

## STEM (Science, Technology, Engineering and Maths) Home Learning Ideas

Early level (Nursery and P1)	First level (P2, P3, P4)	Second level (P5, P6, P7)
<p><b>Science:</b> Earth Hour is on 27 March at 8:30pm when we try to turn off as many electrical appliances as possible. Talk about things in your house that use electricity. What could you switch off that you don't need?</p> <p>Floating and sinking – at bathtime or in the sink, investigate different objects around your house e.g. fruit and veg, to find out if they float or sink. Make predictions before you test. Test different materials e.g. foil, paper, card and see if you can make shapes that float and shapes that sink.</p>	<p><b>Science:</b> Earth Hour is on 27 March at 8:30pm when we try to turn off as many electrical appliances as possible. Make a list of/draw everything in your house that uses electricity. What could you switch off that you don't need? Why is it important to cut down the electricity we use?</p> <p>Choose an animal you want to learn more about. Find out as much as you can about the animal and create a poster or factbook to show your learning.</p>	<p><b>Science:</b> Earth Hour is on 27 March at 8:30pm when we try to turn off as many electrical appliances as possible. Make a list of everything in your house that uses electricity. What could you switch off that you don't need? What swaps could you make? Why is it important to cut down the electricity we use? Make a poster to advertise what people could do to cut down on using electricity.</p> <p>Choose an activity that interests you from <a href="https://www.bbc.co.uk/bitesize/subjects/zxtnvcw">https://www.bbc.co.uk/bitesize/subjects/zxtnvcw</a> Create a leaflet or factbook to show your learning.</p>
<p><b>Food technology:</b> Put the foods into the correct food groups <a href="http://fss-eatwellguide.scot/">http://fss-eatwellguide.scot/</a></p> <p>With an adult: Play this online game and discuss <a href="https://www.foodstandards.gov.scot/education-resources/crazy-kitchen">https://www.foodstandards.gov.scot/education-resources/crazy-kitchen</a></p> <p>More activities: <a href="https://www.foodstandards.gov.scot/education-resources?filter_set=a&amp;category=199 560#in-the-classroom">https://www.foodstandards.gov.scot/education-resources?filter_set=a&amp;category=199 560#in-the-classroom</a></p>	<p><b>Food technology:</b> Put the foods into the correct food groups <a href="http://fss-eatwellguide.scot/">http://fss-eatwellguide.scot/</a></p> <p>Design a healthy breakfast, snack, lunch and dinner using ingredients in your house. Help to make one of these meals if possible!</p> <p>Play <a href="https://www.foodstandards.gov.scot/education-resources/cookin-castle">https://www.foodstandards.gov.scot/education-resources/cookin-castle</a></p> <p>Play <a href="https://www.foodstandards.gov.scot/education-resources/what-goes-where">https://www.foodstandards.gov.scot/education-resources/what-goes-where</a></p> <p>More activities: <a href="https://www.foodstandards.gov.scot/education-resources">https://www.foodstandards.gov.scot/education-resources</a></p>	<p><b>Food technology:</b> Look at <a href="https://www.foodstandards.gov.scot/education-resources/the-interactive-eatwell-guide">https://www.foodstandards.gov.scot/education-resources/the-interactive-eatwell-guide</a></p> <p>Design a healthy and balanced menu, including breakfast, snack, lunch and dinner, for three days using ingredients in your house. Identify parts of each meal using the Eatwell Guide. Help to make one of these meals if possible!</p> <p>Play <a href="https://www.foodstandards.gov.scot/education-resources/cookin-castle">https://www.foodstandards.gov.scot/education-resources/cookin-castle</a></p> <p>Play <a href="https://www.foodstandards.gov.scot/education-resources/fridge-facts">https://www.foodstandards.gov.scot/education-resources/fridge-facts</a></p>

	<a href="https://www.foodstandards.gov.scot/education-resources?filter_set=a&amp;category=199 153#in-the-classroom">resources?filter_set=a&amp;category=199 153#in-the-classroom</a>	More activities: <a href="https://www.foodstandards.gov.scot/education-resources?filter_set=a&amp;category=199 154#in-the-classroom">https://www.foodstandards.gov.scot/education-resources?filter_set=a&amp;category=199 154#in-the-classroom</a>
<p><b>Coding:</b> Use Scratch Junior to create an animation of your favourite story or make up your own story <a href="https://www.scratchjr.org/">https://www.scratchjr.org/</a> - free app download on iPad or Android</p> <p>Activities for beginners here:  <a href="https://www.scratchjr.org/teach/activities">https://www.scratchjr.org/teach/activities</a></p>	<p><b>Coding:</b> Use Scratch to create a game or animation <a href="https://scratch.mit.edu/">https://scratch.mit.edu/</a> - join for free.</p> <p><i>Is there a way to use Scratch without participating online?</i>  Yes, the Scratch app allows you to create Scratch projects without an internet connection. You can download the <a href="#">Scratch app</a> from the Scratch website or the app store on your device.</p> <p>More activities:  <a href="https://www.bbc.co.uk/bitesize/subjects/zst3d2p">https://www.bbc.co.uk/bitesize/subjects/zst3d2p</a></p>	<p><b>Coding:</b> Use Scratch to create a game or animation <a href="https://scratch.mit.edu/">https://scratch.mit.edu/</a> - join for free.</p> <p><i>Is there a way to use Scratch without participating online?</i>  Yes, the Scratch app allows you to create Scratch projects without an internet connection. You can download the <a href="#">Scratch app</a> from the Scratch website or the app store on your device.</p> <p>More activities:  <a href="https://www.bbc.co.uk/bitesize/subjects/zfhwmn">https://www.bbc.co.uk/bitesize/subjects/zfhwmn</a></p>
<p><b>Engineering STEM Challenge:</b> Using recycling and scrap materials, create a parachute for a small figure or lightweight toy.</p> <p>Create a bridge from Lego, bricks or other materials such as recycling. How much weight can it hold? Try adding more rules such as the bridge must be as wide as a book or carry a certain weight such as 3 blocks.</p>	<p><b>Engineering STEM Challenge:</b> Using recycling and scrap materials, create a model polar research station for scientists working at the Antarctic. What will your research station need outside and inside? How will you make sure the people who work inside are safe and warm? How will you power the station?</p>	<p><b>Engineering STEM Challenge:</b> Using recycling or scrap paper, create a marble run that allows a marble to travel for exactly 6 seconds.</p> <p>If you don't have a marble you could use a small ball, pompom, etc.  Remember to plan, build, test and improve your design.</p>
<p><b>Invention:</b> Invent and draw a robot that can do a job in your house. Remember an invention has to be something new or something better than we already have. You could build a model of your invention.</p>	<p><b>Invention:</b> Invent and draw a robot to collect food from a local shop for someone who is staying at home. Think about how the robot travels and how it is going to pick up and carry food. Remember an invention has to be something new or something better than we already have. You could build a model of your invention.</p>	<p><b>Invention:</b> Invent, draw and label a robot to collect medicine from a local pharmacy for someone who cannot go out. Think about how the robot travels, how it will find its way there and how it is going to pick up and carry the medicine safely. Write down the materials and parts you would need to build your invention. Remember an invention has to be something new or something better</p>

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<b>STEM in the news:</b> Watch Reach Out Reporter <a href="https://www.reachoutreporter.com/">https://www.reachoutreporter.com/</a> . Choose your favourite news story. Can you find out more about it and perform a news report at home?	<b>STEM in the news:</b> Watch Reach Out Reporter <a href="https://www.reachoutreporter.com/">https://www.reachoutreporter.com/</a> . Choose your favourite news story. Can you find out more about it? Create your own STEM news update on this news story. You could video it or perform it at home.	<b>STEM in the news:</b> Watch Reach Out Reporter <a href="https://www.reachoutreporter.com/">https://www.reachoutreporter.com/</a> . Find out what else is going on in STEM at the moment using newspapers, magazines or the internet. Create your own STEM news update on these stories. You could video it or perform it at home.

### Other STEM ideas...

Ideas for home from Easter Bush Science Outreach Centre <https://www.ed.ac.uk/easter-bush-campus/science-outreach-centre/science-home>

First level BBC Bitesize all subjects: <https://www.bbc.co.uk/bitesize/levels/zgckjxs>

Second level BBC Bitesize all subjects: <https://www.bbc.co.uk/bitesize/levels/zr48q6f>

BBC Terrific Scientific activities: <https://www.bbc.co.uk/teach/terrific-scientific> - includes live lessons

STEM Challenges from Dyson: <https://www.jamesdysonfoundation.co.uk/resources/challenge-cards.html>

Science experiments you can do at home from Siemens: <https://new.siemens.com/uk/en/company/education/students/diy-videos.html>

STEM practical activities: <https://www.engineering.gov.uk/theholidaymakers>

Find out about Engineering jobs from real engineers: <https://www.tomorrowsengineers.org.uk/tomorrows-engineers-week-2019/videos/>

Find out about famous scientists: <https://www.dkfindout.com/uk/science/famous-scientists/>