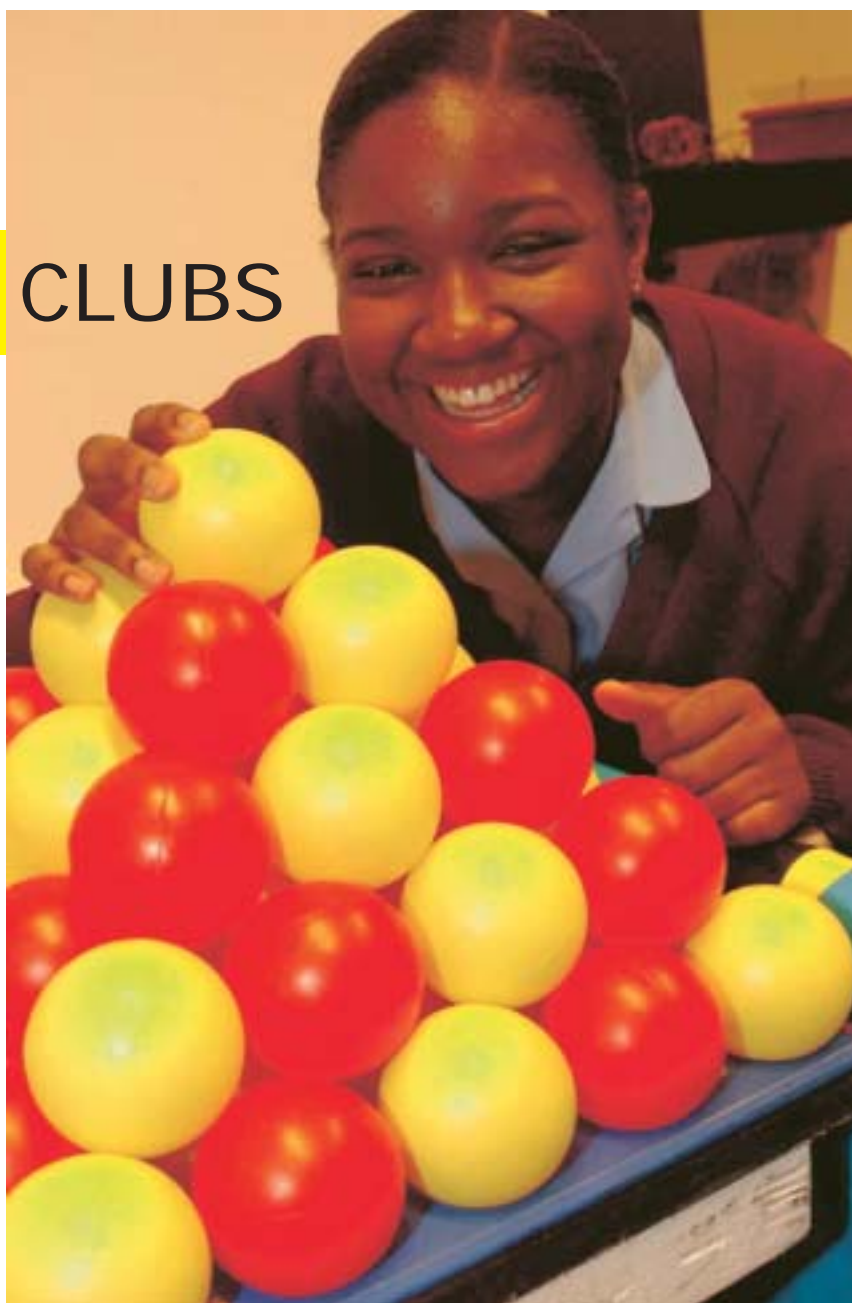


# SCIENCE CLUBS



---

Setting up your club

Fun with liquids and solids

The BA science club network

4 BA Investigations as PDFs

*Two for 5 to 7 year olds*

ROCKING PARROT  
MAKING MOON CRATERS

*Two for 8 to 13 year olds*

GO WITH THE FLOW  
ROCKET LAUNCH

---

## Why set up a science club?

Science is a great subject for an out-of-school-hours activity club – and if the programme of events is exciting enough, it won't just be the children who already like the subject who'll want to come along. Science, like history, is everywhere. It underpins nature, photography, sport, the weather, cookery, magic tricks, outer space...and much more besides. There is no shortage of engaging and enjoyable science-related activities that can be devised and organised quite easily. Hands-on experiments develop club members' creativity, problem-solving abilities, dexterity and team-working skills. In addition, the process of discovery at first hand builds their understanding and appreciation of how the physical world works. And occasionally, making a whole load of mess in the name of science can be great fun!



## The underlying science

Although all the club activities should be enjoyable, creative and stimulating experiences for the members (and the organisers) your aim is to run more than just a rainy-day activity group.

The objective should be to organise events that are associated directly or indirectly with a range of scientific principles and concepts. Through observations and hands-on activities, club members can explore these laws and phenomena for themselves. This type of active learning is a great way to develop young people's observational skills, their ingenuity, and their understanding of how the natural world works.

But don't let the theory bog you down. You don't need to – the science should enhance the activities, and, like salt in your soup, a little goes a long way.

The science involved in each activity can be introduced briefly at the beginning, and then revisited later as a means of explaining the outcome of the experiment. It can also help to provide a source of ideas as to how to vary the experiment next time. There are plenty of resources in your local library and on the Web that explain scientific principles in different ways with examples, illustrations and fascinating stories from history. So, if you're at all unsure about teaching the science involved, have a surf on the Web to learn other people's 'top tips'. [see SITES.pdf for a short list]

## Setting up your club

### Who will join?

You can run a science club for any age group. Particular activities should be targeted at specific age groups, but if there is a large age range in the club, it's possible to devise related projects on the same theme that are suitable for children at various levels. This also presents good opportunities for older children to help younger ones.

Clubs work well with around 15 members – any more and the activities can become hard, though not impossible, to manage.

Membership should, of course, be voluntary, and the club should be equally attractive to boys and girls. If you find they're not joining in equal numbers, it could be that your programme of events has greater appeal to one gender. It doesn't have to – there are plenty of universally appealing activities to choose from.

### How will you attract your members?

The main thing that will attract young people to join a science club is the idea that they will participate in fun and exciting activities, which enhance what goes on in the classroom. Appealing to their natural curiosity and creativity should do the trick, though involving chocolate can also help!

## Some ideas for a successful launch

Compile a list of ten enticing activities to launch the club and get the pupils' attention. These should be varied and fun, for example:

- Make your own exploding volcano
- Extract DNA from a kiwi fruit
- Make an oven out of a pizza box
- Make a pinhole camera and take a picture
- Grow your own stalagmites and stalactites
- Discover how to make the picture on your TV screen look 3-dimensional.

Then publicise the club and its calendar of events.

Think laterally about where and how you can get people interested in what you are doing. Perhaps stage hourly demonstrations at the school fair. Take pinhole photographs of school or town landmarks and put them up as a school exhibition or in your local library.

Tell the local press what you are up to and make sure the first week's activity is photogenic. Having your picture in the local paper can be a strong attraction for next week's club.

You'll never run out of ideas!

## Guest Speakers

There are scientists working in all sorts of areas of society, and many will be prepared to come along and do a talk to your club or to the school at an assembly. For instance:

- a forensic scientist involved in solving crimes
- a food technologist
- a physiotherapist or sports scientist
- a museum or gallery curator
- a geologist from the local university
- a nurse, radiographer, technician or doctor from a local hospital
- a scientist from the local waterworks.

Pupils' parents are often the best speakers. But if you are stuck contact your local SETPOINT ([www.setnet.org.uk](http://www.setnet.org.uk)), who will be able to help you. They are also the point of contact for the Science and Engineering Ambassadors Scheme (SEAS) which puts real scientists into schools.

## Games

There are all sorts of games you can devise and supervise that just happen to involve science. For example, what about planning a 'science treasure hunt' in your local area to get members noticing the amount of technology there is around them? Or present them with everyday objects, such as a cup of tea, and get them to discuss in teams '*Where's the science in that?*'. You can set them scientific – and practical – challenge, such as '*Can you step through a*



*postcard?*, or *'Can you get an egg into a bottle?'*, or research a number of fantastic science facts and create a quiz (with science prizes possibly). You don't need to confine these activities to the club either – the club members could take on other pupils, or even a team of teachers, if they want to.

#### Team up with other clubs

Many areas of science impact heavily on society and can raise challenging issues. Science clubs can, therefore, team up with debating clubs to discuss questions such as the real value of recycling, energy conservation, etc.

Science clubs can also team up with drama clubs to re-enact important moments of scientific history, such as the discovery of X-rays, steam engines, or the first pictures from the Moon. There are some great human stories in the history of science – people really have lived, loved, fallen out, travelled to the ends of the Earth, been lauded, been

condemned, and, a few times, have even died in the pursuit of knowledge. There's certainly no need to feel you have to make up juicy bits just because it's science. It's already juicy enough.

There is a huge range of activities that relate to science in some way.

## Chemistry in the Kitchen – *Fun with liquids and solids*

A mixture of cornflower and water has strange properties. When you slowly place your hand on the surface and move your fingers they pass through into the liquid. But, if you hit the liquid hard it acts like a solid.

This is because the small pieces of the liquid are made up of chains. These chains can pass past each other if pulled slowly. However if they are hit hard or quickly then they get tangled up with each other.

You can try this at home using 8 spoons of custard powder (not instant custard) and 4 spoons of water.



## Making it easy

You don't have to do it all on your own.



**The British Association for the Advancement of Science (BA)** has a science club network, with several schemes in place to provide materials and expertise for setting up or enhancing science clubs for all age groups.

[www.the-ba.net](http://www.the-ba.net)

### First Investigators (for 5 to 7 year olds)

The activities they suggest, and provide support for, include making kaleidoscopes, fossils, water volcanoes and lip balm. It's an awards-based scheme, and children receive certificates and badges on completion of the Silver and Gold levels. The BA can help with everything you need and provide you with up-dates throughout the year, at minimal cost.

Two examples from **First Investigators** are included on this CD [.pdf] which can be printed off as work sheets.

- ROCKING PARROT [[fi\\_parrot.pdf](#)]
- MAKING MOON CRATERS [[fi\\_craters.pdf](#)]

### Young Investigators (for 8 to 13 year olds)

Again, this is an awards scheme, with similar activities to the First Investigators. Schools get a certificate for participating in these clubs, but the material can be equally useful for other groups – it's particularly popular with Scouts, Guides and library groups.

Two bronze-level **Young Investigators** work sheets [.pdf] are included on this CD:

- GO WITH THE FLOW [[yi\\_flow.pdf](#)] – Bronze A award
- ROCKET LAUNCH [[yi\\_rocket.pdf](#)] – Bronze B award

Other useful sites to help you are shown below.

As you can see, there are plenty of resources to help you set up your club.

## Useful sites

<b>The British Association for the Advancement of Science</b>	<a href="http://www.the-ba.net"><u>www.the-ba.net</u></a>
<b>Brainpop</b>	<a href="http://www.brainpop.com"><u>www.brainpop.com</u></a>
<b>Explore Science</b>	<a href="http://www.explorescience.com"><u>www.explorescience.com</u></a>
<b>How Stuff Works</b>	<a href="http://www.howstuffworks.com"><u>www.howstuffworks.com</u></a>
<b>Hunkin's Experiments</b>	<a href="http://www.hunkinsexperiments.com"><u>www.hunkinsexperiments.com</u></a>
<b>Inspiring Science</b>	<a href="http://www.inspiringscience.co.uk"><u>www.inspiringscience.co.uk</u></a>
<b>Mad Science</b> (especially the 'Kids' area)	<a href="http://www.madscience.org"><u>www.madscience.org</u></a>
<b>Science Line</b>	<a href="http://www.sciencenet.org.uk"><u>www.sciencenet.org.uk</u></a>
<b>Sciencetriffic</b>	<a href="http://www.csiro.au/sciencetriffic"><u>www.csiro.au/sciencetriffic</u></a>
<b>SETNET</b>	<a href="http://www.setnet.org.uk"><u>www.setnet.org.uk</u></a>
<b>The Creative Science Centre</b>	<a href="http://www.creative-science.org.uk"><u>www.creative-science.org.uk</u></a>
<b>Yahooligans Science and Nature</b>	<a href="http://www.yahooligans.com/Science_and_Nature"><u>www.yahooligans.com/Science and Nature</u></a>