YOUTH STEMM AWARD

2021/2022

Youth STEMM Award Participants' handbook

Bronze Level

YouthSTEMM ysawards.co.uk youthstemmaward

Hello!

And welcome to Youth STEMM Award. Congratulations on stepping up to try something new! This booklet is designed to help you get started and let you know the basics of what will be involved at bronze level. You can find out more on our website and on our socials (see front and back page for links!). You can also sign up to receive our monthly newsletter (via the form at the bottom of our website) and receive activity ideas and keep up with latest YSA news.

By taking part and completing your e-portfolio of activities you will be able to demonstrate your enthusiasm and initiative and help you stand out in future applications and interviews.

By the end of the programme we hope you'll feel better prepared and more confident to take your next steps into STEMM, whether that's through further and higher education, hands-on training or simply by feeling more connected and interested in STEMM.

We challenge you to step out of your comfort zone and explore areas you might not have previously considered - who knows where it might lead!

Most importantly, we hope that you enjoy the experience!

The YSA Team

STEMM stands for:



Quick links:

See page 4 to find out how it works
See page 7 for an overview of what you need to do
See page 14-16 for how to set up your e-portfolio and log your first activity



> As an aspiring medic, this has been a very positive experience for me as I have been able to log all of my activities, provide evidence for them, and reflect on them well which I can further use as part of my personal statement. Would 100% recommend this platform to any student wanting to apply to a course in STEMM or even to further find out about STEMM. Thank you to the YSA team

Sanshika, Silver Youth STEMM Award recipient 2021



> I have really enjoyed carrying out the bronze award, I particularly enjoyed researching and broadening my knowledge in the different career options within STEMM. I look forward to working towards my silver award next!

Kyran, Bronze Youth STEMM Award recipient 2021

About the Award:

Youth STEMM Award (YSA) is a skills framework for young people, designed to support and inspire the next generation into STEMM, which stands for: Science, Technology, Engineering, Mathematics and Medicine.

Participants take part in extracurricular activities and log them to the YSA e-portfolio. When enough activity hours have been logged and the criteria are met in each of the four strands (see page 5) participants receive a certificate and a medal. E-portfolio's can be downloaded as a record of achievement for future applications and interviews. Each student has a Coordinator to help guide them through the programme and moderate activities.



- Undertake STEMM-based activities and decide which of the four core strands they fit into
- Log hours onto the e-portfolio to complete the strands
- Accumulate virtual badges and build your portfolio
- Receive a medal and certificate upon completion of Award

Skills you will develop:

By completing activities in these skill areas you will set yourself up for success in your future STEMM career:



By **inspiring** the next generation you will become a role model to younger children and develop leadership skills and confidence.



By **engaging the public** you will develop your communication skills and help your family and community to appreciate STEMM topics.



By **developing skills and knowledge** you will explore topics over and above the national curriculum in areas that interest you.



By **shaping your future** you will focus on careers in STEMM and explore options you may not have previously considered.

Top Tip:
These are the four YSA core strands. You will need to undertake activities in each of these areas to complete your Award.

Achieving a Bronze-level Youth STEMM Award



In order to achieve your Bronze Award, you will need to undertake a minimum of 45 hours of STEMM-based activities. You will also need to meet certain criteria in each of the four strands. The Silver and Gold levels work in exactly the same way, except you'll need to log more hours and there are some additional criteria to meet. *See the YSA website for more details on how to complete the SIlver and Gold levels.*

Before you start an activity, its a good idea to be clear on which strand it covers, and which of the five STEMM areas are involved.

Top Tip:
You can take as long as you need to complete your Award.

For the Bronze Award you must log activities in each of the five areas of STEMM. An activity can count for more than one area of STEMM, for example a visit to a museum might be both Science and Technology.

For each activity logged, you'll need to identify an Assessor. This should be an adult who can authorise that you took part in the activity and add a comment to your e-portfolio.

If you are undertaking an activity at school or at home, your School or College Coordinator can act as your Assessor. If you are taking part in an activity at somewhere else, your Assessor should be someone involved in the activity, such as a work experience host. Check with your Coordinator if you are unsure about whether someone is a suitable Assessor.

You can start and complete your Award at any time of the year and take as long as you need to undertake the required hours. You can continue working towards your Award over the holidays and can even roll into the next school year.

What you need to do in each strand at Bronze level:

- **10 hours inspiring the next generation**
- **10 hours engaging the wider public**
- **10 hours developing your skills and knowledge**
- **15 hours shaping your future career**

More detail on each of these strands can be found in the following pages of this handbook, along with some suggested activities.

Steps to success:

1. **Sign into the YSA e-portfolio and complete your profile**
2. **Identify activities and nominate Assessors**
3. **Undertake and log activities**
4. **Complete the strands**
5. **Submit for moderation**
6. **Achieve award!**

What counts as an activity?

When looking for potential activities there are a few things you need to check:

- Does it involve at least one area of STEMM?
- Is it outside normal lessons and homework?
- Which YSA strand does it best fit into?

You cannot count time spent in regular lessons or on homework but you can include other activities carried out at school such after-school clubs (see boxes below for guidance on activities carried out at school):

Yes (if STEMM related):

- ✓ *After school clubs, open evenings and public events*
- ✓ *School-organised trips*
- ✓ *Extra study in your spare time to learn more about a topic that you may have touched on at school*

Does NOT Count:

- ✗ *Work carried out in normal lessons*
- ✗ *Homework*
- ✗ *Exam revision of topics learnt in school*
- ✗ *Activities that don't involve STEMM*

When deciding which strand your activity fits into, remember you can split the time (but you can't double count!).

Example activity:



3-hour university visit

=



Inspiring the next generation

In this strand you will develop leadership skills and act as a role model. You can work directly with young people or produce resources aimed at inspiring them about STEMM topics or careers. Your audience can be the same age as yourself or younger.

For the Bronze Award you should:

Top Tip:
You can work on your own or as part of a team

- Complete at least 10 hours of activities in this strand over the course of the Award.
- Work with at least two different groups of students or two different individual students
- Try to work with students from other schools in addition to own school

Some example activities:

- Take part in a practical session for younger pupils to help their understanding of a topic. This could be at school at home or at a youth group on your own or part of a team.
- Mentor or tutor a young person on a STEMM topic, or help with homework or home schooling
- Use the free digital YSA Junior packs (available from the Youth STEMM Award website) to help a younger child with activities, such as building bridges, learning to code or building a volcano
- Make a poster to communicate a STEMM topic that is aimed at young people, to be displayed in school or in a community location

Engaging the public

In this strand you will develop your communication skills by helping the public to better understand STEMM topics. Your audience can include your family and your wider community, including at your school or college, and can either be a similar age or older than you.

For the Bronze Award you should:

- Complete at least 10 hours of activities in this strand over the course of the Award.
- Be involved in at least two different events or activities
- Activities must be in at least two different settings or involve two different types of media, e.g. written and video

Top Tip:
How about writing a blog for the YSA website?

Some example activities:

- Create a video to inform and educate, for example about environmental topics
- Write an article or blog for the school newspaper or another publication such as the Young Scientist Journal or the YSA website
- Use social media to share appropriate information and ideas about STEMM and encourage people to ask for evidence
- Create a poster to be displayed in a public place or other organisation (like a residential home, or community centre)

Developing skills and knowledge

In this strand you will enhance your understanding of topics related to STEMM, including learning new skills that are beyond the national curriculum. By undertaking activities in this strand, you will be able to explore areas that interest you and evidence your commitment and enthusiasm to extend beyond the curriculum.

Top Tip:
Activities can be virtual or in person

For the Bronze Award you should:

- Complete at least 10 hours of skill development in this strand over the course of the Award.
- Attend at least two events, such as talks or webinars, that expand your knowledge
- Be able to clearly explain what you learned through taking part in the activity for your e-portfolio entry
- Record evidence wherever possible to demonstrate the progression you have made

Some example activities:

- Take part in an after-school club, or undertake a CREST Award or Big Bang Project to learn new skills
- Visit a science museum or other organisation that involves STEMM
- Watch, listen and read educational STEMM-related content, such as the Royal Institution Christmas Lectures, science podcasts or the Youth STEMM Award newsletter
- Time spent researching a STEMM-related topic that you go on to 'inspire the next generation' or 'engage the public' in

Shaping your future

In this strand you will focus on exploring further and higher education, training and careers in STEMM. You are expected to research different pathways and find out about areas that you may not have previously considered. The aim is to help you widen your future options and make informed decisions in the future

For the Bronze Award:

- You should complete at least 15 hours of activities in this strand over the course of the Award.
- A maximum of 10 hours can count from any individual activity, such as work experience. You must add at least another 5 hours from other activities.
- A minimum of 8 hours must be specifically linked to careers in STEMM sectors
- You should show evidence of having explored careers in more than one STEMM sector

Top Tip:
Check out the YSA Instagram STEMM profiles series featuring diverse people and roles in STEMM

Some example activities:

- Research a STEMM-related career to find out what the job involves and what qualifications are required
- Undertake work experience or work-shadowing to experience a STEMM-related career (virtual or in-person)
- Attend university or college open days to explore options for future study, practise applications and carry out mock interviews under the guidance of a mentor or careers advisor
- Attend a careers fair or watch videos recorded by STEMM professionals to learn about their job

Who is supporting you?

At your organisation:

Top Tip:
Your YSA Coordinator can help you plan out your activities and make sure they are appropriate for each strand

Your school or college Coordinator will guide you through the programme and help to you to get started. If you are registered independently, your Coordinator will be from the YSA team. Your Coordinator will authorise the activities that you log and check you have provided a good description and enough evidence.

All the activities you undertake also need to be signed off by an Assessor, someone who was involved with the activity and can confirm that you took part. They can also leave feedback which forms part of your portfolio. Your Coordinator can act as your Assessor for activities that they are involved with, or activities that you undertake at home or online where there is no other independent person involved.

At home:

We recommend letting the people you live with know that you are working towards a Youth STEMM Award. They might have some ideas for ways you could gain hours by doing activities at home. If you have younger children in your family or friendship group you could plan activities with them to for 'Inspiring the next generation'.

Online:

Want to plan an activity with another group? Why not reach out to the Youth STEMM Award community online. You could plan a joint remote activity and maybe even ask one of our patrons to get involved. Connect with us on social media to share your stories and reach a wider audience.

Setting up your e-portfolio:

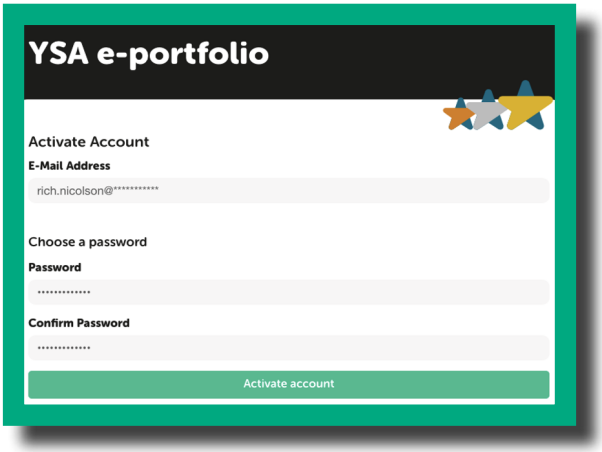
Your e-portfolio is where you should log all of the STEMM activities you take part in during the course of your Award.

It will help keep you on track with your progress and let you know what you need to do to complete. As you progress you will unlock virtual badges that will be added into your e-portfolio. You can download your portfolio at any time to help with applications for college, university or jobs.

Once your Coordinator has added you to the system, you'll receive an email asking you to activate your account. Follow the link to complete your registration and set up your password.

You'll need to complete your profile including your school year and postcode. It is important that this information is correct and up-to-date so that you don't miss out on any opportunities. If anything changes you can update it by clicking 'edit profile'. We look after this data very carefully and you can read our full privacy policy by visiting www.ysawards.co.uk.

You are now ready to log your first activity!



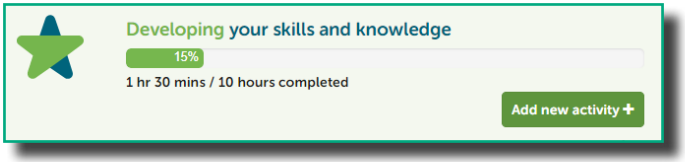
How to submit an activity:

1

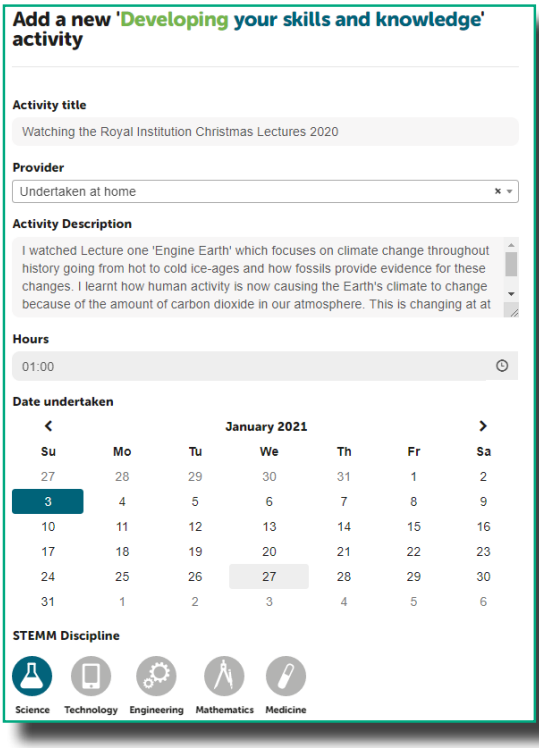


Top Tip:
To log an activity, visit www.ysawards.co.uk and follow the link to sign in to the e-portfolio

2 Choose the strand that best matches the activity and click 'add new activity'.



3



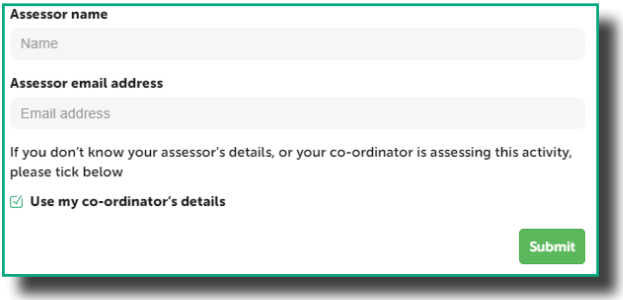
Enter the details on the form. Be sure to include a clear title and description so that your coordinator understands exactly what you did. This includes the length of time the activity took, the date it took place and the area(s) of STEMM it involved.

Save the submission as a draft to continue later or click 'submit' when you are happy that you have included all the information.

Finally, provide the name and email address of an adult who was involved with the activity, eg. a work experience host. They will receive an automated email asking them to verify that you took part and have the option to add comments. If you did an activity at home, such as watching a TV documentary, or at school, tick the box 'use my coordinators details'.

Top Tip:
You can only include activities that you have taken part in since you registered for Youth STEMM Award.

4



Activity submission checklist:

Activity title:

This should be a clear summary of what you did – eg. 'Attended a Chemistry lecture presented by John Innes Centre' or 'Supported my younger sister with her Maths homework'. If you're not too sure if you've achieved this, ask yourself – would someone reading the title know what the activity was about?

Provider:

Select the organisation that provided the activity or pick 'Undertaken at home' if appropriate. This information helps us to tell our partners how many young people have been enjoying their activities. If the organisation who lead the activity it is not listed, select 'other' and type into the box. You can also write 'undertaken at school'.

Hours:
Only include hours that you spent learning and participating in STEMM during the activity. Don't count breaks or travel time.

Top Tip:
If an activity was undertaken at school, be sure to explain how it was outside your normal lessons

STEMM Discipline:
Tick all the areas you think apply to your activity.

Evidence:
Including evidence helps your coordinator to see what you did and help them moderate the activity. Evidence can be any resources you created, screen shots or pictures of the activity you participated in. Its also a great way for you to reflect back on the activity in the future.

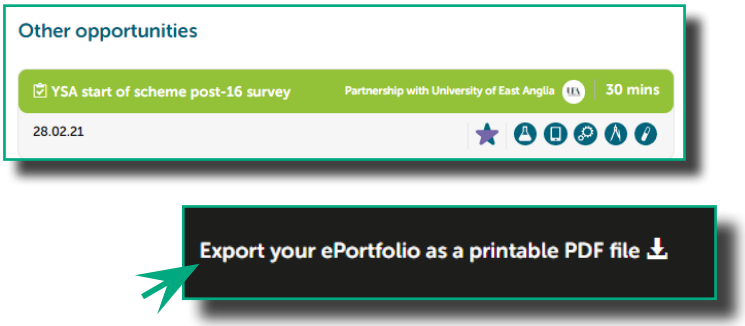
How to write a good description:

A description is where all the action happens!
This is your opportunity to showcase your activity and tell us how exciting it was. Descriptions are rejected when there is too little information, so make sure to provide at least three complete sentences about the activity.

You could answer the following questions:

- **What was the activity?**
- **What did you learn from it?**
- **What interested you the most?**
- **What there anything that surprised you about what you did or learned?**
- **Has it inspired you to do anything else or explore something further?**

Remember to regularly log in and check the opportunities section for links to activities and surveys which can earn you additional time towards your Award. You can export your portfolio at anytime as a printable file.



Completing your Award

When you have logged enough hours and satisfied all the criteria you can submit your e-portfolio for moderation to receive your Bronze Youth STEMM Award. Alternatively you can request to use the hours you have already logged towards the silver level.



Students receive Youth STEMM Awards from TV Astronomer Mark Thompson in 2019

When you complete, you will receive a medal and certificate. This is a great time to reflect on the skills you have developed and celebrate your achievements. Why not get in touch and send us a picture of you with your Award?
We hope you have enjoyed the experience and learnt a lot about yourself too.

Inspiring ambassadors

We are delighted to have the support of a fantastic group of high profile STEMM professionals who are inspirational role models and expert science communicators. They are all passionate and committed about inspiring the next generation.

> We each have the potential to be anything we want, no matter who we are or where we are from and the YSA promotes that at every opportunity. They work hard to help every young person see their potential.



Professor Ben Garrod, Youth STEMM Award Ambassador

Evolutionary biologist, conservationist, broadcaster and author

@Ben_garrod



Marty Jopson

Science entertainer and resident scientist on the BBC's The One Show

@martyjopson



Dr Marcia Philbin

Chief Executive of the Faculty of Pharmaceutical Medicine



> You don't need anybody's permission to be a great mathematician!

Dr Nira Chamberlain, Youth STEMM Award Ambassador

Mathematical Modeller and President of the Institute of Mathematics and its Application

@ch_nira

> If something like the YSA had been around when I was at school, I honestly think I'd have explored my passion for science sooner, discovering it wouldn't just lead me down the stereotypical path of life in a white lab coat, but something that could be creative, social and full of adventure.



Maddie Moate, Youth STEMM Award Ambassador

YouTube filmmaker and BAFTA winning presenter
@maddiemoate



Prof Mark Miodownik

Materials scientist, engineer, broadcaster and writer
@markmiodownik



Lizzie Daly

Biologist, naturalist and wildlife presenter
@LizzieDalyWild



Prof Danielle George

Engineer, Astrophysicist and TV presenter
@EngineerDG



Mark Thompson

Astronomer, author and broadcaster
@Astronomer_Mark

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