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STEM – Home Learning Resources and Activities

General STEM resources

National Science Museum

Ages: Early years to Key Stage 2

Resource Type: Wide range of activities, games and videos

Website: <https://learning-resources.sciencemuseum.org.uk/>

The National Science Museum has put together learning resources for children of all ages. The site brings together resources from their museums, including activities, games and videos. Discover activities to support a range of curriculum topics for use in the classroom, in museum galleries and beyond.

The Space Gal

Ages: Various

Resource Type: Home experiments

Website: <https://www.youtube.com/channel/UCj7mQxv2dAm6mhyx8-kb5Xw>

Emily Calandrelli demonstrates some do it at home STEM experiments on her You Tube channel.

STEMettes

Ages: Various

Resource Type: Webinars

Website: <https://stemettes.org/onlineevents/>

Three online events a week covering various STEM topics.

Science Podcasts

Ages: Various

Resource Type: Podcasts

Website: See this [podcast article](#)

Links to science podcasts for various ages.

The James Dyson Foundation

Ages: 7+

Resource Type: Home activities

Website: See [here](#) for videos and information. Download the [Challenge Cards](#)

44 engineering and science challenges designed by the engineers at Dyson.



Citizen Science projects

Citizen Science projects enable the public to take part in real life cutting-edge research in many fields including science and humanities. Volunteers – known as citizen scientists – have been involved in many such projects and have helped to make thousands of important discoveries.

Zooniverse

Ages: Various

Website: <https://www.zooniverse.org>

Zooniverse has a number of projects in various fields including the arts, biology, climate, history, language, literature, medicine, nature, physics, social science and space.

Scistarter

Ages: Various

Website: <https://scistarter.org>, see <https://scistarter.org/Education> for projects sorted by age

Over a thousand citizen science projects including ones related to Covid-19.

NASA

Ages: Various

Website: <https://science.nasa.gov/citizenscience>

Several projects linked to the Universe, Solar System, the Sun and the Earth, including projects affecting people, wildlife and the environment.

Coding

Code Academy

Ages: 13+

Resource Type: Coding course

Website: www.codeacademy.com

Provides a wide range of free courses covering most major coding languages, from Python to Java to HTML. There are even courses for game development and web design. Code Academy is suitable for older children aged 13+ all the way up to adults. Younger children may also benefit from Code Academy if they have some coding knowledge already.

Tynker

Ages: 5+

Resource Type: Coding course

Website: www.tynker.com

Tynker provides a learning platform for younger children to get started with coding. There are categories for different age groups and coding courses where children can learn about game design, robotics, apps, puzzles, and more. Getting started is free, and some premium courses have been made free during the school closures.



Code.org

Ages: 5+ (primary and secondary age)

Resource Type: Coding course

Website: <https://code.org>

A free online resource with an easy to navigate interface, aimed at beginners to coding. There is a video library of tutorials to follow and one hour specialised courses, which reference popular games such as Minecraft, are available. Some of the coding resources on [Code.org](https://code.org) can even be installed on a smartphone or an iPad. Downloadable material is also available if you have limited access to the internet.

Amazon Future Engineer

Ages: 12-17

Resource Type: Online guided learning platform

Website: Read about it [here](#) and sign up [here](#)

Four Python courses available covering programming in line with Key Stages 3 and 4. 20 hours of content is available until 3rd June 2020. By the end of the course students will have solved problems of an equivalent level to GCSE Computer Science courses.

Hackathons

Fire Tech

Ages: 9-12

Resource Type: Online Hackathon

Website: [Games Jam!](#) and [Tech4Good app design](#)

Free online Hackathons by Fire Tech. You will be given a tech-related challenge to work on. Fire Tech instructors teach you the tools that you need to accomplish this. If you register please email us at techjams@iiuk.org to let us know which one you have registered for.

Space resources

Galactic Unite Kids Corner by Virgin Galactic

Ages: All ages – even as young as 2

Resource Type: Downloadable activities

Website: <https://www.galacticunite.com/kids-corner>

Virgin Galactic have put together some fun space and STEM activities especially for you. You don't need to be a rocket scientist to take part! Just download the activities, collect your supplies, and have fun!

Twinkl

Ages: Various

Resource Type: Work sheets

Website: <https://www.twinkl.ae>

Lots of resources including space-related activities such as [design your own planet](#) and [Solar System code breaker](#)



NASA

Ages: All ages

Resource Type: Home activities

Website: [NASA STEM@Home](#) and additional resources [here](#) and [here](#)

Lots of space and general STEM activities that can be done at home, split out by age category.

Brooke Owens Fellowship

Ages: Various

Resource Type: Live chats & lessons, citizen science projects, podcasts and activities

Website: [Brooke Owens Fellowship](#)

Lots of space-themed resources and ideas

University of Warwick Astrophysics

Ages: Various

Resource Type: Information on observing the night sky

Website: <https://warwick.ac.uk/newsandevents/knowledgecentre/science/physics-astrophysics/>

Astronomers from the University of Warwick guide you through their “Astronomy at a distance” series.

If you have any queries or concerns, please contact AKEB by emailing akeb@iiuk.org.