

P7 Goblin Racing Car Project 2016.



Group: P7 (ASG group)
Durness, Kinlochbervie, Scourie

Date: Jan- May 2016. 5 days: KLB High Sch.
26/1, 23/2, 22/3, 19/4, 31/5

Scottish Rally Alford:

CfE Experiences and Outcomes

I have looked at how friction, including air resistance, affects motion, and I can suggest ways to improve efficiency in moving objects.

I value the opportunities I am given to make friends and be part of a group in a range of situations.

I can work with others in setting up and running a business and in making choices relating to the different roles and responsibilities, and I have evaluated the success of the business.

I can apply what I know about science and mathematics, to make 3D objects which demonstrate strengthening, energy transfer and movement.

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Learning Intentions

Pupils will be learning how to:

- Develop and use problem-solving strategies, to meet design challenges with an engineering focus.
- Apply knowledge and skills of science and maths by engineering 3D objects which demonstrate strengthening, energy transfer and movement.
- Set up and run a business for fundraising, collaborating with their group to make choices relating to the different roles and responsibilities.
- Develop their social skills by working on a joint project with their peers.

Success Criteria

Pupils will be successful if they can:

- Explain how air resistance can slow down moving objects.
- Know how electrical circuits work and explain the transfer of energy taking place.
- Use a range of materials to construct a 3D working model.
- Demonstrate group communication skills: engage positively in the task, listen to others and speak in turns.

How children will show their learning

Pupils will keep a learning log of the five days. They will present the project to their schools explaining what they have built, how it works and how they have helped raise funds for the project.

Pupils will also be required to complete a before/after questionnaire about their attitude and interest in engineering.

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Aspects of the Four Capacities

<p>Successful learners</p> <p>Use literacy, communication and numeracy skills. Use technology for learning Think creatively and independently Learn independently and as part of a group Make reasoned evaluations Link and apply different kinds of learning to new situations.</p>	<p>Confident individuals</p> <p>Relate to others and manage themselves Pursue healthy and active lifestyles Be self-aware Develop and communicate their own beliefs and view of the world Live as independently as they can Assess risk and make informed decisions Achieve success in different areas of activity</p>
<p>Responsible citizens</p> <p>Develop knowledge and understanding of the world and Scotland's place in it.</p> <p>Understand different beliefs and cultures Make informed choices and decisions Evaluate environmental, scientific and technological issues Develop informed, ethical views of complex issues</p>	<p>Effective contributors</p> <p>Communicate in different ways and in different settings.</p> <p>Work in partnerships and teams Take initiative and lead. Apply critical thinking in new contexts Create and develop Solve problems</p>

Skills to be developed

Observing describing and recording	Interacting with others and developing an awareness of self and others	Developing reasoned and justified points of view
Comparing and contrasting to draw valid conclusions	Planning and reviewing investigation strategies	Developing and using maps
Exploring and evaluating different types of sources and evidence	Developing critical thinking by using information from a wide variety of sources	Interpreting and displaying graphical information
Development of curiosity and problem solving skills and capacity to take initiative	Discussion and informed debate	Awareness of sequence and chronology
Oral presentation skills	Written presentation skills	Multi media presentation skills