



Youth STEMM Award Participants' handbook

A Message from Prof. Ben Garrod!

“Welcome to the Youth STEMM Award! Whether you’re starting with Bronze, advancing to Silver or going for Gold, this is your launchpad into the exciting and dynamic fields of science, technology, engineering, mathematics and medicine. Each level offers a new challenge designed to help you explore STEMM subjects, gain hands-on experience and develop critical skills that go beyond the classroom. Your time with the Youth STEMM Award will leave you better prepared and more confident to take your next exciting steps, whether that’s through further education, training, or simply with a better connection to the world around you. Completing the Youth STEMM Award not only builds lifelong skills but will also strengthen applications throughout your further, and higher, education journey.

Embrace the road ahead – your curiosity has the power to shape both your future and the world!

*Best wishes,
Ben Garrod*



Professor Ben Garrod
YSA Ambaddasor, Evolutionary biologist at University of East Anglia, Conservationist, broadcaster and author

STEMM stands for:



Science



Technology



Engineering



Maths



Medicine

About the Youth STEMM Award:

The Youth STEMM Award (YSA) is a unique skills framework created to support and inspire young people like you to explore Science, Technology, Engineering, Maths and Medicine (STEMM). Through each level-Bronze, Silver and Gold - you'll develop essential skills, gain hands-on experience, and explore exciting STEMM fields. As a YSA participant, you'll complete activities across four strands:

- **Inspiring the Next Generation,**
- **Engaging the Public**
- **Developing Skills and Knowledge**
- **Shaping Your Future**

You'll log each activity in your e-portfolio, which tracks your hours, skills and achievements. Upon completion, you'll earn a medal, certificate and digital badge. You'll have a comprehensive record of accomplishments that shows your commitment and passion for STEMM, which can be downloaded as a lasting record for applications and interviews. The Youth STEMM Award is also recognised on the UCAS form, making it a valuable addition to your university application.



- **Engage in STEMM:** Take part in STEMM-based extracurricular activities.
- **Log Your Hours:** Record activities across four strands in the e-portfolio.
- **Achieve & Earn:** Receive a medal, certificate and digital badge.
- **Download Progress:** Use your e-portfolio for applications.

Skills You Will Develop:

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



**Inspiring
the next
generation**

Inspiring the next Generation:

Become a role model for younger peers, building leadership skills and confidence.



**Engaging
the public**

Engaging the Public:

Enhance communication skills as you share STEMM knowledge with family, friends and the wider community.



**Developing
your skills and
knowledge**

Developing Skills and Knowledge:

Dive deeper into STEMM topics beyond your curriculum, following your interests.



**Shaping
your future**

Shaping Your Future:

Explore STEMM careers, learn about future pathways, and expand your career options.

Top Tip:

These are the four YSA skill strands. You will need to do activities in each area to complete your Award

Achieving Your Youth STEMM Award



To earn your Youth STEMM Award, you'll need to complete a set number of hours across the four skill strands. Each level has specific requirements:

- Bronze: 45 hours
- Silver: 90 hours
- Gold: 150 hours

Each level of Award also has some unique requirements, be sure to review the checkboxes in the e-portfolio to make sure you are meeting all the requirements.

Top Tip:

Many of the activities you may already do in school could count, such as attending after school clubs!

As you plan your activities, identify which strand and STEMM areas they cover. For each activity, you'll also need to identify an Assessor. This is an adult who can verify that you took part and offer feedback.




Usually, your Assessor will be your school or college coordinator, or your YSA HQ coordinator if you are taking part independently. Sometimes your Assessor will be an independent person who was involved in running the activity, such as a work experience host. When you log the activity you'll be able to add their details.

Top Tip:

You can log hours throughout the year, including over holidays, and track your progress in the YSA e-portfolio. Take your time and enjoy the journey!

Check with your Coordinator if you are unsure about whether someone is a suitable Assessor.

Level Specific Requirements:

Level	Total Hours	Inspiring the next Generation	Engaging the Public	Developing Skills and Knowledge	Shaping Your Future	Additional Requirements
 Bronze award	45 Hours	10 Hours	10 Hours	10 Hours	15 Hours	Include at least one activity in each STEM area
 Silver award	90 Hours	20 Hours	20 Hours	20 Hours	30 Hours	Cover all five STEM areas in each strand
 Gold award	150 Hours	30 Hours	30 Hours	45 Hours	45 Hours	In addition to Silver, focus on one area in-depth with extensive projects

More detail on each of the strand requirements can be found in the following pages of this handbook, along with some suggested activities. It's also on the website: www.ysawards.co.uk.

What Counts as an Activity?

When selecting activities, make sure they meet these criteria:

- **STEMM Focus:** Involves at least one area of STEMM
- **Outside Regular Lessons:** Not part of normal classes or homework
- **Strand Alignment:** Fits into one of the YSA strands

You cannot count time spent in regular lessons or on homework, but other school activities like after-school clubs may be eligible.

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 were introduced to at school

Does NOT Count:

- ✗ Work carried out in normal lessons
- ✗ Homework
- ✗ Exam-specific 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 cannot count it twice!

Example activity:





Inspiring the Next Generation

In this strand, you'll inspire younger students or peers by sharing your interest in STEMM. You'll develop leadership and confidence as you become a role model, either through direct mentorship or by creating resources.

Level	Minimum Hours	Additional Requirements
Bronze	10 Hours	Work with at least two different groups of students, who can be the same age or younger than yourself, one should be from outside your own school
Silver	20 Hours	In addition to Bronze, develop and deliver your own activity idea for younger students
Gold	30 Hours	In addition to Silver, mentor at least two younger students and teach them STEMM content

Example Activities:

- **Bronze: Assist in Leading a STEMM Workshop** – Help your teacher lead a hands-on STEMM session for younger students, such as a simple science experiment or coding basics.
- **Silver: Develop a New STEMM Activity** – Create an interactive activity like a scavenger hunt or quiz on a STEMM topic, and lead it with younger students or at a school event or community youth group session.
- **Gold: Mentor Younger Students on a STEMM Project** – Mentor at least two younger students over multiple sessions, guiding them through a small STEMM project, such as building a model or researching a science topic.

Top Tip:

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



Engaging the Public

In this strand, you'll develop your communication skills by helping others understand STEMM topics. Your audience can include family, friends, and the wider community and may be the same age, younger, or older.

Level	Minimum Hours	Additional Requirements
Bronze	10 Hours	Be involved in at least two different events or activities to engage the public in different settings. Demonstrate multimedia formats (e.g., posters, presentations, newsletters)
Silver	20 Hours	In addition to Bronze, develop and deliver a STEMM activity for a public event, eg. science festival or open day
Gold	30 Hours	In addition to Silver, participate in a debate or conference presentation, create a poster and a written resource, (e.g. a blog, website, social media)

Example Activities:

- **Bronze: Create a STEMM Poster** – Design a poster on a science topic and display it at a school or community location to educate others about STEMM.
- **Silver: Host a Science Talk or Debate** – Organise a science talk or debate for a group at school, and use slides or videos to enhance your presentation.
- **Gold: Develop a Public Engagement Project** – Create and run a larger event, like a science fair booth or community workshop, to educate a broad audience on a STEMM topic.

Top Tip:

Think about using online platforms to reach a wider audience



Developing Skills and Knowledge

In this strand, you'll expand your STEMM understanding by exploring topics that go beyond the regular curriculum. This is your chance to pursue areas of personal interest and deepen your knowledge.

Level	Minimum Hours	Additional Requirements
Bronze	10 Hours	Complete activities that explore STEMM topics outside of regular lessons. Attend two STEMM related events. Demonstrate progression in a skill or knowledge area, recording evidence to show development
Silver	20 Hours	In addition to Bronze, attend events at multiple STEMM venues (e.g., museums, science centers, webinars), Produce a research project
Gold	45 Hours	In addition to Silver, complete an in-depth study such as an EPQ. Be working towards a level 3 STEMM qualification

Example Activities:

- **Bronze: Attend a STEMM Club** – Join an after-school club focused on a STEMM topic, and participate in discussions or hands-on activities.
- **Silver: Visit a STEMM Venue or Event** – Attend a science museum, public lecture, or webinar to learn more about an area of interest.
- **Gold: Complete a Research Project** – Undertake an independent research project, such as an EPQ, on a STEMM topic that interests you, and present your findings.

Top Tip:

Activities can be virtual or in person



Shaping Your Future

In this strand, you'll explore STEMM careers, training, and educational pathways. This will help you learn about different opportunities and make informed decisions about your future. To ensure a varied experience, there is a maximum number of hours that can be counted from a single work experience or placement. Hours can include general careers guidance and personal development, such as interview practice.

Level	Minimum Hours	Additional Requirements
Bronze	15 Hours	Max 10 hours from one work experience. At least 8 hours linked to careers in STEMM. Include careers in more than one STEMM sector.
Silver	30 Hours	Max 20 hours from one work experience. At least 15 hours linked to careers in STEMM. Research at least three careers, in more than one STEMM area
Gold	45 Hours	Max 25 hours from work experience. At least 25 hours linked to careers in STEMM. complete an in-depth exploration of one STEMM field, interviewing a professional.

Example Activities:

- **Bronze: Attend a Careers Talk** – Go to a STEMM careers talk or open day, and research different career paths within the sector.
- **Silver: Shadow a Professional** – Arrange a work-shadowing experience in a STEMM role, learning about day-to-day tasks and career progression.
- **Gold: Undertake Extended Work Experience** – Complete a longer work experience placement or a series of shadowing sessions in a STEMM career field of interest.

Top Tip:

Take notes during career events or work experiences to reflect on what you learned and how it aligns with your goals

Who is supporting you?

Throughout your Youth STEMM Award, you'll have support from your Coordinator and other trusted adults at YSA, who can answer questions and verify your progress.

Coordinator Support:

Your Coordinator is here to guide you, offering advice on choosing activities and logging them in your e-portfolio. For most people, your Coordinator will be based at your school or college. If you're registered independently, a member of the YSA team will be your Coordinator. They'll also moderate your activities to ensure your descriptions and evidence meet the award requirements.

Top Tip:

Your Coordinator is a great resource for checking if your activities fit the strand requirements. Reach out to them for help with planning and verifying your progress

Role of Assessors:

Each activity needs to be signed off by an Assessor who can confirm your participation. This could be a teacher, a work experience supervisor, or anyone involved in your activity. For independent activities, like those done at home or online, you can use your Coordinator as your Assessor.

Engaging with Support at Different Locations

- **At your Organisation:** Your school or college may have resources or advice to help with your activities. Don't hesitate to ask teachers or staff if they can support your work towards the award.
- **At Home:** Family members may have ideas or resources to help you gain hours, especially for activities in the "Inspiring the Next Generation" strand. For example, you could teach a STEMM concept to a sibling.
- **Online:** Connect with the Youth STEMM Award community online to share ideas, plan joint activities, or even ask for advice. Follow us on social media for inspiration and subscribe to the YSA newsletter!

Setting up your e-portfolio:

Your Digital Record of Achievement

Your e-portfolio is where you'll record all your Youth STEMM Award activities. This digital portfolio tracks your progress and helps showcase your accomplishments. You can download it anytime to support future applications for college, university, or jobs.

Step 1: Activate Your Account

- Watch for an email from YSA to activate your e-portfolio account. Follow the link in the email and set up your password. If it doesn't appear in your inbox, check your junk or spam folder.

Step 2: Complete Your Profile

- Fill in details like your school year and postcode. This information helps keep your e-portfolio accurate and up to date. Be sure to edit your profile if any details change.

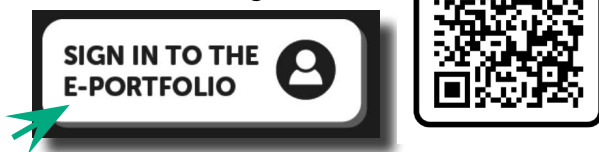


Top Tip:

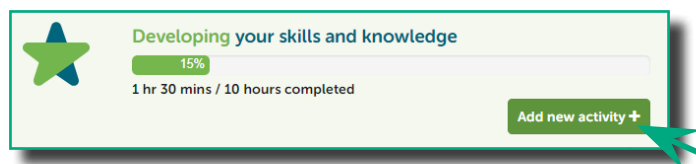
Your e-portfolio is your personal record, so keep it current and add to it regularly!

How to submit an activity:

- 1 Scan the QR code or visit www.ysawards.co.uk to log in



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



- 3 Add a new 'Developing your skills and knowledge' activity

Add a new 'Developing your skills and knowledge' activity

Activity title
Watching the Royal Institution Christmas Lectures 2020

Provider
Undertaken at home

Activity Description
I watched Lecture one 'Engine Earth' which focuses on climate change throughout history going from hot to cold ice-ages and how fossils provide evidence for these changes. I learnt how human activity is now causing the Earth's climate to change because of the amount of carbon dioxide in our atmosphere. This is changing at

Hours
01:00

Date undertaken

January 2021						
Su	Mo	Tu	We	Th	Fr	Sa
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

STEMM Discipline

Science Technology Engineering Mathematics Medicine

Enter the details about your activity. Be sure to include a clear title and description so that your coordinator understands exactly what you did.

Under 'Hours' add the time the activity took (to the nearest 15 minutes), add the date it took place and the area(s) of STEMM it involved.

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

- 4 Provide the name and email address of a trusted adult who was involved with the activity who can act as your assessor, e.g. a work experience host. They will receive an automated email asking them to verify that you took part add comments. Always ask permission before you share their details. If you did an activity at home, such as watching a TV documentary, or at school, tick the box 'use my coordinators details'.

Assessor name
Name

Assessor email address
Email address

If you don't know your assessor's details, or your co-ordinator is assessing this activity, please tick below

☒ Use my co-ordinator's details

Submit

Top Tip:

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

Top Tip:

If you tick the box to use your YSA coordinators details you **do not** also have to provide their details!

Activity submission checklist:

Activity title: This should be a clear summary of what you did – e.g. '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 provided the activity is not listed, select 'other' and type the name of the organisation into the box. If the activity took place at school, you can select this as an option. Be sure to explain how it was outside of normal lessons.

Hours: Only include time that you spent learning and participating in STEMM during the activity. Don't count breaks or travel time. You can only add time in 15 minute blocks.

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. It's also a great way for you to reflect back on the activity in the future.

Top Tip:

Watch the e-portfolio explainer video on YouTube!

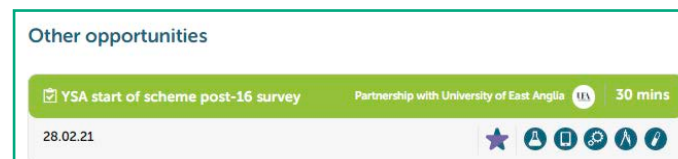


How to write a good description:

A description is where all the action happens! This is your opportunity to showcase your activity and reflect on what you learned. 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.



Download your portfolio at anytime as a printable file as a record of your achievements.

Export your ePortfolio as a printable PDF file

Upgrading or Completing your Award

When you have logged enough hours and met all the criteria for your Award level, submit your e-portfolio for moderation. Your coordinator will check to ensure you have done enough to receive your Award. Alternatively, you can request to use the hours you have already logged to upgrade to the next level.

When you complete your Award, you'll receive a medal, certificate and be issued with a digital badge. This is a great time to reflect on the skills you have developed and celebrate your achievements. Don't forget to include the Youth STEMM Award on your UCAS application to showcase your commitment and achievements in STEMM. We hope you have enjoyed yourself and found it a very valuable experience!



The Youth STEMM Award digital badge will be issued on completion - look out for the email to claim your badge!

Inspiring Ambassadors

Our ambassadors are inspiring individuals who embody the values of the Youth STEMM Award. They have excelled in their fields of Science, Technology, Engineering, Maths, and Medicine (STEMM) and are passionate about sharing their journeys to inspire the next generation of STEMM professionals. By sharing their experiences, they demonstrate how curiosity, perseverance, and hard work can lead to incredible achievements.



Lizzie Daly
Biologist, naturalist and wildlife presenter

@LizzieDalyWild



Dr Nira Chamberlain OBE
Mathematical Modeller

@ch_nira



Mark Thompson
Astronomer, author and broadcaster

@Astronomer_Mark



Dr Marcia Philbin
Chief Executive of the Faculty of Pharmaceutical Medicine



Maddie Moate
YouTube filmmaker and BAFTA winning presenter

@maddiemoate

“ 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. ”



Professor Ben Garrod
Evolutionary biologist, Conservationist, broadcaster and author

@Ben_garrod

“ 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. ”

Our Key Partners

The Youth STEMM Award is proud to collaborate with a number of prestigious organisations. Listed here are our main sponsoring partners. We are grateful for their support which enables us to be able to deliver the Award for the benefit of schools and young people around the world.



University of East Anglia

A UK top 25 university and part of one of the largest scientific communities in Europe

www.uea.ac.uk



Unlocking Nature's Diversity

A world-leading international centre of excellence in plant science and microbiology

jic.ac.uk





A world-class research institution, focusing on basic cell and molecular biology with an emphasis on healthy ageing through the human lifecycle

babraham.ac.uk



Connect with us:

 HQ@ysawards.co.uk

 [@YouthSTEMM](https://twitter.com/YouthSTEMM)

 ysawards.co.uk

 [youthstemmaward](https://www.instagram.com/youthstemmaward)



*Youth STEMM Award CIC
Centrum
Norwich Research Park
Norwich, NR4 7UG
Registered in England No. 10143381*