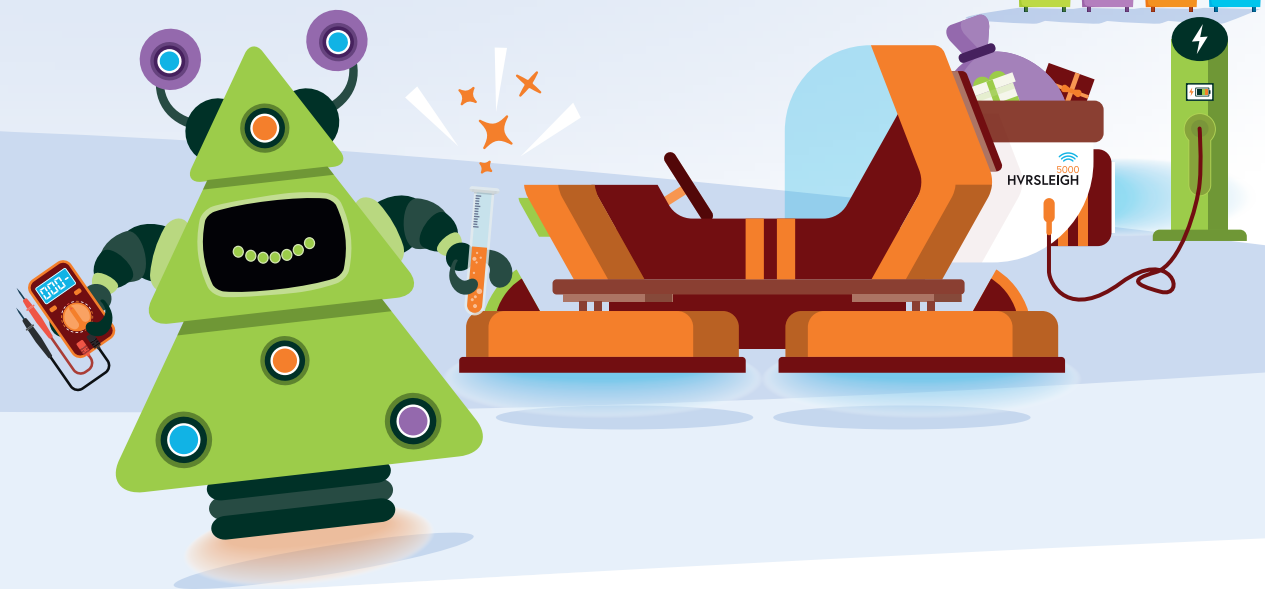


Santa's STEM Workshop

STEM Ambassador Pack



theiet.org/santa

[X](#) [f](#) [i](#) [@IETeducation](#)



Your STEM Ambassador Pack

Thank you for supporting this year's Santa's STEM workshop. We really hope that you'll enjoy running practical, hands-on activities with your local schools in the run up to the festive period and beyond!



We've prepared this handy toolkit with everything you need to plan and run your event, including a Santa's STEM Workshop advert, which can be attached to emails, social media graphics and example social media posts which you can use to help you get started.

[Download assets here](#)



We've also included a small selection of our Christmas STEM (science, technology, engineering and maths) activities giving you some fun craft ideas, recipes, projects, challenges and experiments for you to run in class with teacher support or as part of a holiday/after-school club.

Suitable for children aged 4 to 13 years, each activity provides STEM inspired learning and comes complete with step-by-step guides, printable worksheets, lesson plans, videos and pictures.

We hope you enjoy the Santa's STEM workshop experience – we can't wait to hear what you've been up to!

And remember, this is just a featured selection of all our **#SantasSTEMworkshop** activities for 2023. For a full list (including all downloads, videos and podcasts) please visit theiet.org/santa.

If you need any advice or further support, please don't hesitate to contact us:

ieteducation@theiet.org



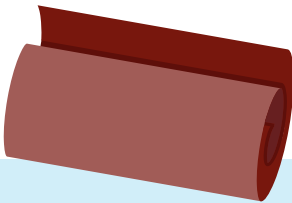
Resources and activities: primary (4-11 years)

1. Make a paper Christmas star lantern

Students can use our net or go 'off piste' and create their own unique lantern design. They might even like to use different colours of paper to create a stylish effect.

Time required: 60-90 minutes

Download the activity [here](#).

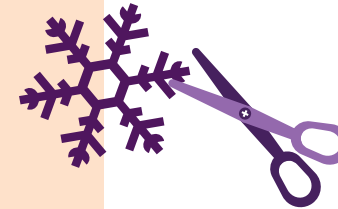


2. How to make a paper snowflake for kids

Making paper snowflakes is a great STEM activity, allowing students to express their artistic side while developing practical design skills through cutting and folding.

Time required: 15 minutes

Download the activity [here](#).

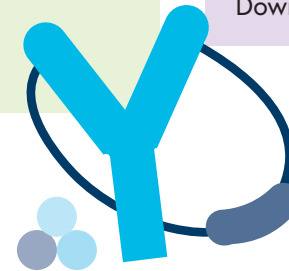


3. Snowball catapult

Build a snowball catapult capable of firing cotton wool balls. How far are you able to fire them?

Time required: 5 minutes

Download the activity [here](#).



4. Parachuting presents

Can you help design a parachute to assist the elves? In this Christmas STEM activity, students will learn about gravity, air resistance and more.

Time required: 30 minutes

Download the activity [here](#).



5. Make salt dough Christmas decorations

In this Christmas STEM activity, students can make and paint their own decorations using salt dough, in any shape they like! Baking is a great way to learn about science and maths in a fun and rewarding way, so get your aprons on!

Time required: 1 hour plus

Download the activity [here](#).



7. Marshmallow igloo

Igloos are built out of blocks of ice or snow by Inuit people living in the Arctic regions of Canada and Greenland. They were used as temporary shelters when people were hunting. Challenge your students to make one for themselves with marshmallows!

Time required: 30 minutes

Download the activity [here](#).



6. Edible stained glass

Learn how to create colourful, edible stained glass and discover the science of light in this fun experiment.

Time required: 20 minutes (plus
1 hour cooling time)

Download the activity [here](#).



8. Jingle bells density science experiment

In this fun Christmas STEM experiment, we see the effect that density has on objects and make some jingle bells dance!

Time required: Less than 30 minutes

Download the activity [here](#).

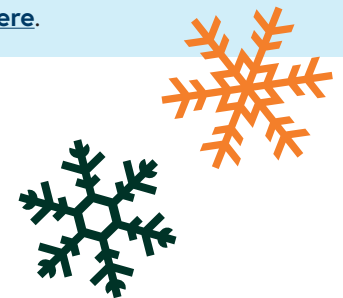


9. Create your own Christmas mobile

Mobiles add a fun and visually attractive aspect to the festive period. Challenge your students to design and make a Christmas mobile that not only looks good but balances well too.

Time required: 90-110 minutes

Download the activity [here](#).





Resources and activities: secondary (11-13 years)

1. Make an exploding snowman

Challenge your students to make an exploding snowman model using bicarbonate and vinegar. They will make a card model of a snowman and mix the bicarbonate and vinegar to see the effects of the reaction.

This activity is a fun way of learning about the effects of chemical reactions.

Time required: 40-65 minutes

Download the activity [here](#).



2. How does Santa's sleigh fly?

Four important forces affect how Santa's sleigh will fly: Drag, Thrust, Gravity and Lift.

In this fun and festive activity, students will explore these forces so that they can design and craft their own sleigh to help Santa.

Time required: 2 hours

Download the activity [here](#).



3. How polar animals keep warm

Many animals must keep their body temperature high, despite freezing cold temperatures. How do you think they do this? For this activity, students will construct a model of a polar animal to find out how blubber can help keep an animal warm in the icy waters of the North or South Poles.

Time required: 60-90 minutes

Download the activity [here](#).



4. Super sleigh alternative

In this festive activity students will design a high-tech, environmentally friendly replacement for Santa's sleigh.

The sleigh will use a sustainable method of allowing it to fly to deliver the presents. This resource will build knowledge and skills in design and technology and engineering.

Time required: 50-60 minutes

Download the activity [here](#).



5. Write a poem to Santa about space

In this festive creative writing activity designed for secondary school students, learners will write a poem to Santa about space.

Time required: 30-60 minutes

Download the activity [here](#).



6. Make marshmallow

This resource will tell you how to make your own marshmallow. But not only that, we will be learning about the science of baking, and how a small change to the mixture can make a big difference.

Time required: 45-60 minutes (+2 hours cooling)

Download the activity [here](#).

7. Eco-inventor challenge

Can you help save the North Pole? Discover your inner inventor with our fun design sheets, perfect for a class activity or at home throughout the festive season. Our entertaining, recycled box challenge will put your creativity and imagination to the test – what will you design?

Time required: 45-60 minutes

Download the activity [here](#).



8. Daylight hours maths activity

In this fun maths activity, students will look at the way the length of the day changes over the year. They will use a data sheet to plot a graph, then interpret the data to work out the date of the longest and shortest days of the year in the United Kingdom.

Time required: 50-80 minutes

Download the activity [here](#).





Social media tips and post suggestions

Social media is a great way to create awareness pre, during and post event.

We've put together a few tips to help you spread the word and create a buzz about your **Santa's STEM Workshop** event...



Use our official social media handles and hashtags:

Handles: **@TheIET** **@IETEducation** and the hashtags **#SantasSTEMworkshop** and **#SantaLovesSTEM**.

Cross promote:

If you've got several social media accounts (staff and an organisational one), ask colleagues to follow you and utilise your own social channels, remembering to use the hashtags above.

Build excitement:

On the lead up to your event, share or tag in the school's social media account (if they have one) – just remember to check if they are happy for you to do so.

Follow and engage with others:

Check out and follow other STEM education organisations, technology magazines, blogs and engineers. You can also like and follow all the Santa's STEM workshop events and promotions by using our **#SantasSTEMworkshop** to search for them on social.

Post during your event:

Throughout your event, be sure to post plenty of exciting and engaging photos or video content across your social channels (please ensure you have the appropriate **consents and permissions** in advance).

Give your event a mention!

If you've been out and about talking about Santa's STEM Workshop, mention where you've been or who you've spoken with in your social update. Remember to tag them if they have a social media page. If they like and share your post, it will help boost its reach.

Engage with your followers:

It's always good practice to like and share messages from your followers and respond in a timely manner to people who contact you. It will show you're happy to engage with your social media community and this in turn, will gain you new followers and advocacy as you go.



Permission and consent: photography and video

Please remember that you must seek permission to film or photograph any participants.

All children under the age of 18 need to have a signed consent form from a parent or guardian if they feature in any photos or videos from your event.

Permission forms can be downloaded from [here](#).

Please make all participants aware that photography/videography is happening which could be used for media, social media and marketing.

You must make sure any participants not wishing to be filmed/photographed are not visible in any photos and recordings. One way we've achieved this at our own events is to pop a red wristband or a coloured sticker on the attendee and brief photographers and staff that these people must not be featured or appear in any photos or videos.





Example social media posts

Pre event

We're so excited to be taking part in this year's IET **#SantasSTEMworkshop** in December! With plenty of exciting STEM challenges to get involved in, if you're a teacher in the xxxxx area drop me a DM to register today!

Engineers bring ideas to life, turn dreams into reality and make solutions to big challenges possible. I'm taking part in this year's **#SantasSTEMworkshop** to show you just how exciting a career in engineering can be with some Christmas fun thrown in for good measure!

Ever wondered why a snowflake has 6 sides or how you can create your own crystals?* You can find out in our **#SantasSTEMworkshop** session which we're offering to schools throughout Nov and Dec. Drop me a DM to register your school's interest.

**Can edit with any of the resources you have chosen to share at your event.*

Shorter version:

Do you know any aspiring young engineers who just love the magic of Christmas? I've joined forces with **@TheIET** and **@IETEducation** to bring a fun **#SantasSTEMworkshop** into your school during Nov or Dec. Drop me a DM to register your school's interest.



On the day

#SantasSTEMworkshop is finally here! I can't wait to visit @xxxxxx school today to inspire the next generation with @theIET's Christmas themed resources and activities. Are you ready? **@IETEducation**

[Post photo and video content of activities at the event] Having a great time with the future engineers of the UK! **#SantasSTEMworkshop @IETEducation**

Post event

Wow, what a day! I loved seeing so many inspired children and their teachers at **@theIET's #SantasSTEMworkshop**. Whether you're into crafting, baking, music or outdoor adventures, there's a place in engineering and technology for all of us! **@IETEducation**

[Share photo or video from the day, if you have consent to do so]

