

## Chestnut Class

	Curriculum objectives	Activities	Resources
<b>Monday</b>	<p><b>Geography</b> Human Environments: <i>Living in the Local Community</i></p> <ul style="list-style-type: none"> <li>Discuss the work of people in the local community</li> <li>Become aware of buildings and places where people work</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with the children about jobs people do – parents’ jobs, people who help us in the community</li> <li>Take items from mystery bag and talk about what someone might use them for in their job (notepad, pencils, tools, hard hat). Try to guess whose bag it is.</li> <li>Explain that this week we are learning about <b>engineers</b>. Explain what an engineer is.</li> <li>Watch video clip explaining engineering.</li> <li>Prepare interview questions for engineer’s visit.</li> </ul> <p>Introducing engineering: (Click on the house at bottom right of box for engineering activities, explaining engineering, etc.  <a href="http://www.sesamestreet.org/parents/topicsandactivities/toolkits/stem#cd2143e4-8286-432e-81e8-83770bcbc37a">http://www.sesamestreet.org/parents/topicsandactivities/toolkits/stem#cd2143e4-8286-432e-81e8-83770bcbc37a</a></p> <p>James Marsden and Elmo explain engineering:  <a href="https://www.youtube.com/watch?v=3bPAGchXF4I">https://www.youtube.com/watch?v=3bPAGchXF4I</a></p>	Mystery bag, video clips, paper, pencils
<b>Tuesday</b>	<p><b>Science:</b> Living Things: <i>Myself</i></p> <ul style="list-style-type: none"> <li>Identify where humans get energy from – food</li> </ul> <p>Energy and Forces: <i>Forces</i></p> <ul style="list-style-type: none"> <li>Explore how objects may be moved</li> </ul>	<p>Guzzler Lesson 1:</p> <ul style="list-style-type: none"> <li>Show picture of person looking tired and discuss: What is wrong with them? How do they feel? Introduce word ‘energy’.</li> <li>Show other pictures, discuss whether people in pictures have high or low energy.</li> <li>Discuss times when we need lots of energy or little energy.</li> <li>Discuss times when we have lots of energy. Where</li> </ul>	Guzzler lesson plans, balls, worksheet, colours

	<ul style="list-style-type: none"> <li>Investigate how forces act on objects</li> </ul> <p>Look and respond to pictures of windmills. Discuss the wind and how it makes things move. Wind song.</p> <p>Art lesson: Design and make a kite</p>	<p>do we get our energy from?</p> <ul style="list-style-type: none"> <li>Simon Says: Do actions that require lots of energy, little energy.</li> </ul> <p>Guzzler lesson 2 and 3:</p> <ul style="list-style-type: none"> <li>Demo with basketball and tennis ball.</li> </ul> <p>Making things move:</p> <ul style="list-style-type: none"> <li>Discuss how we make things move – use classroom objects, toys.</li> <li>Talk about wind. Explain that scientists use wind to make things move. Show pictures, videos of windmills.</li> <li>Colour the picture – Guzzler worksheet.</li> </ul>	
<b>Wednesday</b>	<p><b>Art:</b> Construction: <i>Making constructions</i></p> <ul style="list-style-type: none"> <li>Design and make a kite</li> </ul>	<ul style="list-style-type: none"> <li>Colour and decorate a paper bag.</li> <li>Attach streamers to the bottom of the bag using strips of crepe paper.</li> <li>Attach a string.</li> <li>Test the kite outside!</li> </ul> <p><a href="http://www.kinderart.com/crafts/bagkite.shtml">http://www.kinderart.com/crafts/bagkite.shtml</a></p>	<p>Paper bags, tissue paper, colours/paint, glue, crepe paper, etc. String</p>
<b>Thursday</b>	<p><b>Geography:</b> Human Environments: <i>Living in the Local Community</i></p> <ul style="list-style-type: none"> <li>Discuss the work of people in the local community</li> <li>Become aware of buildings and places</li> </ul>	<p>Guest speaker from Blanchardstown IT</p> <ul style="list-style-type: none"> <li>Look at and discuss pictures</li> <li>Ask questions about engineering</li> </ul>	<p>Questions prepared</p>

	where people work		
<b>Friday</b>	<b>Science</b> Materials: <i>Properties and Characteristics of Materials</i> Energy and Forces: <i>Forces</i> <ul style="list-style-type: none"> <li>• Design and make a box monster</li> <li>• Explore the basic principles of pneumatics</li> </ul>	Tour to Imaginosity	
<b>Work for display:</b>  <u>Science Blog:</u> <ul style="list-style-type: none"> <li>• Visits – Imaginosity <ul style="list-style-type: none"> <li>- Photos and info about tour</li> <li>- Children’s reflections (pictures or writing)</li> <li>- Certificate – scanned and uploaded</li> </ul> </li> <li>• Events – Engineer’s week <ul style="list-style-type: none"> <li>- Photographs of Guzzler experiments, making and flying kites, Imaginosity tour</li> <li>- Samples of Guzzler worksheet</li> <li>- Children’s reflections from the week - Draw a picture or write (free writing) about favourite engineering activity</li> </ul> </li> </ul> <u>Science Display:</u> <ul style="list-style-type: none"> <li>• Kites for display</li> <li>• Samples of Guzzler worksheet</li> <li>• Photographs</li> </ul>			

## Senior Infants

	Curriculum objectives	Activities	Resources
<b>Monday</b>	<p><b>Geography</b> Human Environments: <i>Living in the Local Community</i></p> <ul style="list-style-type: none"> <li>Discuss the work of people in the local community</li> <li>Become aware of buildings and places where people work</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with the children about jobs people do – parents’ jobs, people who help us in the community</li> <li>Take items from mystery bag and talk about what someone might use them for in their job (notepad, pencils, tools, hard hat). Try to guess whose bag it is.</li> <li>Explain that this week we are learning about <b>engineers</b>. KWL Chart on engineers.</li> <li>Explain what an engineer is.</li> <li>Watch video clip explaining engineering.</li> <li>Prepare interview questions for engineer’s visit.</li> <li>KWL reflection – What have we learned?</li> </ul> <p>Introducing engineering: (Click on the house at bottom right of box for engineering activities, explaining engineering, etc. <a href="http://www.sesamestreet.org/parents/topicsandactivities/toolkits/stem#cd2143e4-8286-432e-81e8-83770bcbc37a">http://www.sesamestreet.org/parents/topicsandactivities/toolkits/stem#cd2143e4-8286-432e-81e8-83770bcbc37a</a></p> <p>James Marsden and Elmo explain engineering: <a href="https://www.youtube.com/watch?v=3bPAGchXF4I">https://www.youtube.com/watch?v=3bPAGchXF4I</a></p>	<p>KWL chart Mystery bag, video clips, paper, pencils</p>
<b>Tuesday</b>	<p><b>Science:</b> Living Things: <i>Myself</i></p> <ul style="list-style-type: none"> <li>Identify where humans get energy from – food</li> </ul> <p>Energy and Forces: <i>Forces</i></p> <ul style="list-style-type: none"> <li>Explore how objects</li> </ul>	<p>KWL chart: energy, wind</p> <p>Guzzler Lesson 1:</p> <ul style="list-style-type: none"> <li>Show picture of person looking tired and discuss: What is wrong with them? How do they feel? Introduce word ‘energy’.</li> <li>Show other pictures, discuss whether people in pictures have high or low energy.</li> </ul>	<p>KWL chart Guzzler lesson plans, balls, worksheet, colours</p>

	<p>may be moved</p> <ul style="list-style-type: none"> <li>Investigate how forces act on objects</li> </ul> <p>Look and respond to pictures of windmills. Discuss the wind and how it makes things move. Wind song.</p> <p>Art lesson: Design and make a kite</p>	<ul style="list-style-type: none"> <li>Discuss times when we need lots of energy or little energy.</li> <li>Discuss times when we have lots of energy. Where do we get our energy from?</li> <li>Simon Says: Do actions that require lots of energy, little energy.</li> </ul> <p>Guzzler lesson 2 and 3:</p> <ul style="list-style-type: none"> <li>Demo with basketball and tennis ball.</li> </ul> <p>Making things move:</p> <ul style="list-style-type: none"> <li>Discuss how we make things move – use classroom objects, toys.</li> <li>Talk about wind. Explain that scientists use wind to make things move. Show pictures, videos of windmills.</li> <li>Colour the picture – Guzzler worksheet.</li> </ul>	
<b>Wednesday</b>	<p><b>Art:</b> Construction: <i>Making constructions</i></p> <ul style="list-style-type: none"> <li>Design and make a windmill</li> </ul>	<p>KWL Chart: Windmills</p> <ul style="list-style-type: none"> <li>Watch clips on YouTube of windmills.</li> <li>Design and make windmills.</li> <li>Attach pencil and string (See Usbourne experiment) and see how moving windmill winds the string.</li> <li>Test windmills outside.</li> </ul> <p>Wind energy and windmill clip – advanced science but beginning and end of clip are useful! <a href="http://www.sciencekids.co.nz/videos/physics/windenergy.html">http://www.sciencekids.co.nz/videos/physics/windenergy.html</a></p>	<p>KWL chart Card (windmill template), scissors, paper fasteners, art materials for decorating, pencil, string</p>
<b>Thursday</b>	<p><b>Geography:</b> Human Environments: <i>Living in the Local</i></p>	<p>KWL Chart: Engineers, engineering</p> <p>Guest speaker from Blanchardstown IT</p>	<p>KWL chart Questions prepared</p>

	<p><i>Community</i></p> <ul style="list-style-type: none"> <li>• Discuss the work of people in the local community</li> <li>• Become aware of buildings and places where people work</li> </ul>	<ul style="list-style-type: none"> <li>• Look at and discuss pictures</li> <li>• Ask questions about engineering</li> </ul>	
<b>Friday</b>	<p><b>Science</b>  Materials: <i>Properties and Characteristics of Materials</i>  Energy and Forces: <i>Forces</i></p> <ul style="list-style-type: none"> <li>• Design and make a box monster</li> <li>• Explore the basic principles of pneumatics</li> </ul>	Tour to Imaginosity	
<p><b>Work for display:</b></p> <p><u>Science Blog:</u></p> <ul style="list-style-type: none"> <li>• Visits – Imaginosity <ul style="list-style-type: none"> <li>- Photos and info about tour</li> <li>- Children’s reflections (pictures or writing)</li> <li>- Certificate – scanned and uploaded</li> </ul> </li> <li>• Events – Engineer’s week <ul style="list-style-type: none"> <li>- Photographs of Guzzler experiments, making and testing windmills, Imaginosity tour</li> <li>- Samples of Guzzler worksheet</li> <li>- Children’s reflections from the week - Draw a picture or write (free writing) about favourite engineering activity</li> </ul> </li> </ul> <p><u>Science Display:</u></p> <ul style="list-style-type: none"> <li>• Windmills for display</li> <li>• Samples of Guzzler worksheet</li> <li>• Photographs</li> </ul>			

1<sup>st</sup> / 2<sup>nd</sup> class

	Curriculum Objectives		Resources
Monday	<p><b>Geography:</b> Human Environments: <i>Living in the local community</i></p> <ul style="list-style-type: none"> <li>Investigate the work of engineers in the locality</li> </ul> <p><b>Science / Geography:</b> Environmental awareness and care: <i>Caring for my locality</i></p> <ul style="list-style-type: none"> <li>Discuss ways of saving energy</li> <li>Discuss ways that engineers help the environment</li> </ul>	<p>KWL chart: Engineering</p> <ul style="list-style-type: none"> <li>What do we already know about engineering? What is an engineer? What does an engineer do? Where do they work? What things would they use in their job?</li> <li>What do we want to know?</li> </ul> <p>Introduction video: <a href="http://education.nationalgeographic.com/education/media/nasa-kids-intro-engineering/?ar a=1">http://education.nationalgeographic.com/education/media/nasa-kids-intro-engineering/?ar a=1</a></p> <p>Lesson: Engineering, Types of engineer, How engineer's help the environment</p>	KWL chart, video clips, PPT slides
Tuesday	<p><b>Science:</b> Energy and Forces: <i>Forces, Magnetism and Electricity</i></p> <ul style="list-style-type: none"> <li>Explore the effects of static electricity</li> </ul> <p><b>Maths</b> Data: <i>Representing and interpreting data</i></p>	<p>KWL Chart</p> <ul style="list-style-type: none"> <li>What do we know about energy? What types of energy have we learned about (sound, light, heat, electricity, static?)</li> <li>What do we want to know?</li> <li></li> </ul> <p>Science experiments to explore static electricity:</p> <ol style="list-style-type: none"> <li>Be a snake charmer: <ul style="list-style-type: none"> <li>Draw a spiral pattern inside a piece of circular</li> </ul> </li> </ol>	KWL chart, plastic rulers, tissue paper, colours, scissors, pepper, plastic box, wool scarf, wool jumper, paper clips,

	<ul style="list-style-type: none"> <li>• Make a simple block graph</li> </ul>	<p>tissue paper</p> <ul style="list-style-type: none"> <li>- Decorate the tissue to look like a snake</li> <li>- Cut along the spiral</li> <li>- Push a plastic ruler with a wool scarf and use it to lift the snake</li> </ul> <p>2. Jumping pepper</p> <ul style="list-style-type: none"> <li>- Put a thin layer of pepper in the bottom of a shallow plastic box.</li> <li>- Rub the lid with a wool scarf and watch the pepper jumping!</li> <li>- Use a metal paper clip to get the pepper to drop back down</li> </ul> <p>3. Test static strength: (DPSM maths activity)</p> <ul style="list-style-type: none"> <li>- Rub a ruler with a woollen scarf and use it to lift up small piece of paper.</li> </ul> <p>Maths activity:</p> <ul style="list-style-type: none"> <li>- Count and compare how many pieces the ruler collects when static is created by different materials.</li> <li>- Count and compare how many pieces the ruler collects when it is rubbed a different number of times.</li> <li>- Make a graph to show the results.</li> </ul> <p>4. Balloon experiment:</p> <ul style="list-style-type: none"> <li>- Rub a balloon against a woollen jumper / scarf and try to get it to stick to the wall.</li> <li>- Put the balloon over your head and see if you can make your hair stand on end</li> </ul>	<p>small pieces of paper, graph template, balloons</p>
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		<p>5. Bending water:</p> <ul style="list-style-type: none"> <li>- Rub a ruler against a woollen scarf or jumper to make static.</li> <li>- Put the ruler near flowing water and see what happens to the stream of water.</li> </ul>	
<b>Wednesday</b>	<p><b>Science / Geography</b> Environmental Awareness and Care: <i>Caring for my locality</i></p> <p><b>Science</b> Energy and Forces: <i>Magnetism and Electricity (Energy)</i></p>	Tour to ECO-UNESCO	
<b>Thursday</b>	<p><b>Geography:</b> Human Environments: <i>Living in the Local Community</i></p> <ul style="list-style-type: none"> <li>• Discuss the work of people in the local community</li> <li>• Become aware of buildings and places where people work</li> </ul>	<p>KWL Chart: Engineers, engineering</p> <p>Guest speaker from Blanchardstown IT</p> <ul style="list-style-type: none"> <li>• Look at and discuss pictures</li> <li>• Ask questions about engineering</li> </ul>	KWL chart Questions prepared
<b>Friday</b>	<p>Science Display</p> <p>Student reflections (Draw or write)</p> <ul style="list-style-type: none"> <li>• What did I learn?</li> <li>• What was my favourite activity this week?</li> </ul>		KWL chart

### **Additional links and resources:**

Benjamin Franklin explains his kite experiment to 2<sup>nd</sup> grade class:

[http://www.teachertube.com/viewVideo.php?video\\_id=114233](http://www.teachertube.com/viewVideo.php?video_id=114233)

Electricity video clips: <http://www.bbc.co.uk/learningzone/clips/topics/primary/science/electricity.shtml>

How to save energy: <http://www.askaboutireland.ie/learning-zone/primary-students/1st+-2nd-class/1st-2nd-class-environment/caring-for-the-environmen/how-to-save-energy/>

Engineering info 7-11: <http://www.steps.ie/Students/7-11.aspx>

### **Work for display:**

#### Science Blog:

- Science and Maths activities – Oak – Energy and Forces – Investigating Static
  - Photographs
  - Description of activity (written by children if possible)
  - Children's work samples (pictures or scanned)
  - Evidence of maths
- Visits
  - Engineer's visit: Children's reflections on engineer's visit, interview questions
  - Tour: Pictures, children's reflections and certificate
- Events – Engineer's week
  - Pictures of science stations, children's reflections, work samples

#### Science Display:

- Snakes and static experiments, work samples for display
- Photographs

## Sycamore Class

	Curriculum Objectives	Activities	Resources
<b>Monday</b>	<p><b>Geography</b>            Human Environments: <i>People Living and Working in the Local Area and People Living and Working in a Contrasting Part of Ireland</i></p> <ul style="list-style-type: none"> <li>• Learn about the work of an engineer</li> <li>• Learn about features designed and built by engineers in the locality and other parts of Ireland</li> </ul> <p><b>Geography / Science</b>            Environmental Awareness and Care: <i>Environmental Awareness</i></p> <ul style="list-style-type: none"> <li>• Investigate the ways in which people use the Earth's resources</li> <li>• Investigate how the work of engineers can have a positive effect on the use of energy and on the environment</li> </ul>	<ul style="list-style-type: none"> <li>• Fill in a KWL chart:               <ul style="list-style-type: none"> <li>- Assess what is already known about the work of an engineer, types of engineers</li> <li>- Discuss what we would like to know.</li> </ul> </li> <li>• Learn about types of engineers               <ul style="list-style-type: none"> <li>- Brainstorm as class types of engineers we know of.</li> <li>- Group activity: Match description of a type of engineer to name.</li> <li>- Look at pictures / video clips that give information about the work of different types of engineer and discuss new information that was learned.</li> </ul> </li> <li>• Learn about the work of environmental engineers               <ul style="list-style-type: none"> <li>- Brainstorm ideas about what kind of work might be done by an environmental engineer.</li> <li>- Read information in groups and report back to class.</li> <li>- Answer questions.</li> </ul> </li> <li>• KWL chart:               <ul style="list-style-type: none"> <li>- Reflect on what was learned</li> </ul> </li> </ul>	KWL charts, matching activity, pictures, video clips, information sheets

<p><b>Tuesday</b></p>	<p><b>Science:</b>  Energy and Forces: <i>Forces</i></p> <ul style="list-style-type: none"> <li>• Design and make a variety of KNEX models, e.g. water-powered cutting machine; wind-mill with long-blade; solar-powered steam locomotive</li> <li>• Explore how objects may be moved</li> </ul>	<ul style="list-style-type: none"> <li>• KWL Chart: <ul style="list-style-type: none"> <li>- Discuss what we already know about renewable energy, designing and making</li> </ul> </li> <li>• Assign group roles. Discuss rules for group work, procedures to be followed for working as a team, taking turns, etc.</li> <li>• Provide class with tips on how to follow instructions in manuals, e.g. looking closely at pictures, counting the holes on KNEX pieces and ensuring that pieces are attached in the correct places</li> <li>• Design and make KNEX models in groups: <ul style="list-style-type: none"> <li>(a) Solar-Powered Steam Locomotive</li> <li>(b) Water-Powered Cutting Machine</li> <li>(c) Wind-Mill with Long Blade</li> </ul> </li> <li>• Look and respond to models made by each group. <ul style="list-style-type: none"> <li>- Reflect on challenges of activities, how challenges were overcome by groups</li> <li>- Reflect on the use of instruction manual, using pictures, arrows, etc.</li> <li>- Reflect on team work, turn-taking.</li> </ul> </li> <li>• Operate models, observe them in action!</li> </ul>	<p>KWL chart,  GIGO Green energy sets</p>
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<b>Wednesday</b>	<b>Art:</b> <i>Construction: Making Constructions, Looking and Responding</i> <ul style="list-style-type: none"> <li>• Design and make an elastic band paddle boat using plastic containers</li> <li>• Explore and experiment with the properties of plastic materials in making structures: investigate ways of cutting, gluing, manipulating, decorating materials</li> </ul>	<ul style="list-style-type: none"> <li>• Set up materials in a central location in the room</li> <li>• Discuss the materials with the children <ul style="list-style-type: none"> <li>- Ask questions about properties</li> <li>- Discuss ways of working with the materials</li> <li>- Give instructions for accessing materials</li> </ul> </li> <li>• Explain learning objectives and instructions for activity</li> <li>• Children will work in groups to design and make a paddle boat that will move on water using elastic energy</li> <li>• KWL chart: what have we learned?</li> </ul>	KWL chart, plastic containers, glue, tape, paint, elastic bands, ruler, scissors, cocktail sticks, hole puncher
<b>Thursday</b>	<b>Geography:</b> <i>Human Environments: People Living and Working in the Local Area and People Living and Working in a Contrasting Part of Ireland</i> <ul style="list-style-type: none"> <li>• Learn about the work of an engineer</li> <li>• Interview an engineer from the locality</li> </ul>	<ul style="list-style-type: none"> <li>• Children will meet a guest speaker from Blanchardstown IT <ul style="list-style-type: none"> <li>- Look at pictures and discuss</li> <li>- Interview questions</li> </ul> </li> </ul>	KWL chart, interview questions
<b>Friday</b>	Display of work  Student reflections <ul style="list-style-type: none"> <li>• What did I learn?</li> <li>• What was my favourite activity this week?</li> </ul> KWL chart		