



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.



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Introduction

What is the Astro Science Challenge?

At its simplest level the *Astro Science Challenge* is a series of 18 Activity Plans for you to use as the basis for lessons for your students. And that would certainly be one way to use these resources. However...

...we have also created a story world that allows you and your students to play along, significantly enhancing and deepening the children's engagement.

"The Unlimited Space Agency is great. Their approach to inspiring children about science is rigorous, fun and it works! I'm proud to serve with them on their mission to inspire the next generation of scientists and space explorers." Tim Peake, astronaut

We have created six Missions 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 KS2 curriculum.

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 lessons if you want
- ✦ Every time the children successfully complete a challenge 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 and receive a certificate signed by Tim!

The first step is to download the App on your own device and the devices your Cadets will be using to complete the Astro Science Challenge. You can then create your Team Leader account and set up your Team. Then either create accounts for your Cadets in bulk through the Team Leader Admin section of the website, or your Cadets can create their own accounts as part of the first Activity. It's worth reading the Team Leader Resources for *Mission 0 - Prologue* before you introduce your Cadets to the App so that you can plan how you want to approach the introduction.

You can find more information about getting started on the App and how to download all the Team Leader Resources on page 5.



Words And Terms We Are Using

MISSION	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>
ACTIVITY	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).
TASKS	A <i>Task</i> is what the children have to do in response to each of the Activities in order to earn their Badges.
BADGE	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.
EVIDENCE	<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!
CADET	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...
AGENT	You can become an <i>Agent</i> of UNSA by completing all six Missions and earning all six Badges.
TEAM LEADER	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 where you can access all the Team Leader Resources and manage your Cadets work and award badges in the Team Leader Admin section.

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 amended and personalised later on)
- ✦ Access Mission videos
- ✦ Review your Cadets progress
- ✦ Award badges when Cadets have completed all the work for a particular Mission

We have also created a dedicated page for each Mission inside the Team Leader Admin section. On each Mission page will be:

- ✦ The Mission video (so that you can watch and show the videos without having to log into the App)
- ✦ All the Team Leader Resources for that 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

All our 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 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 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 for you to use in the classroom to help deliver the Activities.

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 at appropriate points.

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 with Year 3 and 4 in mind and with some adult support. Expects little or no background knowledge.
- ✦ UKS2 (Upper Key Stage 2) - designed with Year 5 and 6 in mind 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 (the teacher) know your children best and will decide which Tasks are appropriate and that this will probably change with each Mission and Activity, depending on a range of factors.

These Activities will take as long as you want them to take – you choose! A typical Activity might take approximately 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.

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.

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.

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.

The Activity Plans provide plenty of guidance about the type of material Cadets could produce. The constraints of your school or home's resources will define what is uploaded.

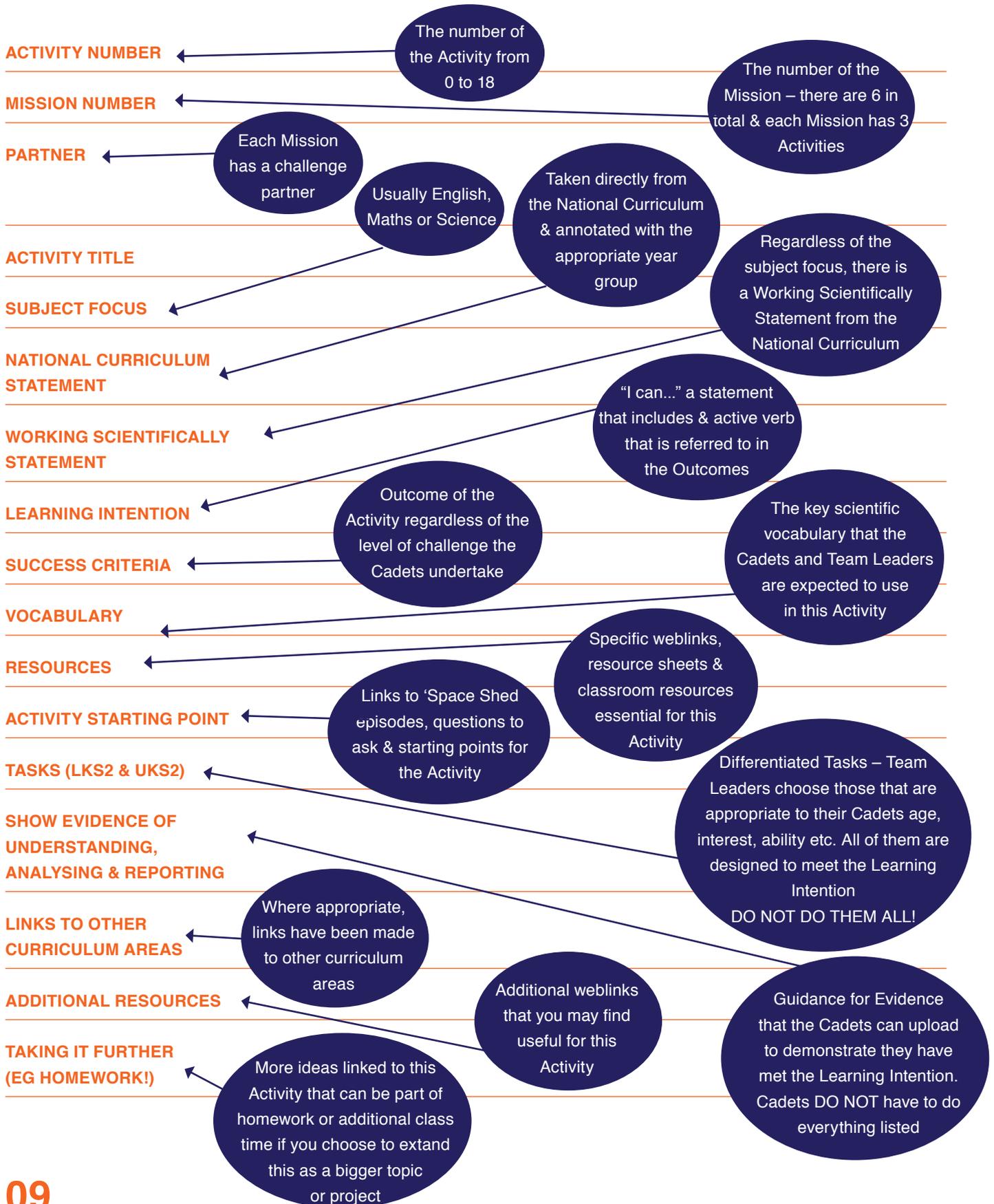
When your Cadet thinks that they have completed the Mission, they click the 'Claim Badge' button. You will then receive a message to review the work and either award the Badge giving feedback e.g. "Well done!" or NOT award the badge and offer some feedback as to what needs doing before they should claim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

We recommend you consider building completion of Tasks into your existing homework and marking structures and thus minimise any additional work! We know from running the project that children love to log in and complete work at home.

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 narrative 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 HQ - The Space Shed. You can see an example episode:

ON THE WEBSITE

www.astrosciencechallenge.com/about

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 ;)



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 of the website) and print. 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, there is the option to customise each one with individual Cadet's names and include a line or two about their unique contribution to the project and any special achievements.

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.com 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.



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 delivering the project. If so, please first check the FAQs section on the website.

www.astrosciencechallenge.com/faqs

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

tweet us [@unspaceagency](https://twitter.com/unspaceagency)

email us astrohelp@unspaceagency.com

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!