

# Summer of STEM: Sport

These activities that parents can use at home to help children develop their science, technology, engineering and maths skills over the summer holidays. They are easy resource and provide children with the stimulus to talk about the world around them. If you see a link you can explore how to extend these activities, you will need to sign up, for free, to access these materials. Don't forget to share your work on social media

## #ScienceFromHome

### Heart beat investigation

What happens to your heart rate as you exercise? This resource from Everton (FC) in the Community gets you active and measuring your heart rate. Squat, push-up, plank and jump your way through this activity.

<https://www.stem.org.uk/rxgori>

### Mission X @ Home

Mission X is a programme of exercise and STEM activities that help you train like an astronaut.

You can register to take part in Mission X @ Home up to 4th September.

<https://www.stem.org.uk/missionx/activities>



MISSION X  
TRAIN LIKE AN ASTRONAUT

### Improving the features of a bicycle

Choose one or more of the following features of a bicycle: the seat, the handlebars, the tyres, visibility of the bicycle and rider. Think about what is important for each feature, then draw a design explaining why you've decided on it. Can you test any of the features of your design? For example the seat- can you test different materials to see if they are hard-wearing, waterproof and comfortable? Remember to ask an adult before you do this.

<https://www.stem.org.uk/rx33qc>

### Design a sports kit

Design a sports kit suitable for a sport you choose. Think about the type of material you will use and why you have used it. <https://explore.wellcome.ac.uk/en/activities/problem-solvers/>

### Sorting sports equipment

Gather together the different balls, bats and rackets that you have in your house. Can you sort them into groups?

Could you change the material that one of them is made from? How would this affect that the piece of equipment does? E.g. a cricket bat made from rubber or a wooden ball. Choose one of the pieces of sports equipment and find out what it's made from and why?

### Mission X biweekly challenges

Simple exercise and coordination challenges - post a video to Twitter/Facebook for the chance to be astronaut trainee of the week.

[https://www.esa.int/Education/Expedition\\_Home/Train\\_like\\_an\\_astronaut\\_challenges](https://www.esa.int/Education/Expedition_Home/Train_like_an_astronaut_challenges)

### Creating a code for a dance routine

Make up a dance routine then write a set of instructions for someone else perform your dance. You can use repeat x... to show any repeated movements. Send the full set of instructions to a friend or ask someone in your house to follow it. Was it what you wanted them to do? Go back to your original set of instructions and see if anything needs changing, then try it again.

### Which ball for which sport?

Why wouldn't you use a bowling ball to play tennis or a ping pong ball for netball? Choose 4 different sports balls. Investigate them thinking about: bounciness, hardness, size,. What you think might be inside them? Why is the design of a sports ball important and what is make from important?

<https://www.stem.org.uk/rxth2>

### Design a sports venue

What is your favourite sport or physical activity?

Design the perfect place to play or carry out your sport. Think about what you need to carry out your activity successfully, how comfortable you would like to be whilst doing it. Other things that you would like around you. How will others what you as you play your sport. The link will help with some ideas.

<https://www.stem.org.uk/>

### Lie back and float

Explore the buoyancy of fruit in order to understand how wetsuits work.

Part of the resource How can we enhance sporting performance.

<https://www.stem.org.uk/rxg7no>