



<i>Topic</i>	<i>Key question to ask our MCA students</i>	<i>Reading material</i>
<b>Year 7</b>		
Science fundamentals	What is a control variable in an experiment and why is it important to have them?	<a href="https://www.sciencejournalforkids.org/articles/lesson-ideas/meet-a-scientist-anne-draelos/">https://www.sciencejournalforkids.org/articles/lesson-ideas/meet-a-scientist-anne-draelos/</a>
Matter	How are particles arranged in solids, liquids and gases?	<a href="https://newsforkids.net/articles/2021/03/02/london-sized-iceberg-breaks-free-in-antarctica/">https://newsforkids.net/articles/2021/03/02/london-sized-iceberg-breaks-free-in-antarctica/</a>
Manchester Scientists	What are the parts of an atom?	<a href="https://theday.co.uk/the-machine-that-could-revolutionise-physics/">https://theday.co.uk/the-machine-that-could-revolutionise-physics/</a>
Humans	Why do we need to eat and breathe?	<a href="https://theday.co.uk/the-edible-insects-coming-to-a-shop-near-you/">https://theday.co.uk/the-edible-insects-coming-to-a-shop-near-you/</a>
Movement in Manchester	How could you find the average speed of a car driving down Rochdale road?	<a href="https://www.dailymail.co.uk/sciencetech/article-10767623/Robo-car-breaks-world-speed-record-Fully-autonomous-PoliMOVE-car-reaches-incredible-192-2mph.html">https://www.dailymail.co.uk/sciencetech/article-10767623/Robo-car-breaks-world-speed-record-Fully-autonomous-PoliMOVE-car-reaches-incredible-192-2mph.html</a>
Mixtures and Separation	How can we separate a mixture of salt, sand and water?	<a href="https://theday.co.uk/scientists-make-fresh-water-out-of-thin-air/">https://theday.co.uk/scientists-make-fresh-water-out-of-thin-air/</a>
Cells	Why are cells so important?	<a href="https://theday.co.uk/endangered-horse-cloned-from-frozen-cells/">https://theday.co.uk/endangered-horse-cloned-from-frozen-cells/</a>
Density and pressure	Why do climbers experience physical problems when climbing at high altitude?	<a href="https://theday.co.uk/savage-mountain-finally-beaten-by-teamwork/">https://theday.co.uk/savage-mountain-finally-beaten-by-teamwork/</a>
Atoms and the Periodic Table	Everything is made up of atoms so how do we get different chemicals and substances?	<a href="https://theday.co.uk/the-great-hydrogen-revolution-gathers-pace/">https://theday.co.uk/the-great-hydrogen-revolution-gathers-pace/</a>
Energy	How does burning fossil fuels effect our planet?	<a href="https://theday.co.uk/world-can-avoid-climate-disaster-says-un/">https://theday.co.uk/world-can-avoid-climate-disaster-says-un/</a>
Biological reactions	Why do plants need to photosynthesise and respire?	<a href="https://theday.co.uk/plants-are-intelligent-too-say-scientists/">https://theday.co.uk/plants-are-intelligent-too-say-scientists/</a>
Reproduction	Why do we look different from our parents?	<a href="https://www.softschools.com/language_arts/reading_comprehension/science/490/human_reproduction/">https://www.softschools.com/language_arts/reading_comprehension/science/490/human_reproduction/</a>
<b>Year 8</b>		
Periodic table	What is the periodic table and why is it important?	<a href="https://newsforkids.net/fastfacts/atoms-and-molecules/">https://newsforkids.net/fastfacts/atoms-and-molecules/</a>
Solids, liquids and gases	What happens when an ice cube melts?	<a href="https://theday.co.uk/doomsday-glacier/">https://theday.co.uk/doomsday-glacier/</a>
Electricity	What is needed for a current to flow around a circuit?	<a href="https://www.timeforkids.com/g56/an-electric-future-2/?rl=en-810">https://www.timeforkids.com/g56/an-electric-future-2/?rl=en-810</a>
Celebrating Manchester's Diversity	Why is DNA essential for life?	<a href="https://theday.co.uk/the-scientists-mapping-all-life-on-earth/">https://theday.co.uk/the-scientists-mapping-all-life-on-earth/</a>
The Earth	What gases are in the Earth's atmosphere and how are they changing over time?	<a href="https://theday.co.uk/volcanoes/">https://theday.co.uk/volcanoes/</a>
Waves and sound	How do we hear sounds?	<a href="https://newsforkids.net/articles/2018/05/18/laurel-yanny-a-sound-illusion/">https://newsforkids.net/articles/2018/05/18/laurel-yanny-a-sound-illusion/</a>
Improving health in Manchester	How can we live a healthy life?	<a href="https://theday.co.uk/the-deeper-causes-of-a-mental-health-meltdown/">https://theday.co.uk/the-deeper-causes-of-a-mental-health-meltdown/</a>
Metals and uses	What metal is best to make jewellery and why?	<a href="https://theday.co.uk/deep-sea-mining/">https://theday.co.uk/deep-sea-mining/</a>
Movement	Why do we have a skeleton?	<a href="https://theday.co.uk/ancient-footsteps-in-sand-rewrite-history/">https://theday.co.uk/ancient-footsteps-in-sand-rewrite-history/</a>
Magnetism	What is the shape of the magnetic field around a bar magnet?	<a href="https://theday.co.uk/earths-magnetic-poles-could-be-about-to-flip/">https://theday.co.uk/earths-magnetic-poles-could-be-about-to-flip/</a>
Light	Can you describe how light travels?	<a href="https://newsforkids.net/articles/2022/02/03/huge-lightning-flashes-set-new-records/">https://newsforkids.net/articles/2022/02/03/huge-lightning-flashes-set-new-records/</a>
Acids and Alkalis	Why do we brush out teeth and what does this have to do with acids and alkalis?	<a href="https://www.cbsnews.com/news/acid-rain-environment-earth-day/">https://www.cbsnews.com/news/acid-rain-environment-earth-day/</a>
Types of chemical reactions	What might you see when a chemical reaction is happening?	<a href="https://theday.co.uk/huge-meteor-explosion-like-10-atom-bombs/">https://theday.co.uk/huge-meteor-explosion-like-10-atom-bombs/</a>
Ecosystems	Is Manchester a good example of an ecosystems with lots of biodiversity?	<a href="https://theday.co.uk/breathtaking-new-coral-reef-found-off-tahiti/">https://theday.co.uk/breathtaking-new-coral-reef-found-off-tahiti/</a>
Earth in space	Name the planets in our solar system in order from closest to the sun to furthest away from the Sun.	<a href="https://theday.co.uk/id-like-a-room-with-an-earth-view-please/">https://theday.co.uk/id-like-a-room-with-an-earth-view-please/</a>
<b>Year 9</b>		
The Martian	How can literacy help to explain scientific concepts?	<a href="https://www.tyrone.k12.pa.us/site/handlers/filedownload.ashx?moduleinstanceid=2789&amp;dataid=3206&amp;FileName=The%20Martian.pdf">https://www.tyrone.k12.pa.us/site/handlers/filedownload.ashx?moduleinstanceid=2789&amp;dataid=3206&amp;FileName=The%20Martian.pdf</a>
Key concepts in biology	Why do we need enzymes in our bodies?	<a href="https://theday.co.uk/2021-the-year-science-ruled-the-world/">https://theday.co.uk/2021-the-year-science-ruled-the-world/</a> <a href="https://www.sciencenewsforstudents.org/article/scientists-say-enzyme">https://www.sciencenewsforstudents.org/article/scientists-say-enzyme</a> <a href="https://www.sciencenewsforstudents.org/article/why-onions-make-us-cry">https://www.sciencenewsforstudents.org/article/why-onions-make-us-cry</a>
Cells and control	How does our body grow and repair itself?	<a href="https://theday.co.uk/2021-the-year-science-ruled-the-world/">https://theday.co.uk/2021-the-year-science-ruled-the-world/</a> <a href="https://theday.co.uk/spare-liver-anyone-no-longer-an-absurd-question/">https://theday.co.uk/spare-liver-anyone-no-longer-an-absurd-question/</a> <a href="https://theday.co.uk/the-surgeon-planning-a-human-head-transplant/">https://theday.co.uk/the-surgeon-planning-a-human-head-transplant/</a>
States of matter	How does the arrangement and the energy of particles change when water boils and turns into water vapour?	<a href="https://www.sciencenewsforstudents.org/article/particles-air-help-fatten-clouds-water-droplets">https://www.sciencenewsforstudents.org/article/particles-air-help-fatten-clouds-water-droplets</a>
Separation techniques	Can you describe a technique that you could use to produce potable water from river water?	<a href="https://theday.co.uk/scientists-make-fresh-water-out-of-thin-air/">https://theday.co.uk/scientists-make-fresh-water-out-of-thin-air/</a>
Atomic structure and the periodic table	Can you draw and label the structure of an atom including the 3 subatomic particles?	<a href="https://www.sciencenewsforstudents.org/article/scientists-say-atom">https://www.sciencenewsforstudents.org/article/scientists-say-atom</a>
Forces and motion	How could you measure the change in speed of a toy car moving along a track?	<a href="https://theday.co.uk/worldwide-rocket-travel-is-another-mad-idea/">https://theday.co.uk/worldwide-rocket-travel-is-another-mad-idea/</a>
Energy	Why is no machine 100% efficient?	<a href="https://theday.co.uk/the-race-to-harness-the-power-of-the-sun/">https://theday.co.uk/the-race-to-harness-the-power-of-the-sun/</a>

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