics of their build. Additional arts and craft materials can be used.
- Students should continue to ensure that their build is functional while communicating their topic aesthetically and thematically.
- Completed builds can be demonstrated and a video recording can be made of the demonstrations. Once completed these videos can be added to the Book Creator project as a final step.

Assessment:

- Book Creator projects should be shared appropriately and made available for peer review and self-reflection.
- Students should reflect on their own experiences and record these in their Book Creator projects.

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