

Superheroes Unlimited Family Event Guide

In summer 2022, the Institute of Physics assembled a super team of five science superheroes, called [Superheroes Unlimited](#), that are saving the world with physics. They are inspired by real people working all over the UK, who are helping to protect the environment, keep people safe and healthy, and create incredible inventions to make the world a better place. The Superheroes Unlimited exhibition and events ran over the summer holidays and included hands-on physics experiments, craft activities, and building challenges for young people and their families/carers.

Superheroes Unlimited is part of the IOP’s Limit Less campaign, to support young people to change the world and fulfil their potential by doing physics. The Limit Less campaign aims to empower parents to talk positively about physics to their children at home. We know that physicists can play an important role in supporting parents to do this, both by sharing your expertise and the diversity of your backgrounds and passions with them.

One way of doing this is for you, our members, or any physicist, to organise events for families that place the campaign messages alongside hands-on explorations of real-world physics.

To help you do this, the Institute of Physics (IOP) campaign team has created the Superheroes Unlimited family event resource, which you can download for free and is to be used alongside the toolkit resource, [Family events designed for impact](#).

The Superheroes Unlimited family event resource includes a presentation, worksheets, activity instructions and templates, profiles of diverse science role-models, and a list of requestable event extras, to:

- Use as part of your events
- Build a science superhero family event
- Inspire event ideas and activities of your own

The activities are recommended for ages 6-11 and their families/carers.

We hope that you inspire others to help save the world with science! Please share your success and feedback with us via this [short evaluation form](#), or email us at engagement@iop.org.

From the IOP Public Engagement Team

Example of Science Superhero Family Event Set-Up

Activity	Equipment Needed
Pick one from: <ul style="list-style-type: none"> ● Build a search and rescue robot ● Make a robot hand 	See index below
Pick two from: <ul style="list-style-type: none"> ● Climate matching game ● Colouring in ● Design a science superhero (worksheet) ● Make a paper helicopter drone ● Make a superhero badge 	See index below
Pick one from:	See Activity Book or list below

<ul style="list-style-type: none"> • Activity Book experiments • Other item ideas to purchase 	
Pick one from: <ul style="list-style-type: none"> • Science superhero profiles (printed as posters) • Superhero selfie banner (with props and costumes) 	See index below (email engagement@iop.org to order)
Pick two from: <ul style="list-style-type: none"> • Superhero pledge cards • Superhero membership cards • Superhero wish postcards • Superheroes Unlimited Activity Book • Which science superhero are you quiz 	See index below (email engagement@iop.org to order)

Index of Resources

Name	Format	Equipment Needed	Notes
Build a search and rescue robot (instructions and template)	Digital	<ul style="list-style-type: none"> • Instructions and template • Colouring pens and pencils • Scissors • Glue • Sellotape 	If possible, print template on A3 paper.
Climate matching game (instructions and cards)	Digital	<ul style="list-style-type: none"> • Instructions and cards 	
Colouring in (sheet)	Digital	<ul style="list-style-type: none"> • Sheet • Colouring pens and pencils 	
Design a science superhero (presentation)	Digital	<ul style="list-style-type: none"> • Shareable screen 	Script is in presentation notes, to be used with worksheet.
Design a science superhero (worksheet)	Digital	<ul style="list-style-type: none"> • Worksheet • Colouring pens and pencils 	
Make a paper helicopter drone (instructions and template)	Digital	<ul style="list-style-type: none"> • Instructions and template • Scissors • Paperclips 	
Make a robot hand (instructions)	Digital	<ul style="list-style-type: none"> • Instructions • Card • Colouring pens and pencils • Scissors • Paper straws • Sticky tape • String 	
Make a superhero badge (instructions and template)	Digital	<ul style="list-style-type: none"> • Felt • Colouring pens and pencils • Scissors • Safety pins (sticky back) • Stickers (optional) • Felt glue (optional) 	

Science superhero profiles	Digital	<ul style="list-style-type: none"> Profiles 	Could be printed as posters.
Which science superhero are you quiz	Digital	<ul style="list-style-type: none"> Quiz and answer sheets 	
Superheroes Unlimited Activity Book	Digital and Print	<ul style="list-style-type: none"> Activity book 	If you would like printed copies of these, please email: engagement@iop.org .
Superhero costumes	Physical	<ul style="list-style-type: none"> Child (Cape and Mask x3) Adult (Cape and Mask x4) 	Could be used with superhero selfie props and selfie banner.
Superhero selfie props	Physical	<ul style="list-style-type: none"> 7 graphics printed on thick card and attached to wooden sticks to hold 	Could be used with superhero costumes and selfie banner.
Superhero selfie banner	Physical	<ul style="list-style-type: none"> Large frame and sheet 	Could be used with superhero costumes and selfie props.
Superhero pledge cards	Physical	<ul style="list-style-type: none"> Child and Adult (A5 size) 	Young people and adults sign pledges to talk more positively about physics, in line with our Limit Less campaign.
Superhero membership cards	Physical	<ul style="list-style-type: none"> Child and Adult (Business Card size) 	Young people and adults take home a small reminder of their pledges, in line with our Limit Less campaign.
Superhero wish postcards	Physical	<ul style="list-style-type: none"> 'I want a real-life science superhero to...' prompt cards (A5 size) 	

If you would like any of the green highlighted items, please contact engagement@iop.org with the quantity, date and address for delivery.

Other item ideas to purchase for science superhero family events

Item	Cost	Notes
Hydraulic Robot Arm	Around £30	Tricky to put together but very popular. Make it a challenge for people to move items with the arm!
Laser Maze Game	Around £30	Better suited to older children (9-11).
Microscope	Around £120	Great for all ages! Create some microscope slides by sticking objects onto pieces of card.