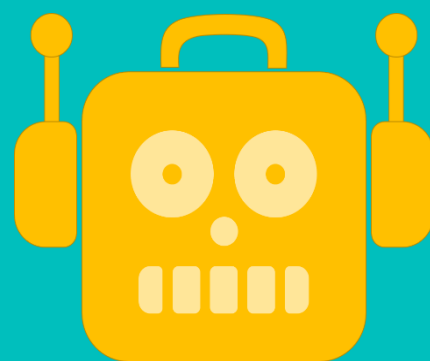


SPIRIT OF INNOVATION



**STEAM
RESOURCES**



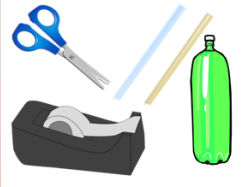
EYFS

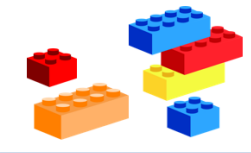
**Teacher Notes
Challenge Cards**



PIONEERS OF POWER



<p>EYFS STEAM Challenge Card</p> <p>In small groups; using junk modelling or construction. Make an aeroplane and electric charge point? Can you add the land and sky?</p> 	<p>ELG 01 Listening and attention: children listen attentively in a range of situations. Respond to what they hear with relevant comments, questions or actions. They give their attention to what others say and respond appropriately.</p> <p>ELG 02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to events.</p> <p>ELG 03 Speaking: children express themselves effectively, showing awareness of listeners' needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events</p>	<p>ELG 06 Self-confidence and self-awareness: children are confident about trying new activities, and say why they like some activities more than others. They are confident speaking in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or do not need help.</p> <p>ELG 07 Managing feelings and behaviour: They work as part of a group or class, and understand and follow the rules. They adjust their behaviour to different situations, and take changes of routine in their stride</p> <p>ELG 08 Making relationships: children play co-operatively, taking turns with others. They take account of one another's ideas about how to organise their activity. They show sensitivity to others' needs and feelings, and form positive relationships with adults and other children.</p>	<p>ELG 16 Exploring and using media and materials: Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p> <p>ELG 17 Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.</p>
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<p>EYFS STEAM Challenge Card</p> <p>Make a duplo®/Lego® maze. Place a ping pong ball at the start, tilt and turn the board to move the ball, see if you can get it to the finish. How fast can you do it? Can you slow it down by changing the route?</p> 	<p>ELG 04 Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively</p>	<p>ELG 12 Shape, space and measures: children use everyday language to talk about size, weight, capacity, position, distance and time.</p>
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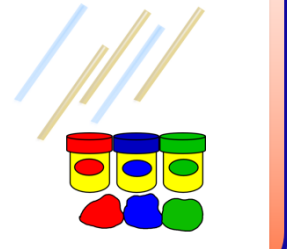


PIONEERS OF POWER







<p>EYFS STEAM Challenge Card</p> <p><u>Outside Area</u> Using crates and large building equipment can you build an aeroplane? Take turns to be the pilot.</p> 	<p>ELG 01 Listening and attention: children listen attentively in a range of situations. Respond to what they hear with relevant comments, questions or actions. They give their attention to what others say and respond appropriately.</p> <p>ELG 02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to events.</p> <p>ELG 03 Speaking: children express themselves effectively, showing awareness of listeners' needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events</p>	<p>ELG 04 Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively,</p>	<p>ELG 06 Self-confidence and self-awareness: children are confident about trying new activities, and say why they like some activities more than others. They are confident speaking in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or don't need help.</p> <p>ELG 08 Making relationships: children play co-operatively, taking turns with others. They take account of one another's ideas about how to organise their activity. They show sensitivity to others' needs and feelings, and form positive relationships with adults and other children</p>	<p>ELG 17 Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design, role-play and stories.</p>
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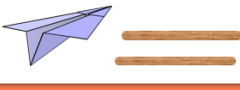
<p>EYFS STEAM Challenge Card</p> <p>Use junk modelling materials, or construction can you make an aeroplane? Can you make the propeller move? Make a name label so you can display it.</p> 	<p>ELG 02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences</p>	<p>ELG 04 They handle equipment and tools effectively, including pencils for writing</p>	<p>ELG 16 Exploring and using media and materials: They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>
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<p>EYFS STEAM Challenge Card</p> <p>Can you build a strong structure using straws and plasticine?</p> 	<p>ELG 12 Shape, space and measures: children use everyday language to talk about size, weight, position and distance to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>	<p>ELG 17 Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology.</p>
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<p>EYFS STEAM Challenge Card</p> <p>Can you design an aeroplane on the computer/tablet?</p> 	<p>ELG 15 Technology: They select and use technology for particular purposes.</p>	<p>ELG 16 Exploring and using media and materials: explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>ELG 17 Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology and art.</p>	
<p>EYFS STEAM Challenge Card</p> <p>Program the <u>Beebot</u> to go to the power wall to charge, travel down the runway, 'fly' in the sky and then 'land' back on the runway again. Children/Adult to draw the <u>beebot</u> map.</p> 	<p>ELG 12 Shape, space and measures: children use everyday language to talk about size, distance and time. Compare quantities and use mathematical language to describe them</p>	<p>ELG 15 Technology: They select and use technology for particular purposes</p>	
<p>EYFS STEAM Challenge Card</p> <p><u>Outside Area/Playground</u> Children/Adult to mark out a runway and sky area with chalk on the playground. Run with no coat on, then run holding coat like wings/super hero cape. Which was faster? How did it feel? Why?</p> 	<p>ELG 02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to events. ELG 03 Speaking: children express themselves effectively, showing awareness of listeners' needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own explanations by connecting ideas or events.</p>	<p>ELG 08 Making relationships: children play co-operatively, taking turns with others. They take account of one another's ideas about how to organise their activity. They show sensitivity to others' needs and feelings, and form positive relationships with adults and other children.</p>	<p>ELG 12 Shape, space and measures: children use everyday language to talk about size, distance and time. Compare quantities and use mathematical language to describe them.</p>

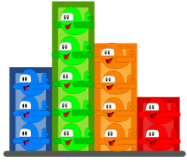
<p>EYFS STEAM Challenge Card</p> <p>Sort materials into groups; children to specify own groups. What could the Spirit of Innovation Team use each the material for? Why?</p> 	<p>ELG 02 They answer 'how' and 'why' questions about their experiences and in response to events.</p>	<p>ELG 14 The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations and explain why some things occur, and talk about changes.</p>
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<p>EYFS STEAM Challenge Card</p> <p>Outside Area/Playground Using lolly sticks, and or paper can you make a plane that flies? Go outside and race yours against your friends, whose goes faster? Furthest? Do you know why it went faster? Further?</p> 	<p>ELG 02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to an event.</p>	<p>ELG 12 Shape, space and measures: children use everyday language to talk about size, weight, position, distance and time to compare quantities and to solve problems. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>	<p>ELG 17 Being imaginative: children use what they have learnt about materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology.</p>
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<p>EYFS STEAM Challenge Card</p> <p>Can you loop the loop or write your name in the clouds?</p> 	<p>ELG 04 Moving and handling: children show good control and co-ordination in large and small movements. They handle equipment and tools effectively.</p>
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EYFS STEAM Challenge Card

The aeroplane is going to be white and blue. Collect and record your class' favourite colour for an aeroplane. You could use coloured planes on a pictograph to show your findings.



ELG 02 They answer 'how' and 'why' questions about their experiences and in response to events.
ELG 03 Speaking: children express themselves effectively, showing awareness of listeners' needs.

ELG 11 Numbers: children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract 2 single-digit numbers and count on or back to find the answer. They solve problems.
ELG 12 Shape, space and measures: children use everyday language to talk about quantities and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

EYFS STEAM Challenge Card

The aeroplane is made from lots of different materials. Some are heavy whereas some are light. Some materials are waterproof. Some are magnetic. Sort the materials in front of you into two groups. Can you sort them a different way?

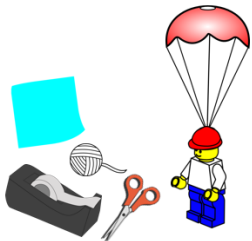


ELG 02 They answer 'how' and 'why' questions about their experiences and in response to events.

ELG 14 The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations and explain why some things occur, and talk about changes.

EYFS STEAM Challenge Card

Make a parachute to slow down a toy figure when dropped from a height.



ELG 12 Shape, space and measures: children use everyday language to talk about quantities and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

ELG 14 The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations and explain why some things occur, and talk about changes.

