



MISSION X

TRAIN LIKE AN ASTRONAUT

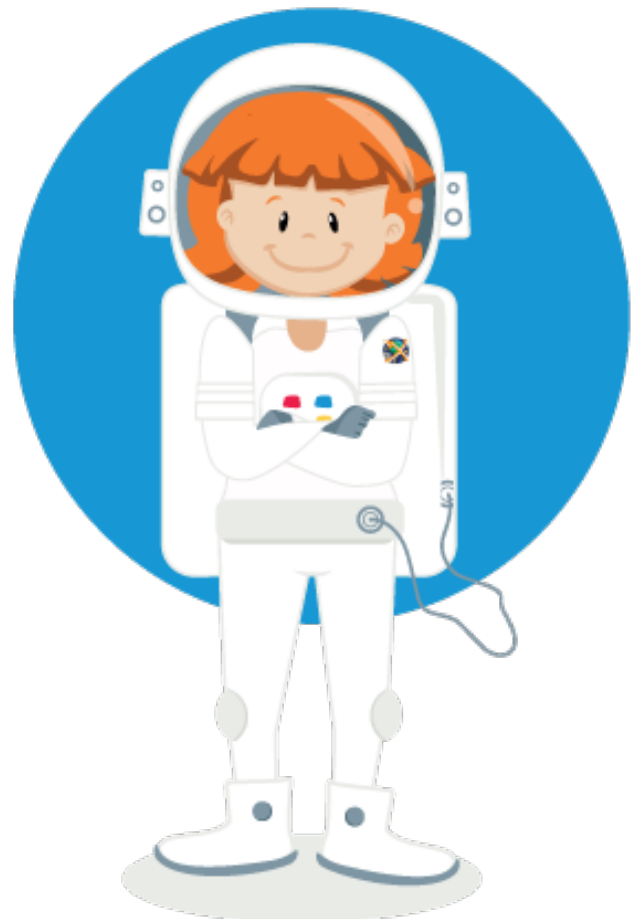
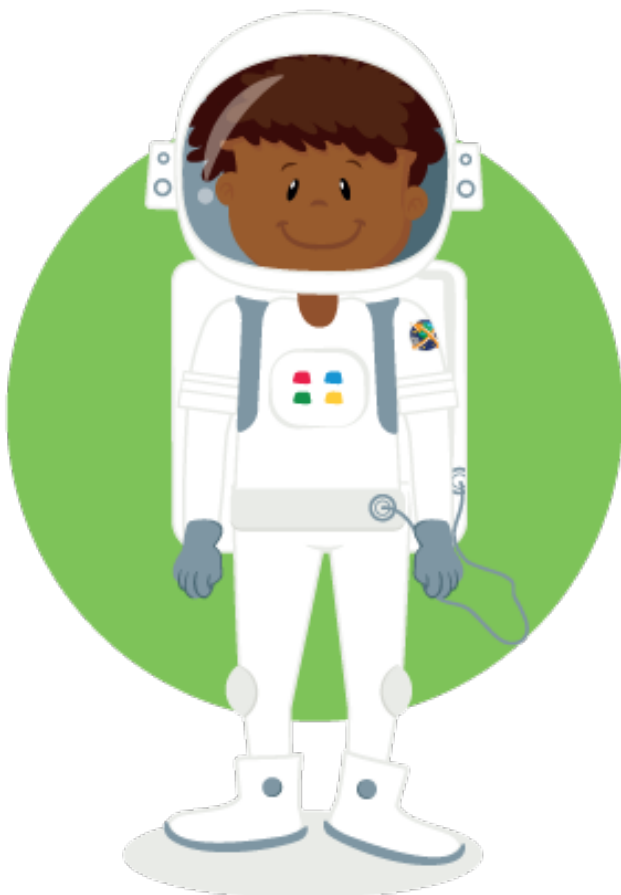


WELCOME GUIDE

→ About Mission X

Mission X: train like an astronaut is a free educational programme developed by space scientists and fitness professionals working with astronauts and space agencies across the world. Mission X uses the excitement of space exploration to inspire students to learn about science, nutrition, exercise and space. It is aimed at students aged 8 to 12 but the activities can be adapted to suit other ages. The programme can be delivered either through the curriculum, through collapsed timetable days, through homework challenges or clubs ... or a mixture!

The international challenge for Mission X runs each year from January to May. During the challenge, countries from across the world encourage their students to complete the activities. Each country is made up of teams who complete activities and track their points. During the mission, each team will submit their completed activities on the website www.stem.org.uk/missionx/challenge to earn points. All of the submitted points help the Mission X mascots, Luna and Leo, walk to the Moon.



→ Overview

For decades, humans have ventured into space, pushing the boundaries of their mental and physical limits to explore the great unknown. But no professional astronaut can leave Earth without extensive training.

Astronauts must have a multitude of competencies and capabilities, in-depth knowledge, and be in peak physical condition. And while it takes years of training to prepare for spaceflight, the first steps to building those crucial key skills begin here on Earth, from a young age.

In the Mission X programme, students are challenged to train like an astronaut by completing physical and scientific activities that have been developed with space scientists and fitness professionals working with astronauts and space agencies across the world.

- **Physical activities** are hands-on training missions targeting strength, endurance, coordination, balance, spatial awareness, and more.
- **Scientific activities** are classroom investigations which focus on STEM subjects and allow students to practice scientific reasoning, critical thinking, teamwork skills, and more.



→ Walk to the Moon Challenge

In the Walk to the Moon challenge, teams across the world complete the activities and submit them online to earn points. All of the points collected help fuel the Mission X mascots to walk 384 400 km from the Earth to the Moon!

Timeline

The challenge takes place annually from the beginning of January to the end of May.

The challenge is designed to be completed in 6 weeks, but can be easily adapted to suit alternative timelines. There is no minimum or maximum amount of activities that must be completed to participate in the challenge.

Who can participate?

- **Age Range:** The Mission X activities are developed for ages 8-12, but can easily be adapted for other age groups and skill levels.
- **Teams:** there is no minimum or maximum number of team members required to participate. Students are encouraged to work with at least 1 other person, and be supported by a teacher, mentor, educator, or parent. Families are also welcome to create a team and participate in the challenge.

How to register:

Mission X is open worldwide and students can register through a national registration system, found here: www.stem.org.uk/missionx/how-sign.

If your country is not listed, please register through the UK registration system.



TIMELINE 2020/2021

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September - December 2020

Pre-Challenge

- registration opens
- training dates for teachers/leaders announced*

Teacher/leader preparation:

- determine the dates your team will implement the challenge (suggested 6-9 weeks)
- create a plan of action for your team
- gather materials for the challenge

13 January: website opens for activity submissions
31 May: website closes for activity submissions

Walk to the Moon Challenge:

Complete your Mission X activities and earn points

January - May 2021

May - July 2021

Post-Challenge

- closing events*
- certificates of completion released

→ Timeline 2020/2021

STEP 1: Pre-challenge

1. To get started, visit www.stem.org.uk/missionx/how-sign and be sure to **register** in your country. Registration opens 15 September 2020.
2. After registering, check with your national organiser to see if your country hosts **teacher training** events.
3. Visit www.stem.org.uk/missionx/activities to **download all of the physical and scientific activities** you will use during the challenge.
4. Create a **plan of action**, determine the dates your team will implement the challenge (suggested 6-9 weeks) and which activities you will complete.
5. Gather all necessary materials in order to complete the challenge.

STEP 2: Complete the Walk to the Moon Challenge

1. **13 January 2021**, the Walk to the Moon Challenge begins! (Website opens for activity submissions)
2. **Complete your Mission X activities and earn points**
3. **31 May 2021**, the Walk to the Moon Challenge ends! (Website Closes for activity submissions)

STEP 3: Post-challenge

1. Check if your country hosts a **Mission X closing event**
2. Receive your **certificate of completion** from your national organiser

→ How to complete activities and earn points

To participate in the Walk to the Moon Challenge, complete physical and scientific activities from the Mission X activity catalogue, and upload the activities on the website to earn points. You can track your team's progress on the **checklist** below and in the classroom using the **Training Tracker classroom poster**, while team members can track their individual progress using the **Mission Journal: Student Logbook**.

Introduction to physical activities

The physical activities utilise the same body parts/systems as astronauts do in training and on missions in space. The activities may be used by individual students or delivered to an audience of students by educators.

Each activity contains a crew member mission, mission briefing, mission assignment, and mission purpose, plus vocabulary and related facts. Safety guidelines are also provided for a successful completion of each activity! The physical activities can be practiced over time – simultaneously or one per week.



Introduction to scientific activities

The scientific activities cover a range of principles and topics that astronauts need to understand to stay healthy in space and to complete the experiments that make up their mission. The activities may be used by individual students or delivered to an audience of students by educators.

Each activity contains a lesson objectives, background information, and step-by-step teacher guides and student worksheets. Safety guidelines are also provided for a successful completion of each activity! The scientific activities can be practiced over time – simultaneously or one per week.



How to earn points

After completing your physical and scientific activities, be sure to log the activities completed by your team. Visit the **Challenge** section on the website: www.stem.org.uk/missionx/challenge

Fill in the form and submit!

You can also see how many points have been earned by your country and track Luna and Leo's progress on their way to the Moon!

→ Extra tools and resources

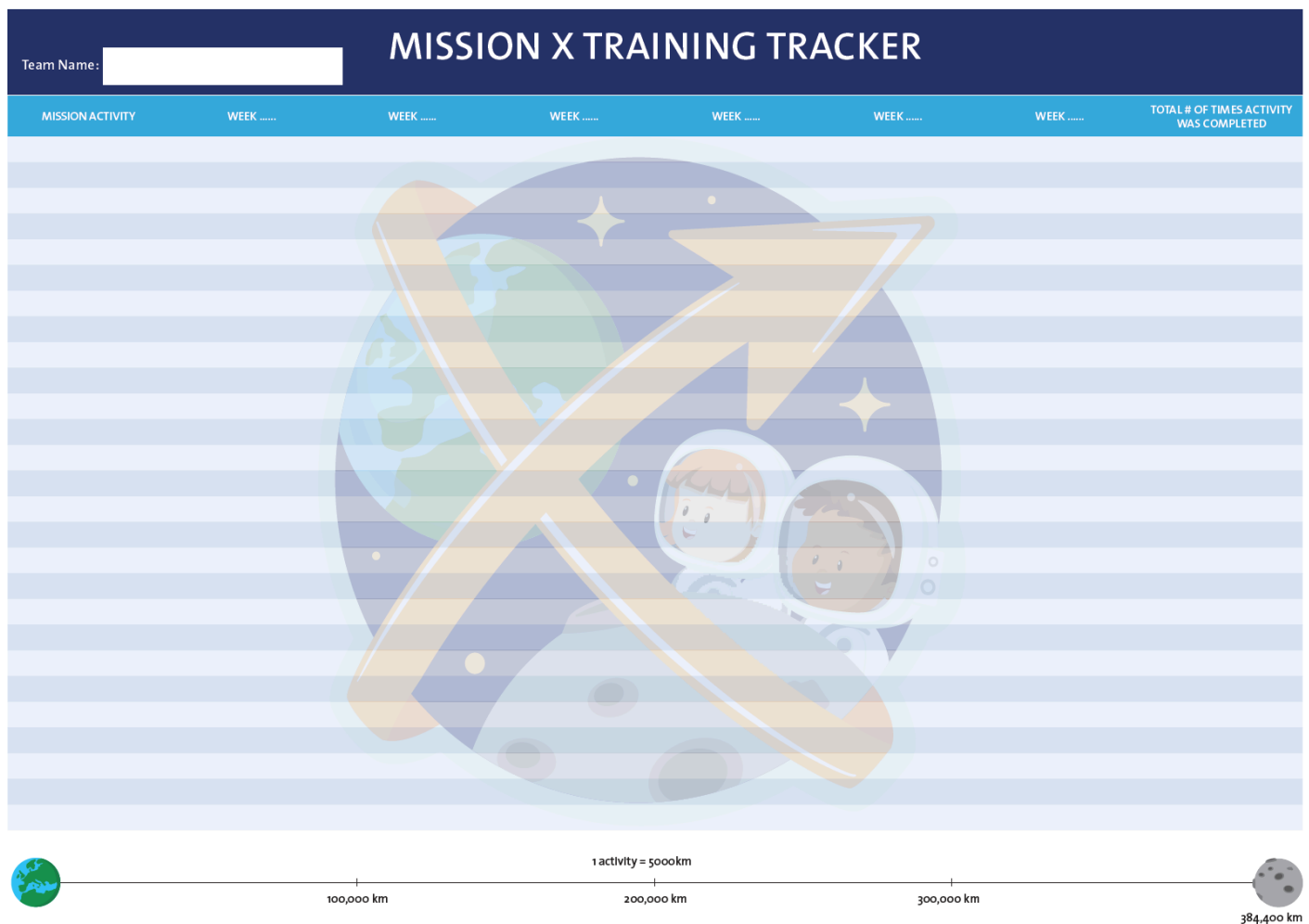
→ Checklist

	MISSION ACTIVITY	Date of completion	Completed activity submitted for points?
PHYSICAL ACTIVITIES	AGILITY ASTRO COURSE		<input type="checkbox"/>
	BASE STATION WALKBACK		<input type="checkbox"/>
	BUILD AN ASTRONAUT CORE		<input type="checkbox"/>
	CLIMB A MARTIAN MOUNTAIN		<input type="checkbox"/>
	CREW ASSEMBLY		<input type="checkbox"/>
	CREW STRENGTH TRAINING		<input type="checkbox"/>
	EXPLORE AND DISCOVER		<input type="checkbox"/>
	PLANET YOU GO, GRAVITY YOU FIND		<input type="checkbox"/>
	JUMP FOR THE MOON		<input type="checkbox"/>
	MISSION CONTROL		<input type="checkbox"/>
	PEAKE LIFTOFF		<input type="checkbox"/>
	GET ON YOUR SPACE CYCLE		<input type="checkbox"/>
	SPACE ROCK 'N' ROLL		<input type="checkbox"/>
	SPEED OF LIGHT		<input type="checkbox"/>
DO A SPACEWALK		<input type="checkbox"/>	
SCIENTIFIC ACTIVITIES	TASTE IN SPACE		<input type="checkbox"/>
	LIVING BONES, STRONG BONES		<input type="checkbox"/>
	ENERGY OF AN ASTRONAUT		<input type="checkbox"/>
	HYDRATION STATION		<input type="checkbox"/>
	A MICROBIAL BOX		<input type="checkbox"/>
	WHAT'S IN YOUR PETRI		<input type="checkbox"/>
	REDUCED GRAVITY, LOW FAT		<input type="checkbox"/>
	ROBOTIC ARM		<input type="checkbox"/>
	BIONIC HAND		<input type="checkbox"/>
	ASTRO FOOD		<input type="checkbox"/>
	ASTRO FARMER		<input type="checkbox"/>
ASTRO CROPS		<input type="checkbox"/>	

→ Training Tracker classroom poster

Check off each activity for each week that is completed. This way your team can track their progress together! Remember, an activity can also be completed multiple times per week.

For each activity completed, earn 5000km worth of points. How close can your team get to the Moon?



→ Links

Mission X YouTube

www.youtube.com/playlist?list=PLbyvawxScNbvAP3Moe6y5o-EimtpfGYtd

Mission X Facebook Group (for participants)

www.facebook.com/groups/missionx19. You can use this group to share ideas and to build friendships with schools from across the world.

Mission X Facebook Page (for fans)

www.facebook.com/trainastronaut/

Mission X Twitter

@trainastronaut

Hashtag: #missionx21

ESA Kids

www.esa.int/kids

ESERO

www.esa.int/Education/Teachers_Corner/European_Space_Education_Resource_Office

UK Space Agency

www.gov.uk/government/organisations/uk-space-agency