

early years & primary STEM bulletin

Ideas and inspiration for for primary teachers and early years practitioners

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Adapting to COVID-19

COVID-19 has undoubtedly had a significant impact on all aspects of life as we know it. We have grown used to using terms such as physical distancing, shielding, lockdown and furloughing in our daily conversations. Education and training, like so many other sectors, has had to adapt to an everchanging set of circumstances and political decisions and indeed will need to continue to do so.



Our lives are certainly different now; what has not changed is that we are all in this together. Individual decisions will impact on us all, but together we can try to make a positive difference. What may be an inconvenience today could be a lifesaver for someone else tomorrow.

At SSERC, we have continued to serve the STEM education community in Scotland, despite all the challenges associated with the pandemic by providing you with:

- SSERC Home Learning pages on the SSERC website.
- SSERC online professional learning activities.
- SSERC TV.
- Return to school guidance supporting early years and primary education establishments.

Our commitment to you is to continue to offer a unique range of products and services designed to support Scottish STEM education as illustrated through our entirely reconfigured professional learning offering for the period August 2020 to March 2021.

We want to thank the medical professionals, the caregivers, the supermarket workers and truck drivers, as well as the countless others - including the education community - for their hard work and personal sacrifice for our collective benefit.

Working together, our 'new' normal will return, and we can make it better than what went before. It is up to us all to stay safe and to be proactive in helping one another amid COVID-19. <<

Alastair MacGregor - CEO SSERC

East of Scotland STEM Ambassador Hub

Working with employers, organisations & education

Over 1,600 STEM Ambassadors

Supporting Angus, Clackmannanshire, Dundee, Edinburgh City, East Lothian, Falkirk, Fife, Midlothian, Perth & Kinross, Scottish Borders, Stirling and West Lothian.

Delivering over 19,000 Volunteering hours*
to schools and non-school groups (*in 2019).

Providing engaging & inspirational STEM opportunities for young people



STEM Ambassador East SSERC



email sae@sserc.scot website www.saesserc.scot

STEM Ambassadors in Scotland

Microbes for minors

Winter is coming, bringing with it the increased likelihood of the spread of coughs and colds. It is now more important than ever to emphasise the importance of good hygiene, both in and out of the classroom. Currently there is an understandable focus on the coronavirus COVID-19 but there is so much more to find out about the often “secret” world of microbes.

Learning more about the fascinating subject of microbiology could support CfE Experiences & Outcomes and Benchmarks in the Sciences [1] as well as Health and Wellbeing [2]. Most learners are aware of “germs” – the generic term used to describe the microorganisms that cause disease, but how much is known about the different types of microbes that surround us? Microbes are all around us, on us and inside us! The microbes living within an average adult weigh around 1 kg – about the same as a bag of sugar.

The majority of microbes are far too small to see, but these microscopic organisms play a very important role in our lives. Some make us sick, but many more are helpful. In fact, many microbes are essential for keeping us healthy – helping us to digest our food, clearing up environmental waste, producing compost, oxygen and some foods including bread, cheese, pickles, salami, and soy sauce, as well as alcohol!



Figure 2 - Equipment for the “how many bacteria on a full stop” activity.

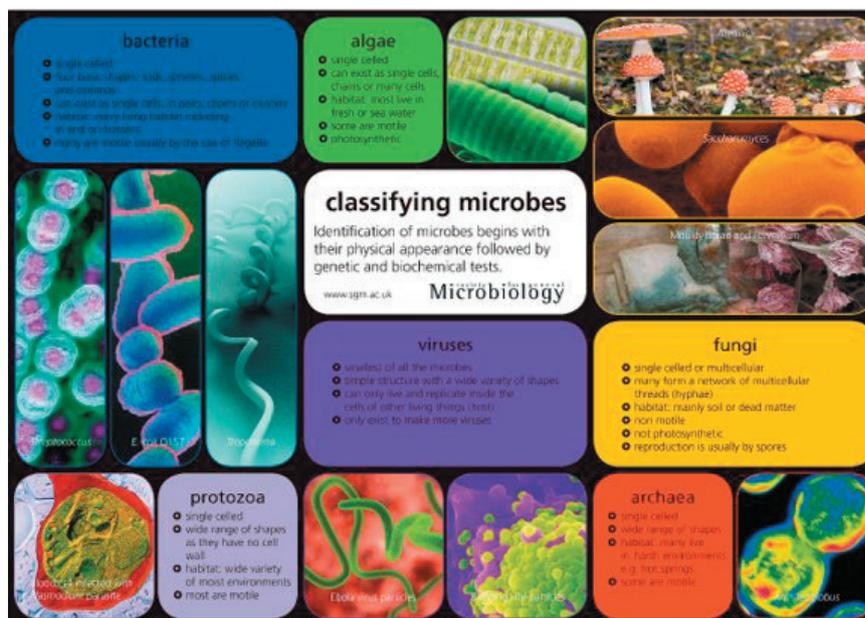


Figure 1 - Classifying microbes poster - from the Microbiology Society [3].

Microorganisms have a vast array of shapes, sizes and habitats are classified into six different groups (Figure 1):

- Bacteria
- Viruses
- Fungi
- Algae
- Protozoa
- Archaea

The Microbiology Society have produced some very useful on-line resources that are free to access – including an introduction to microbes [4], introduction to microbiology [5] and interactive microbe “passports” [6] where learners can find out more about the microbes that are all around us – friends and foes!

How many bacteria can fit on a full stop?

As most microorganisms are so very tiny it can often be difficult for learners to imagine the vast number of microbes that surround us. Finding a way of modelling some of the numbers and scale involved, in a way that learners can relate to, could help them get to grips with these concepts.

We are going to focus on bacteria for this activity, learners should be aware of differences in the sizes of microorganisms and methods of microbe reproduction.

We use a 54 cm diameter hoop (the kind found in most primary schools) to represent the greatly enlarged full stop. Standard plastic counters (or tiddly winks) are used to represent the bacteria (Figure 2). >>>



Figure 3 - Completed “how many bacteria on a full stop” activity.

Learners are asked to estimate how many of the “bacteria” they think could fit on the area covered by the “full stop” and make a note of this. We package the counters up into bags of 20 before the activity – this makes it much easier to work out how many counters have been used to cover the area of the hoop (Figure 3).

We have made a short video to demonstrate the activity – this is available to view on SSERC TV [7].

It is worth noting that on this scale the counters represent large bacteria. Learners could research and compare the different sizes of microbes and find out how bacteria reproduce in real life.

Coughs and sneezes spread diseases

There are a few simple practical activities that demonstrate how far droplets from a cough or sneeze could spread. These droplets could contain pathogens (disease causing microbes) from the nose, mouth or lungs. Some viruses can live on hard surfaces for hours, under favourable conditions, with the possibility of transferring into a host in order to reproduce. Taking part in these activities demonstrates how important it is to cough or sneeze into the crook of your elbow or “catch it, bin it, kill it” in a tissue, wipe down surfaces and wash hands after coughing or sneezing.



Figure 4 - Cardboard box and fragranced oil.

Air-blaster cough

Using a study cardboard box and some fragranced oil or essence (Figure 4) it is possible to demonstrate how far a cough could travel. Seal the box up with tape and then cut out a circle (diameter between 10 cm-20 cm) from the centre of one of the shorter ends. Add a few drops of fragranced oil or essence to the inside of the box (check to make sure that there are no allergies to the fragrance/essence selected).

Point the open hole towards a group at least 2 m away and simultaneously “clap” both of the long sides of the box, with a hand on either side.

Anyone in the way of the simulated cough should quickly smell the fragrance – demonstrating how far air from the lungs can travel. Find a link to videos of the construction of the air-blaster [8] and a demonstration of how to use it [9] on SSERC TV.



Figure 5 - Simple resources to model a sneeze spray.

Spray-a-sneeze

A plant spray bottle, water and food colouring can be used as an effective way to demonstrate how far droplets can be spread by an uncovered sneeze.

Add water to the bottle and set the plant spray nozzle to a fine mist. You could add a few drops of food colouring to the water if you wish, but beware that this may stain the surroundings. You may wish to take this activity outside!

Lay around 8 -10 pieces of flip-chart paper or a white paper tablecloth below the spray bottle. Holding the bottle, pull the trigger and allow the droplets to fall onto the paper below. Examine how far the droplets spread. You might like to try holding the bottle at different heights to investigate how far a standing person’s droplets could travel compared to a seated person. Again, there is a video to accompany this activity on SSERC TV [10].

An internet search for slow-motion sneezes [11] will produce some incredible images – showing just how fast droplets leave the mouth and nose!

Why do we need to wash our hands?

Using a small amount of body glitter gel is an effective way to demonstrate just how quickly microbes can be spread from one person to another and also to emphasise how important effective hand-washing is in the fight against infection. >>



Figure 6 - Body glitter gel - for glitter sneeze investigation.

Ensure that a hypoallergenic body glitter gel is used – do not use craft glitter as this can cause irritation if it gets into the eyes. A small squeeze of the gel onto a hand before undertaking tasks can be used to illustrate how microbes can spread from one person to another. Examine objects for “contamination” after a few minutes of normal activity e.g. writing with a pencil.

Learners can check their hands after washing to see if there is any glitter gel left between fingers, under finger-nails etc. and help to improve handwashing techniques. There is a video with examples of different tasks that could be undertaken, depending on your circumstances [12].

Microbes – vital for life

It is important to realise that less than 5% of microbes cause harm – the rest are either benign, useful or indeed vital to life as we know it. SSERC has published examples of practical activities that show the usefulness of microbes aimed at 2nd level learners. See Figure 7 investigations with yeast [13] and Figure 8 – compost cups [14]. Both activities provide opportunities for



Figure 7 - Investigations with yeast.



Figure 8 - Compost investigations.



Figure 9 - Marvellous Microbes – microbiology comic strips from the Microbiology Society.

observation over time - the yeast investigation over the course of a school day and the compost cups over the course of a number of weeks.

The bigger picture - further ideas

Learners can research some of the scientists involved in microbiology and medicine, including Antoine Van Leeuwenhoek, Louis Pasteur, Robert Koch, Edward Jenner, John Snow and Alexander Fleming.

Most people are aware of Fleming’s famous discovery, which led to the production of the antibiotic penicillin. Attention is now focused on the threat posed by antibiotic resistant bacteria, one of the biggest global health concerns and an

important issue facing everyone today. To beat antibiotic resistance, we need to take antibiotics properly and understand what they can and cannot treat. The Microbiology Society has produced a number of Marvellous Microbes comic strip booklets (Figure 9) one of which explains antibiotic resistance [15].

Health and Safety Advice - Microbes

SSERC publishes the Safety in Microbiology: A Code of Practice for Scottish Schools and Colleges [16]. Most primary teachers will be carrying out work as covered by Level 1 of the code of practice, as set out in this code of practice. Work at Level 1 requires no specialist training or equipment. >>

CfE Experiences & Outcomes/Benchmarks

Body Systems and Cells

- I know the symptoms of some common diseases caused by germs. I can explain how they are spread and discuss how some methods of preventing and treating disease benefit society - SCN 1-13a.
- Describes the symptoms of some common diseases including colds, mumps, measles, chicken pox and flu.
- Provides explanations, supported by evidence, of how some diseases spread and discusses ways in which some diseases can be prevented through good hygiene and vaccination.

SSERC does not recommend growing microbes on agar plates/petri dishes in primary school settings as the preparation of sterile plates and disposal of cultured plates requires specialist knowledge and equipment. We occasionally find commercially produced kits that cause us concern – see Bacteria Farm, SSERC Bulletin 76 [17].

Contact SSERC for help and advice primary@sserc.scot <<

CfE Experiences & Outcomes/ Benchmarks

Body Systems and Cells

- I have contributed to investigations into the role of microorganisms in producing and breaking down some materials - *SCN 2-13a*.
- Demonstrates understanding of how microorganisms, including bacteria, viruses and fungi, can multiply rapidly.
- Investigates and explains the action of some microorganisms used in food production, for example, yeast in bread and bacteria in yoghurt.
- Describes how some microorganisms break down food causing it to be inedible or harmful if digested, and how others exist in the gut to break down food to aid digestion.
- Investigates, observes and records how microscopic organisms are necessary for the process of decomposition (the breaking down of dead material – decay).

CfE Experiences & Outcomes/Benchmarks

Topical Science

- Through research and discussion, I have an appreciation of the contribution that individuals are making to scientific discovery and invention and the impact this has made on society - *CN 2-20a*.
- I can report and comment on current scientific news items to develop my knowledge and understanding of topical science - *SCN 2-20b*.
- Researches historic and contemporary scientists (ensuring gender balance) and their scientific discoveries and reports collaboratively to others using a range of methods.
- Describes the impact of scientific discovery, creativity and invention on society past and present, for example, in design, medicine and agriculture.
- Demonstrates understanding of how science impacts on every aspect of our lives.
- Relates the development of scientific skills in the classroom to an increasingly wide variety of science, technology, engineering and mathematics (STEM) careers.

References

- [1] <https://education.gov.scot/nih/Documents/SciencesBenchmarksPDF.pdf>.
- [2] <https://education.gov.scot/nih/Documents/HWBFoodHealthBenchmarksPDF.pdf>.
- [3] <https://tinyurl.com/y2k7g9ms>.
- [4] <https://microbiologyonline.org/index.php/about-microbiology/introducing-microbes>.
- [5] <https://microbiologyonline.org/index.php/about-microbiology>.
- [6] <https://microbiologyonline.org/index.php/about-microbiology/microbe-passports>.
- [7] YouTube link available at <https://youtu.be/t2jjJMSZ3sc>.
- [8] YouTube link available at https://youtu.be/H8e7f_gIMl8.
- [9] YouTube link available at <https://youtu.be/VxLXlh-GWU>.
- [10] YouTube link available at <https://youtu.be/nlBdGGZfpS8>.
- [11] Slow-mo sneeze link - <https://www.youtube.com/watch?v=wnafrAtfMzE>.
- [12] YouTube link available at <https://youtu.be/t2jjJMSZ3sc>.
- [13] https://www.sserc.org.uk/wp-content/uploads/2019/07/PB_48.pdf.
- [14] https://www.sserc.org.uk/wp-content/uploads/2019/07/PB_50.pdf.
- [15] <https://microbiologysociety.org/publication/education-outreach-resources/marvellous-microbes-using-antibiotics-issue-4.html>.
- [16] https://www.sserc.org.uk/wp-content/uploads/2018/06/SSERC-Safety_in_Microbiology_Code_of_Practice.pdf.
- [17] https://www.sserc.org.uk/wp-content/uploads/2019/07/SSERCP76_web.pdf.

Other Microbiology Society resources

- <https://microbiologysociety.org/publication/education-outreach-resources/marvellous-microbes-baking-bread-issue-1.html>.
- <https://microbiologysociety.org/publication/education-outreach-resources/marvellous-microbes-washing-hands-issue-2.html>.
- <https://microbiologysociety.org/publication/education-outreach-resources/marvellous-microbes-brushing-teeth-issue-3.html>.
- <http://meetthemicrobes.com/wp-content/uploads/2020/03/Meet-The-Microbes.pdf>.

The ASE 2021 Scotland conference

SSERC is delighted to be supporting the ASE 2021 Scotland conference.

The Association for Science Education (ASE) is the largest subject association in the UK. They are an active membership body that has been supporting all those involved in science education from pre-school to higher education for over 100 years; members include teachers, technicians, tutors and advisers. ASE is a Registered Charity with a Royal Charter, owned by members and independent of government. ASE seek to create a powerful voice for science education professionals in order to make a positive and influential difference to the teaching and learning of science throughout the UK and further afield.

The ASE 2021 Scotland Conference

The ASE Scotland Conference is a festival of best practice in science education for everyone with an interest - teachers, technicians, lecturers, trainees, advisors, CPD suppliers and more.

The conference will take place on Saturday 13th March 2021 at the Edinburgh Academy. Discounts are available for ASE members.

There is a choice of workshops throughout the day which will enable you to tailor the programme for

your own professional development, whilst providing opportunities to network with likeminded people, and interact with presenters. In addition to supporting teaching in biology, chemistry and physics, the conference will explore primary science and careers in STEM. There will also be a full exhibition of support and resources for science education

The conference is planned to be a face to face event but depending on government guidelines at the time this may change to be an online event. <<

 **The Association for Science Education**

For more information and a link to the booking form go to: <https://www.ase.org.uk/events/ase-scotland-conference-2021>

Wellcome Explorify

Looking for a free digital resource to get your pupils thinking about science? Explorify is a totally free resource, created by Wellcome, that does just that.

It has a huge library of short activities linked to the curriculum that you can use during registration time, or as starters and plenaries for science lessons, or just to get everyone thinking about something over the weekend. Every activity comes with enough background science information, thought provoking images and/or videos to help with teacher's confidence.

The use of open questions to pupils to wonder is what Explorify encourages. To ask questions, to listen to each other, to develop the use of scientific vocabulary and to build on ideas and strategies to work out what might be happening. There are many lesson planning templates for teachers to follow. But best if you look for yourself and try an activity like a zoom in zoom out and ask 'What could this be?' and 'Why do you think that?'. <<



The STEM Ambassador Programme in Scotland



Did you know that there are thousands of volunteers across Scotland ready to help bring STEM subjects to life in primary schools?

The STEM Ambassador Programme works with primary schools to create opportunities to showcase STEM. STEM Ambassadors are volunteers from a wide range of different backgrounds at different stages of their careers, from apprentices and students to people who are retired after 40 years in a STEM industry.

STEM Ambassadors volunteer to support learning by, for example, delivering a careers talk, running an activity, helping to deliver a demonstration or by providing broader context to a STEM subject.

During Maths Week Scotland (28 September-2 October) we collected short videos from STEM Ambassadors across Scotland about their job and how they use maths day-to-day to be used in the primary classroom. Learners can submit questions back to the STEM Ambassador via their teacher and will get a response.

The great thing about the STEM Ambassador Programme [1] is that it can support learning both in the classroom and online. As a primary teacher you can advertise an activity you would like an Ambassador to support with. It does not even need to be a live online event, STEM



Ambassadors can contribute in several different ways, including sending videos, career profiles or activity suggestions.

The programme is available to primary and early years teachers and schools for free through the STEM Learning website and by registering

you can also access a range of free resources and CPD opportunities. If you would like to learn more about some of the volunteers participating in the programme check out our STEM Ambassador Spotlights [2] which provide information about different STEM Careers as well as the people who do them. <<

Getting started!

If you need help getting started, get in touch with your local Hub:

- **East Scotland** - STEM Ambassador East @SSERC: sae@sserc.scot
- **West Scotland** - Science Connents: stem-ambassadors@glasgow.ac.uk
- **North Scotland** - Aberdeen Science Centre: stemambassadors@asc.scot

References

- [1] <https://www.stem.org.uk/stem-ambassadors>.
[2] STEM Ambassador Spotlights is available at <https://www.saesserc.scot/spotlights>.

Other useful links

STEM Ambassador Teacher handbook is available at https://a920d81d-ab3b-43f5-8706-ca5f81813d8e.filesusr.com/ugd/d688f4_c6efb9fd05ec4dfa92614dc689cd892b.pdf.

Becoming a tutor assessor for the Young STEM Leader Programme

Supporting young people to complete a Young STEM Leader Award is an excellent way to engage your whole learning community with STEM. It is easy to become a Tutor Assessor (TA) and start delivering the Young STEM Leader Programme (YSLP) straight away.

Benefits

There are many benefits to delivering the YSLP, such as:

- Additional attainment and certification for young people.
- Building confidence, resilience and STEM capital.
- Developing STEM role models within your learning community.
- Alignment to existing awards and initiatives.
- Networking opportunities for staff.

The programme is also free to deliver for any school, youth centre or community organisation in Scotland.



Levels

We encourage primary schools to complete the non-formal levels of YSLP: YSL2, YSL3 or YSL4. These are aligned to Curriculum for Excellence Second, Third and Fourth Levels. Most of the primary schools that are delivering the programme offer YSL2 and/or YSL3.

Training

TA Training takes two hours and is delivered online by SSERC staff. The session will cover the award details, assessment, and our bespoke online platform for marking and reviewing evidence. You can book a session at www.youngstemleader.scot/events.

Support

You will be supported to deliver the programme by SSERC staff and the wide network of TAs. There are currently over 500 TAs in each of the 32 Local Authority areas of Scotland. <<

Find out more

www.youngstemleader.scot
youngstemleader@sserc.scot
[@YoungSTEMLeader](https://twitter.com/YoungSTEMLeader)

Catherine Milne - P4/5 teacher at Avoch primary school

Cath is a Young STEM Leader Tutor Assessor. She and her YSLs took part in the pilot of YSLP with 23 young people gaining a YSL2 Award. She even supported an S6 Young STEM Leader from Fortrose Academy to gain a YSL6 Award.

Cath is now starting year two of her delivery of the programme and has shared her YSLP experiences with the Project Team at SSERC.

Tell us about your Young STEM Leaders

My P4/5 class (8-9 year olds) at Avoch Primary School in the Highlands of Scotland have recently completed their YSL2 Award at Curriculum for Excellence (CfE) Second Level.

What is the Young STEM Leader Programme (YSLP)?

This Scottish Government-funded programme is led by SSERC. It was borne from the 2017 Strategy for STEM Education and Training which identifies the need for STEM education to equip young people with the skills necessary for future industry and to close equity gaps in participation and attainment in STEM.

In the session 2019-2020 the YSLP was piloted across Scotland with over 70 centres taking part – where a centre is typically a primary or secondary school, community, or youth group.



The pilot introduced and tested YSL2 and YSL6 (SCQF Level 6) whilst the remaining four levels were under development.

Young people have the chance to inspire, lead and mentor their peers through the creation and delivery of STEM activities, events and interactions within education establishments or local community groups. The aim is to develop young role models with an interest in STEM.



Catherine Milne

How did your pupils achieve the Young STEM Leader award?

At all levels, there are 4 core elements to the programme. Each of these (Discover, Create, Inspire, Lead) comes with a digital badge and then a certificate on successful completion of the programme.

1) Discover

This section is about young people discovering the importance and meaning of STEM.

My class talked to school visitors and relatives with careers involving STEM, including in less traditional settings, such as an electrician, a mechanic, a beautician and even a shop keeper who talked about working with money!

Part of the Discover element also concerns negative STEM stereotypes and how to positively challenge them – with my class I used the ideas from Improving Gender Balance Scotland produced by Education Scotland [1].



2) Inspire

For YSLs to lead others in STEM activities it is important that they understand the skills required to inspire and how to make their mentoring experiences inspirational. For this part of the programme, children are required to research an inspirational person, group or event. For homework, my class researched a person/team (it didn't have to be people in STEM) who they found inspiring. We gathered information on what it was about these people that made them inspirational and used this knowledge to think about how they could be the same!



3) Create

In the create section, the children have to plan a STEM activity, event or interaction. They explore how to select a purposeful activity, how to plan, bearing safety in mind, how to organise resources and how to structure effective learning. Big, powerful asks of a class of 8-9 year olds. But with guidance and support we know that our children achieve amazing results. My class decided that they would like to mentor the P1 class. They were given time to research appropriate fun activities. They decided that any activity should be simple, not take too long, be fun, and have a clear STEM learning intention (and be cheap – my addition to the mix).



Once they had voted on the favourite 3 activities the class completed trial runs with one group pretending to be P1s. My class had to practise what they would say, how they would structure activities into small steps, how they would ensure safety of the younger children and how they would keep them on task - they felt very grown up and enjoyed thinking about how old and wise they had become. A useful part of our planning was spending a couple of afternoons

playing with the P1s learning what they could do, what they understood and how to get the best from them. We discovered that a 45-minute session (once a week) was a good length to hold the attention of the little ones.

4) Lead

Before we began our practical sessions, we explored the skills, qualities and behaviours of a good leader. My class were able to talk about leaders they knew such as the Headteacher, Brownie Leader and football coach.



Then they were ready to be unleashed onto the P1s... The 3 chosen activities were:

- building O-wing gliders;
- growing gel crystals;
- an outdoor session looking at minibeasts.

Behind the scenes, the P1 teacher and I divided the 2 classes into small groups, matching children that we thought would be good for each other. The children stayed in the same groups for each activity so that they got to know each other well. The joint sessions went smoothly because of all the background preparation. My class were very organised, acted very responsibly and enjoyed leading the younger class through the sessions. The P1s thought it a real treat to work with the bigger children. It was lovely to see some of the shyer, quieter children coming out of their shell and confidently guiding the younger

children through each session. It was a great success for both classes.

How long did it take?

Every participant must complete a Log as they go through the programme. From start to finish, the whole process probably took my class about 30 hours over the year including class discussion, research, trial runs and working with the younger class.

Was it worth it?

Yes, I will definitely be doing it again, the Log and support notes are all easy to follow and self-explanatory. There are brilliant resources on the YSLP website that are being added to all the time. The programme is extremely flexible and does not have to be done in a classroom setting as I did. As always, the SSERC team were extremely helpful and supportive.

What did the pupils think?

The children of both classes got a great deal out of it. It was lovely to see the confidence and enthusiasm with which my class mentored the P1s and the bond that developed between the 2 classes.

Much of the programme is geared to providing young people with the skills needed not only for STEM careers but the leadership, inspiration, creativity, and flexibility will ensure that Scotland remains a great place to work in the future. <<

Reference

- [1] <https://education.gov.scot/improvement/documents/sci38-primary-action-guide.pdf>



Cyber resilience and internet safety

Along with every other area of life, COVID-19 has had an impact on the educational landscape across the country. Many schools are investigating and implementing aspects of blended learning, utilising digital teaching tools like Seesaw, Google Classroom and Teams to ensure the continuity of teaching and learning during school closures. As educators and pupils are spending more time online, it is more important than ever that everyone knows how to stay safe, manage risk and communicate appropriately using digital tools. This programme has been developed in collaboration with the Scottish Government and Education Scotland.



CYBER RESILIENCE
AND INTERNET SAFETY

Led by SSERC, the Cyber Resilience and Internet Safety (CRIS) mentor programme is a new 'train the trainer' programme for educators in Scotland to develop and share their expertise in key areas of CRIS.

The key aim is to facilitate the development of CRIS Mentors across Scotland to build confidence and address common CRIS issues with teachers, parents and other stakeholders in education.

The materials for the project have been developed by four experts in their respective fields.



Scott Tees has developed a module on awareness of your digital footprint. He has over 30 years military and police experience which has seen him oversee the safety of people and organisations in various countries and arenas. Scott was the first Police Scotland National Lead for Cybercrime Prevention, creating and shaping the Police Scotland National Cybercrime Prevention strategy.



Gareth Rae is Principal Teacher of Computing Science & Business Education at Girvan Academy - he has developed a module on securing your personal devices, focusing on understanding your home router settings.



Jess McBeath has trained hundreds of people across Scotland and the UK to keep children, vulnerable adults and themselves safe online. This includes teachers, social workers, safe guardians, foster carers, police, charities, youth workers and more. She has created a module with resources to support the development of staff expertise when dealing with online bullying.



Craig Steele designs and delivers interactive training that brings digital skills to life for people of all ages and abilities. He has delivered digital skills workshops to thousands of people across Scotland and internationally. He has created an interactive module and resources to tackle the topic of encryption and password safety.



Due to COVID-19 and current restrictions in place across schools and professional learning environments, the CRIS project will now be hosted on the new SSERC Online Learning platform. >>

Participants will gain access to webinars and training materials to work through and reflect on to develop their own personal knowledge and skills. Mentors will be supported to work together at cluster and local authority level to create an action plan as to how they will move CRIS forward in their settings. These digital resources will be available for the CRIS mentors to use in their own training sessions as their CRIS next steps are identified. The CRIS project will be recruiting delegates from across Scotland from October 2020, with the project beginning early November 2020.

SSERC Online Learning

SSERC Online Learning is where you can find an expanding range of interactive e-learning resources to support professional learning in STEM subjects. The first digital skills course, Laying the foundations of Computer Science, is now available



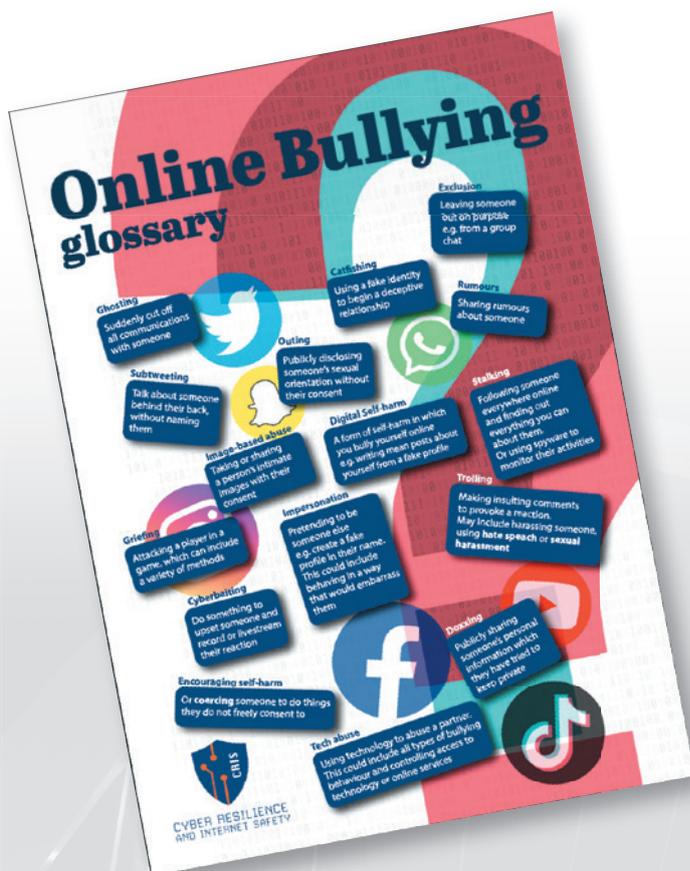
for free online. A brief overview of some of the activities can be found on You Tube [1].

This course is an adaptation of a face to face day course and explores key recurring themes in the Computer Science experiences and outcomes.

There will be opportunities to explore pedagogical approaches to teaching Computer Science through a forum, plugged and unplugged lessons to work through and remix building personal confidence in teaching Computer Science in the primary school. There are lots of high-quality free resources linked to enable you to start teaching computational thinking in an interdisciplinary way immediately.

To gain access to the course please apply online - through the SSERC website – professional learning section [2].

Once you have registered your interest, you will be emailed a link to the SSERC Online Learning site and a course joining code to enter when you create your username and password for the site.



References

- [1] https://youtu.be/7SHFitA_hlw.
- [2] <https://www.sserc.org.uk/professional-learning/secondary-clpl/digital-clpl/>.