



# THE ASTRO SCIENCE CHALLENGE



## Unlimited Space Agency presents

# The Astro Science Challenge

## A space science adventure for children aged 7-11

### MADE IN COLLABORATION WITH



### FUNDED BY



# WWW.ASTROSCIENCECHALLENGE.COM

The Astro Science Challenge is an interactive, space science adventure for children aged 7-11 to inspire them in STEM subjects. It is designed and delivered by the award winning Unlimited Space Agency in collaboration with some of the UK's most brilliant space science organisations.

The patron of UNSA is the British and European Space Agency astronaut Tim Peake who lived and worked as a scientist on board the International Space Station for 6 months – the first British person to do that. Tim is passionate about getting kids into science and is supporting this project.

Thanks to generous support from our funders, it is entirely free for anyone to take part in.



# Contents

<b>PAGE 03</b>	<b>Introduction</b>	What is the Astro Science Challenge?
<b>PAGE 04</b>	<b>Vocabulary</b>	The words we're using <i>explained</i>
<b>PAGE 05</b>	<b>How To Use the App and Access Resources</b>	
<b>PAGE 07</b>	<b>How To Use the Activity Plans</b>	
<b>PAGE 10</b>	<b>The World of UNSA</b>	What is 'The Space Shed' and who is Mini Jon?
<b>PAGE 11</b>	<b>Graduation</b>	How to run your Graduation Ceremony
<b>PAGE 13</b>	<b>Any Questions?</b>	Just get in touch!



# Introduction

## What is the Astro Science Challenge?

### ***For Parents...***

We know that “home learning” might be new for you and so we’ve made *The Astro Science Challenge* to help. Very simply, *The Astro Science Challenge* is an app where children can safely do some fun Science, Maths and English whilst learning all about space. There are six Missions and we recommend you aim to complete one Mission a week.

***If this is the only piece of home-schooling you do with your children, you are totally winning at parenting!***

Just sign your children up as Cadets, support them with their research and (when you’re happy with their work) award them the digital Badge designed by our awesome partners for each Mission. It is as simple as that! Don’t stress about it, don’t worry about “getting it wrong” - use the app however you and your children get the most enjoyment from it.

### ***For Teachers...***

We have also created a series of 18 structured Activity Plans for you to use as the basis for more ‘formal’ lessons. Each has been made in close collaboration with our Science partners and professional teachers. Each Mission has a range of tasks for a range of learning abilities, all mapped against the Key Stage 2 curriculum.

### ***For Anyone Who Likes To Play...***

We have also created a story world that allows you and your Cadets to play along, significantly enhancing and deepening the children’s engagement including films and messages from our patron Tim Peake.

*“The Unlimited Space Agency is great. Their approach to inspiring children about science is rigorous, fun and it works!”*

Tim Peake, astronaut

- ✦ There are six MISSIONS
- ✦ Each MISSION has three ACTIVITIES
- ✦ Each ACTIVITY is designed to be delivered in one ‘lesson’ of whatever length of time you choose (one Science, one Maths, one English), with the potential to expand this into more sessions *if you want*.
- ✦ Every time the children successfully complete a Mission they are rewarded with an online digital BADGE endorsed by one of our partners.
- ✦ Everyone starts with the rank of CADET and if they get all six Badges will “level up” (or graduate) to the rank of AGENT, receiving a certificate signed by Tim!



## Words And Terms We Are Using

<b>MISSION</b>	Each <i>Mission</i> has been co-designed with the Mission Partner e.g. The Science Museum and can be accessed by Cadets once they have completed the previous <i>Mission</i>
<b>ACTIVITY</b>	Each Mission has three <i>Activities</i> – one Science, one Maths, one English. Each Activity is designed to be delivered in one lesson of whatever length of time you choose and is described in the <i>Activity Plans</i> (see pages 07–09).
<b>TASKS</b>	A <i>Task</i> is what the children have to do in response to each of the Activities in order to earn their Badges.
<b>BADGE</b>	On successful completion of all three Tasks, children can claim the <i>Badge</i> associated with that Mission. Each Badge is officially endorsed by one of our Mission Partners.
<b>EVIDENCE</b>	<i>Evidence</i> is what the children upload to the app to prove that they have completed each Task. This might be a simple written report, it might be accompanied by photos or even a short video. They decide!
<b>CADET</b>	Every child who signs up to take part becomes a <i>Cadet</i> of the Unlimited Space Agency. We will always refer to the children as Cadets throughout the Missions until they become an...
<b>AGENT</b>	You can become an <i>Agent</i> of UNSA by completing all six Missions and earning all six Badges.
<b>TEAM LEADER</b>	That's you! Whether you're a teacher in a classroom or a parent running this at home, you are in role as the children's <i>Team Leader</i> to help them get the most out of this experience and have the most fun possible!



## How to Use the App and Access Resources

The App is where your Cadets can watch the Space Shed Videos, read the Tasks they need to complete and can upload their work for each Mission.

You can log in to the App as a Team Leader to set up an Account and a Team for your Cadets to join, and you can also have a try at the first Mission to get a feel for what the Cadets will be seeing and doing.

However the App is not where you do your work as a Team Leader. All your 'admin' takes place at [www.astrosciencechallenge.com](http://www.astrosciencechallenge.com) where you can access all the Team Leader Resources and manage your team, Cadet work and award Badges in the Team Leader Admin section.

*TOP TIP:* if you have access to one, we strongly recommend you use a desktop or laptop (rather than mobile device) for Team Leader Admin.

**Team Leader Resources** - on this section of the website you will be able to view and download:

- ◆ Activity Plans
- ◆ Accompanying Powerpoint presentations
- ◆ Any additional resources described in the Activity Plans
- ◆ Certificates for your Graduation Ceremony and Printable Badges if doing the project non-digitally

**You will have the option to:**

- ◆ download resources for Missions individually
- ◆ download everything in one go – please be aware that this folder will be BIG so, if you choose this option, we recommend you do it when you have a good internet connection and time to wait!

**Team Leader Admin** - on this section of the website you can:

- ◆ Create Cadet accounts in bulk (they can be edited and personalised later on)
- ◆ Access Mission videos (the videos are also available on our YouTube channel)
- ◆ Read the Mission tasks and download the resources
- ◆ Review your Cadets progress
- ◆ Award Badges when Cadets have completed all the work for a particular Mission



## What Are Digital Badges?

A digital Badge is “a validated indicator of accomplishment, skill, quality, or interest.”

The Badges children earn through The Astro Science Challenge allow them to show and verify their skills, interests and achievements through credible organisations – our Mission Partners!





## How To Use The Activity Plans

While designed primarily for teachers (so there's some 'jargon' involved!) even if you're a parent or carer who is homeschooling for the first time, you might still find them useful. Just don't worry if they feel too formal - as with everything here, use whatever you need and ignore what you don't. Learning should be fun!

All the Activity Plans follow the same format. A handy annotated version follows on the next page.

They have all been written in close consultation with teachers so should be in a familiar format for teachers with (we hope!) teacher friendly language. Once you get your head around the first one, the rest will feel very familiar.

You can download them all, along with supporting Powerpoint presentations and all the additional/supplementary materials we've created by going here [www.astrosciencechallenge.com](http://www.astrosciencechallenge.com) and clicking on the TEAM LEADER RESOURCES button.

There are nineteen Activity Plans: three for each of the six main Missions plus an additional 'Prologue: Mission 0' which introduces your children to the project. We have also made Powerpoint presentations to help deliver the Activities, if you choose.

Most of the main Missions include one English, one Maths and one Science activity. There are also some coding (Computer Science) and Design Technology activities.

Each Activity contains 2 Task ideas, which are written in child-facing language and could be printed out on Task Cards if desired.

- ✦ LKS2 (Lower Key Stage 2) - designed for Year 3 and 4 (age 6-9) with some adult support. Expects little or no background knowledge.
- ✦ UKS2 (Upper Key Stage 2) - designed for Year 5 and 6 (age 9-11) and expects some general knowledge of Earth's place in space, the solar system and ability to work independently with some guidance.

As the Team Leader, it is understood that you know your children best and will decide which Tasks are appropriate and that this will probably change with each Mission and Activity.

These Activities will take as long as you want them to take – you choose! A typical Activity might take about 60 minutes but the flexible nature of them means that you can extend them to fit your timetable and the interests of your Cadets.



## What do the Cadets actually need to submit?

While we have included suggestions in the Activity Plans, this really depends on your preferences as a Team Leader and how open you want to be.

*For Parents...* anything goes! The Cadets could write something directly into the app, make a poster and upload a photo of it, make a presentation that is filmed and uploaded... whatever is your and their preferred way to work!

*For Teachers...* The 'Task' statement the children respond to on the App is based on the Learning Intention from each specific Activity. The Activity Plan details two differentiated ways of meeting this Learning Intention and the 'Show Evidence Of' section details ways in which the Cadets might demonstrate this.

The constraints of your home or school resources will define what is uploaded. You may be short on time during one week and decide to be very specific about what the Cadets should prepare and upload. In another week with more time and flexibility, you might choose to let the Cadets have more influence over what evidence they upload.

Seriously, don't stress! Do what you can and keep it fun!

## Who marks it?

You do! As the Team Leader who is marking the work uploaded through the App and awarding the Badges, it is down to you to decide if the Cadets have met the "Learning Intention" and so you guide the work they produce to meet it.

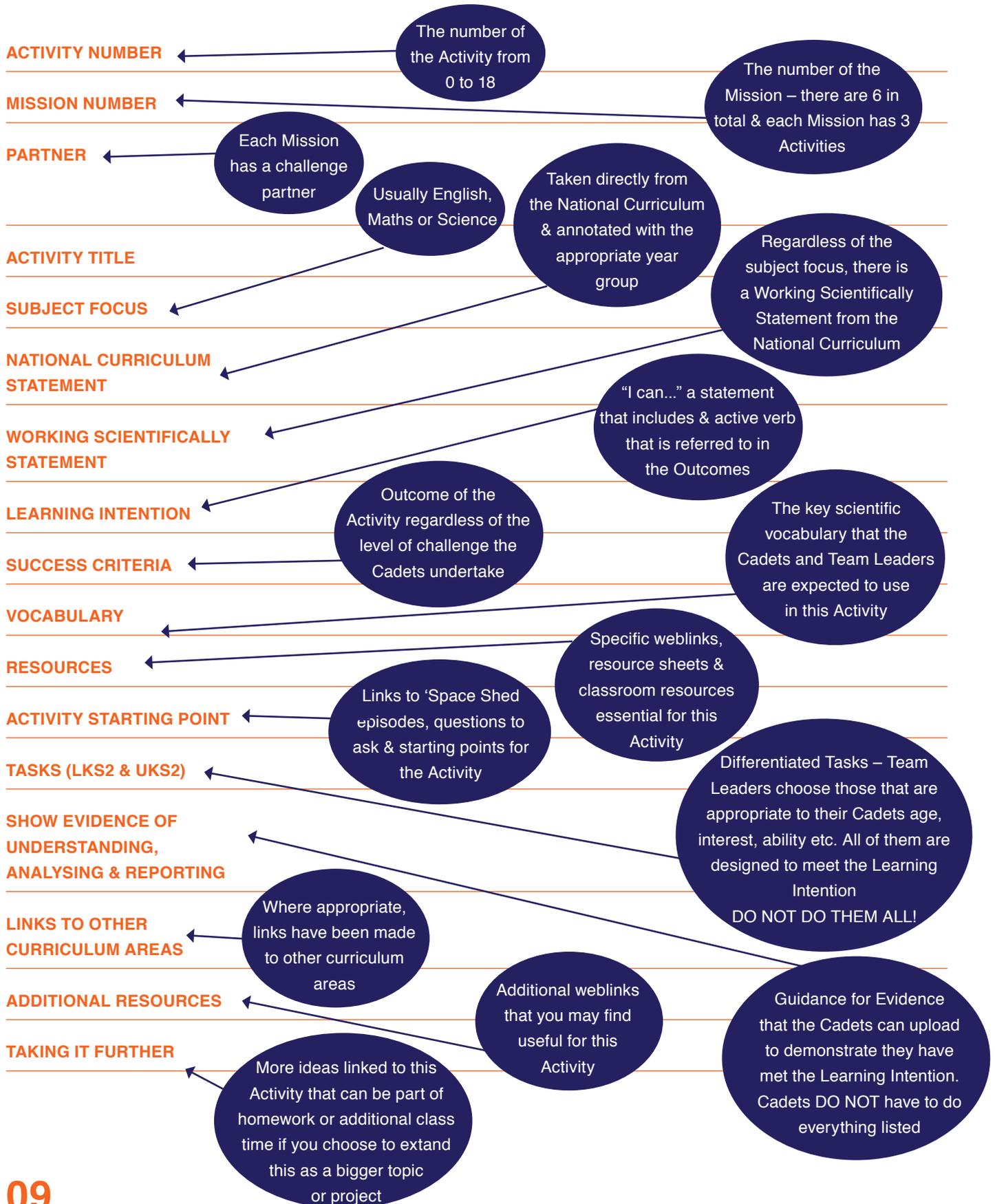
If you're using them, the Activity Plans provide plenty of guidance about the type of material Cadets could produce.

When your Cadet thinks that they have completed the Mission, they click the 'Claim Badge' button in the app. You will then receive a message to review the work and either award the Badge giving feedback e.g. "Well done!" or NOT award the Badge and offer some feedback as to what needs improving before they should claim it again.

**You set the boundaries of this project ☺**



# The Astro Science Challenge Activity Plan





# The World of UNSA

## What is 'The Space Shed' & Who is Mini Jon?

At UNSA we hold a passionate belief in the power of play and immersive storytelling to create heightened engagement and unlock creative potential. This belief is born out of many years of experience (and success) in creating inspiring programmes for primary school children and teachers.

*"It was the most exciting thing I've done in teaching for a long time! The challenges certainly created enthusiasm and motivation for learning. The children were absolutely captivated and most didn't want the project to end."* Teacher at Flore CE Primary School, Northampton

To deepen engagement and make the Astro Science Challenge even more fun, the whole adventure is underpinned by an overarching story that invites the participating children to become members of the Agency and unlock new episodes of a 7 part story by completing each Mission.

## Mini Jon's mission to get into space...

UNSA is led by Jon Spooner – the agency's Director of Human Spaceflight. Jon introduces every new Mission by video from UNSA's award winning, mobile HQ - *The Space Shed*. The best introduction to the world of UNSA and *The Space Shed* is to check out an example episode 'Sign Up as an UNSA Cadet':

**ON OUR YOUTUBE CHANNEL** [youtube.com/unspaceagency](https://www.youtube.com/unspaceagency)

Jon's best friend is Mini Jon – a 6cm tall, 3D printed minifig who looks a lot like Jon. Mini Jon is a 'Cadet' like the other children taking part and will be training with them, taking the same Missions so he can hopefully also 'level up' and achieve the next rank - 'Agent of UNSA'.

Additionally, Mini Jon is on a personal mission to become UNSA's first astronaut and is training hard to achieve that goal. There are other (older) children in the videos who are already Agents and are helping Mini Jon to achieve his dream. Will Mini Jon complete his training and make it to space? Will he break the ISS if he does?! What is the "Secret Mission" the Agents keep talking about? You'll have to complete all the Missions to unlock the next episode of the story and find out ;)



## What was The Astro Science Challenge: LIVE?

Between April - June 2020, UNSA ran a 'live' version of The Astro Science Challenge with families and teachers in lockdown. As well as guiding hundreds of Team Leaders through the Missions in real-time, we streamed weekly live broadcasts through our YouTube channel, sharing our top tips, showcasing Cadet work and interviewing some super cool space folk (including astronauts Samantha Cristoforetti and Suni Williams). All broadcasts are still available to watch at [youtube.com/unspaceagency](https://youtube.com/unspaceagency)

## Graduation

The finale for the adventure could be a Graduation Ceremony for your Cadets to receive their Certificates and become Agents of UNSA.

We have designed UNSA Agent Certificates with Tim's signature for you to download (from the Team Leader Resources section on our website). They can be awarded to Cadets who have completed all six Missions and earned all six Badges. There are also Keep Going certificates for Cadets who haven't yet completed all the Missions. Before you print them, you can customise each one with individual Cadet's names.

## How To Run Your Graduation Ceremony

### IN ADVANCE

- ✦ **Schedule your Graduation Ceremony** You will need access to a screen with sound and the internet so you can all watch the Graduation video message from UNSA and Tim Peake on the day.
- ✦ **Ensure all Cadets have completed all the Missions**, uploaded their Evidence to the App, and that you have awarded all the Badges.
- ✦ **Customise individual certificates** with 'honourable mentions' of each Cadet's special achievements during the Adventure.
- ✦ **Print off certificates** - ideally on heavy 'card-like' paper. If you have time, you can roll them (like university graduation scrolls) and tie them with a bit of ribbon.
- ✦ **We also recommend** printing off a list of the Cadet's 'special achievements' so you can read them out (maybe from a clipboard) when they come up to receive their certificate.



## ON THE DAY

- ✦ **Gather your Cadets.** You will need a screen (with sound) and access to the internet. Ideally the screen will have the UNSA logo on it as a backdrop or screensaver.
- ✦ **Make a short speech** along the lines of:
  - Welcome to your Graduation Ceremony where you will move from the rank of ‘Cadet’ to ‘Agent of UNSA’
  - Before we award you with your certificates, we have a short message for you from UNSA’s Director of Human Spaceflight
- ✦ **Play the ‘Mission 7 - Graduation’ video** which is available from the Team Leader Admin section of the website.
- ✦ **Call each Cadet forward in turn** and award them with their personalised certificate, congratulating them on their unique achievements so all can hear.

*“Congratulations Cadet Smith. During the Adventure you <insert unique special achievement here>. You are now an Agent of UNSA!”*
- ✦ **Assemble the whole team in front of the UNSA backdrop (if you have one) and take a photo** and email it to: [hello@unspaceagency.earth](mailto:hello@unspaceagency.earth) You might like to do this from your phone so you can send it to us immediately. We’ll occasionally make a big digital collage of everyone’s photos, so please ensure you have appropriate permissions!
- ✦ **Tweet Tim** [@astro\\_timpeake](https://twitter.com/astro_timpeake) or message him on Facebook <https://www.facebook.com/ESATimPeake> to show him your pictures.



# Stay Connected!

As well as the live broadcasts every Wednesday and Friday, we'll be active on all our social media channels. We love to see our Cadets work and if you copy in our patron Tim Peake, we know he loves to as well.

**Instagram** @unspaceagency  
**Twitter** @unspaceagency  
**Facebook** / unspaceagency  
**YouTube** / unspaceagency  
**Website** www.unspaceagency.earth

## Any Questions? Just get in touch!

Hopefully this document answers most of the questions you have.

That said, we understand that you may have other questions or need some support when during the project. If so, please first check the FAQs section on the website.

[www.astrosciencechallenge.com/frequently-asked-questions/](http://www.astrosciencechallenge.com/frequently-asked-questions/)

And if that doesn't do the job, please feel free to contact us:

social media [@unspaceagency](#)  
email [astrohelp@unspaceagency.earth](mailto:astrohelp@unspaceagency.earth)

We'll get back to you as soon as possible, however we are a small team who mostly work part time, so do please check the FAQs section of the website first!

We're very proud and excited to be running this adventure in collaboration with all our awesome partners. We know that Tim is extremely proud to have inspired so many young people through his mission so thank you for continuing to do that with us. We hope that you and your Cadets have lots of fun using the App to learn about space and science!