

Step by step

guide to starting a STEM Club



To help you deal with the practicalities of starting up a STEM Club, we have produced this handy step by step guide. You can read through each step in turn, or jump to the relevant section if you need help with a certain aspect or starting or running a club.

Your local STEM Ambassador Hub is always on hand to also help guide you through setting up a club, or if your club is already in existence they will be able to help you sustain it. If you haven't done already, then get in touch with your local STEM Ambassador Hub. www.stem.org.uk/stem-ambassador-hub-contacts

Decide on why you want to set up a STEM Club

Establishing a purpose for your club will give you something to say to people when you ask them to get involved. Ask yourself:

What do you want your club to achieve?

Some clubs aim to integrate together different aspects of STEM, others aim to offer more personalised learning, some just want more time to do exciting activities. Make sure there is a purpose to the club, how does the STEM Club support students with attainment in STEM subjects?

What will be the key benefits of your club to the students, the staff and the school?

STEM Clubs bring together staff who may not usually work with each other, and improve links and enhance working between STEM departments. They can improve relations between students and teachers, and build links with local industry and employers.

Importantly, STEM Clubs have a positive impact on students. Students gain practical, team work and leadership skills, their confidence and engagement in STEM increases as well as their motivation to study STEM and enter into STEM careers.

How does the club fit with your school priorities?

Your club will have a wide range of impacts, but you will need to decide which are the key ones for your school.

These questions should help you develop an overarching aim for your club that you can tell other people about.

Once you have an aim, you can develop some objectives to achieve that aim. It is easier to develop SMART targets (specific, measurable, achievable, realistic, time-based), especially when it comes to evaluating the success of your STEM Club – after all, how are you going to measure success if you aren't sure what success looks like?



Approach people who might be interested in getting involved

Club leaders

Don't try to manage your STEM Club without involving others.

Recruit people to be part of the STEM Club team. Teachers of other STEM subjects might be the obvious choice, but schools are full of people with relevant interests and skills – technicians, teaching assistants and support staff included.

Working in a STEM Club team helps you share club leader responsibilities, having others taking on even a small task on a regular basis will make a difference. It also provides a source of creative ideas and the direction for your club, which helps ensure continuity should a club leader leave the school.

If your club is based around practical activity, you will need technical support. If there's no technician directly involved with the day-to-day running of the club, at the very least you will need some degree of technician co-operation, so make sure they are engaged from the outset. Some technicians have become highly engaged in their clubs and are part of the club leader team. Ask your technician if they want to be included on any STEM Club mailing lists to make sure they are fully up to date with the STEM Clubs programme.

Club leader responsibilities may include:

- making sure an appropriate programme is planned
- ensuring kit and space is available
- risk assessments and child protection
- providing new ideas for the club
- budgeting and other financial considerations
- attending relevant CPD
- reporting to and liaising with key partners



Mentors

In addition to club leaders, you might want to consider involving mentors in your club. Mentors are trusted people to whom the STEM Club leaders can allocate tasks related to running the club. They could be reliable sixth formers, other older students or other volunteers.

Mentors can help run the club by:

- giving expert advice to students
- help with preparation and clearing up
- organising specialist activities
- updating the website
- keeping a log of activities
- club promotion and advertising
- maintaining membership records



Supporters

Invest in your supporters. Supporters are people who aren't directly involved with the club but who are necessary for its continuing success. They can include those within and outside of the school, such as senior leadership team, school governors, parents, and other members of staff.

Supporters can help ensure the club maintains a profile both within and outside of the school. They can:

- help champion the club internally
- source potential volunteers
- provide ideas and resources for activities
- highlight funding opportunities
- provide external recognition for the work the club does

Volunteers

You may want to get people from outside the school to be involved. Those from local industry and academia can bring their expertise and experience to the club. Parents, governors and feeder primary schools may also be interested in being involved – ask around and you might be surprised at the interest and expertise out there.



Outside speakers such as STEM Ambassadors provide a link between the STEM Club and STEM industry. Good speakers have great potential to inspire and enthuse students. You can **request a STEM Ambassador**, or club members may have parents and friends employed in STEM who could contribute their expertise. You may want to consider including a parent questionnaire with your club member application form to find out who has a background in STEM-related industries.

Volunteers can come and help for a session or number of sessions. They may simply provide more hands to run an activity, or provide more specialist support, such as talking about a STEM subject or bringing their own activity to run.

Volunteers might be motivated to help with your club for a range of reasons, such as an opportunity to influence the next generation of scientists, engineers and mathematicians, the chance to work with students who enjoy STEM, gain experience in the STEM education sector, or just to have fun!

Whatever their motivations, volunteers can bring fresh ideas to your club, real-world experience and STEM expertise, which can really enhance the club experience.

When involving volunteers it is important to:

- make sure volunteers are happy with their level of commitment – check if they want more or less involvement with the club
- let volunteers know the size and makeup of the club, they may need advice on working with groups of young people in informal settings
- let them know what resources are available if they would like to run their own session
- keep your volunteers informed about how the club is doing and your plans for the future
- actively seek out advice, support, ideas and feedback from your volunteers
- share risk assessments and other relevant health & safety information
- make volunteers aware of any arrangements that are in place to facilitate inclusion of club members with special educational needs
- avoid putting volunteers in awkward situations, e.g. leading an activity they're not happy with
- it is advisable that all adult volunteers from outside the school are vetted with a DBS disclosure. All STEM Ambassadors will have one of these.
- never leave volunteers alone with club members
- thank them for their time



Timing

You may want to hold your club at lunch time or after school. Find out when other clubs are on and try not to clash with too many of them.

If you are holding your club at lunch time, think about whether your members will have enough time to eat their lunch and take part in some meaningful activities.

Take into consideration the transport arrangements of club members and their personal safety, for example in winter will they end up walking home in the dark.

Some clubs run for 35mins, others are over an hour. The length of your club depends on your situation, but try and make it as accessible as possible for students to get involved.



Decide on who your club members will be

Being clear on the ethos and aims of the club will help with recruitment. You need to be clear about which students you will invite, how you will market your STEM Club to them and what processes you will use for applications and enrolment.

You could decide that any student can participate in your STEM Club, or you might want to have more control over who comes along, targeting specific groups of students in line with your school's priorities. You could create an application form asking for parental approval as a way of starting to involve parents in the club.

However you decide to recruit, bear in mind that a STEM Club is a club and its members should feel part of it and enjoy being there. You may want to ask the club members to help develop a club identity by thinking up a name or giving their club a logo.

Develop some ideas for activities

Deciding on your activities can be daunting, especially if you feel stuck for ideas, or overwhelmed by the possibilities! However, your local STEM Ambassador Hub will be able to support you in finding suitable activities for you to try.

Decide on which area of STEM you want your club to focus on

You may want your club to focus on one STEM curriculum area, such as mathematics. This may make it easier to decide on appropriate activities and can help you recruit teachers who otherwise may be less confident at taking on too wide a range of activities. Alternatively you may want to broaden your club interests to include content from other subjects to help club members recognise the links and contributions made by different areas of the curriculum.

Deciding on a theme to run over a term or a number of weeks can help channel your ideas, or start with some activities that you feel confident with and work up from there. Ask your colleagues and fellow club leaders for ideas, or ask your club members to suggest themes or activities that they would like to do.

Do some planning

Don't try to take on too much too early. Develop short (one or two weeks), medium (one term) and long (one year) term plans. Use the **STEM Club scheme of work planner** to think about and map out your activities or themes for the year/term or week. Make sure some activities are either medium term or built around a theme for several weeks to avoid needing new ideas every week. Allocate the organisation of some future activities to other people to avoid doing everything yourself.

You may want to invite a STEM Ambassador from industry or academia to contribute to a session, go out on a trip to an exhibition, or take part in a competition or align yourself to national programmes such as the CREST Awards.

www.britishtscienceassociation.org/crest-awards

Have a look at the STEM Clubs resources www.stem.org.uk/stem-clubs to get some ideas about different length of activities and different STEM subjects you can try.

Try things out

See what is going to work best for you, your club and your school. Sometimes a shorter activity really appeals to your club members and it takes off and turns into something that takes place over a term. Some activities could be enhanced with the addition of a STEM Ambassador, or a volunteer might come to you with an idea that you can try.

Keep a log of the activities you do so that you can refer back to them during evaluation and planning for the following year. It might be that you can repeat some activities, or if you have the same club members you can extend activities that you have previously done.



Decide on your location

Where your club takes place will probably be dictated by your choice of activity, you may need to access certain equipment or you may need a separate space to store your club resources.

Having a 'special' venue, such as a room usually reserved for older students, will help raise the status of the club. If your club has a strong cross curricular ethos then you should try to use different locations for different activities.

Take opportunities to move the club out of the classroom, lab or workshop – outside space is great for messy or large demonstrations. You may be able to arrange some events at special locations such as science centres, other schools or certain types of business.



Sustain your club

Now that you've got a club up and running, the next challenge is to sustain it.

One way to ensure sustainability is to make the club part of the fabric of the school. When the rest of the school can recognise and share the benefits of the club, finding support becomes much easier.

You can also raise the profile of your club within and outside of the school by making sure your achievements and club activities are well known. Once others know about your club they may want to get involved in the activities you are doing, helping to develop your projects further and bringing in other expertise. Below are some ideas for raising the profile of your club, but see which fits best with your club aims.

Take lots of photos and put together a display

Make sure it's in a public place, like the school reception, so lots of people can see it. See if your display can coincide with parents' evening, PTA (Parent-Teacher Association) or governors' meetings.

Organise a trip or attend an event or competition

Getting your club out and about makes others more aware of you and what you do. Some locations will put on special events for you, some will let you organise your own event on-site. Many destinations have risk assessments available for you to use when planning your trip. Events or competitions held by an external organisation allow your club members to exhibit on a national scale, for example the National Science and Engineering competition held at the annual Big Bang Fair.

Linking up with other schools

Linking up with other schools is a great way to raise your profile as well as offering access to more staff, more space, more equipment and even possibly more funding. You can organise joint events, such as science fairs or competitions, arranging to share equipment, holding joint planning sessions – they can all contribute to making your STEM Club more effective.

You may want to make links with your feeder primary schools and invite them into your STEM Club, or take your STEM Club members out to primary schools. This raises your profile of your club within these feeder primaries, making it known to their students, and their parents, even before they come to your school.

Involving parents

You may want to work with parents, inviting them in for a special event so that the students can show their parents what they are doing in their club. Hold a STEM fair for them, or a regular STEM Club evening when they get to take part in some of the activities their children have been doing.



Local press

Make sure the local media know about your club, especially any special events or activities you are running.

Involving local media can bring many benefits to the club and to the school. Most local media are very willing to report good news stories about young people. You need to provide them with copy and images in plenty of time for publication. Create a relationship with a named person in your local media. Print is an obvious media outlet but do not discount radio and TV. You can also market the club online.

Raising your profile with the local media can help you approach local businesses for funding or STEM Ambassador support as they are more likely to have heard about you. You can use your media coverage as examples of the type of exposure their support would receive.

Add value

Students often get recognition for their achievements in sport and music – why not in STEM too? With the backing of your leadership team you can introduce an awards scheme in your club, like the British Science Association CREST Awards www.britishsociety.org/crest-awards to recognise the achievements of club members. Awards ceremonies sponsored by local business are a good way to secure additional publicity.

Club members can develop their confidence by presenting their STEM Club activities in primary schools, parents' evenings and STEM fairs. Encouraging older students to become club mentors can help develop personal skills and can lead to accreditation.

Being a member of a STEM Club could result in gains for the individual in terms of education and employability. Deciding on an appropriate scheme of accreditation when you set up your club will help embed activities into a coherent framework. Various schemes offer certification, qualifications or UCAS recognition.



Evaluate

Although this is the final step, evaluation should happen throughout the lifetime of your club. It can help you find out if the aims and objectives of the club are being achieved and if resources are being used effectively.

Plan how you will evaluate your club at the same time as planning your club structure and programme through the use of SMART objectives (specific, measurable, achievable, realistic, time-based). These might include club member enjoyment and levels of engagement. Decide how you plan to measure these and collect data throughout the life of the club, for example you could use club attendance, or feedback on how enjoyable an activity was.

You may want to decide to use the data you collect to change your approach as you go along, or you will build up a file to be used at a later date. In other words is your evaluation going to be formative, or summative?



Consider how will you analyse and present the data to a wider audience. If you decide that your evaluation could be used to attract further funding or additional members, you may want to include images, reports of successful meetings and samples of club outputs.

Evaluation can help you make decisions about the direction of your programme of activities, and provide evidence for others, such as school leaders, funders or prospective parents.