

HOW TO...

GET CHILDREN INTERESTED IN BIOMEDICAL SCIENCE

Matt Wilven, Communications Officer at the IBMS, gives practical tips and guidance on how to engage with youngsters.



BACK GARDEN CHEMISTRY 101:

Apparatus:

- Two large empty plastic bowls
- A large floor sheet (to catch the mess)

Ingredients:

- Water
- Old batter mix
- Old spices
- Old bits of grain
- Baking soda
- Measure of vinegar

Method:

- Add one or more child
- Set expectations as to where the rubbish can go and will end up
- Issue subtle but irresistible warning not to mix water, baking soda and vinegar in the same bowl
- Leave UNSUPERVISED



The quick recipe on the left is for a young child to have an enjoyable scientific experience because, when you really boil it down, science is about curiosity and experimentation. If a child can get a taste for the joy of those two aspects early on, then they will be better placed to love science later. Don't stand over their shoulder comparing vinegar with a disease and baking soda with the immune system unless it seems to be part of a conversation they want to understand. It is usually best to avoid presenting concepts like "science" or "learning" until the fun has been had.

It's important to remember that biomedical science does not have to be technical or serious, it can be fun too. The trick is to make a child curious

enough to ask questions and stay interested long enough to figure out the answers for themselves. The words "biomedical science" sound like hard work to a child, but a well-framed question at the breakfast table can lead to a conversation full of biomedical science facts and knowledge: "What do you think happens when you put the wrong type of blood in someone?" "Did you know that your breakfast cereal is magnetic?" "What colour do you think blood is if you take out all the red bits?"

Once they get to Key Stage 2 and you have engaged their interest, you can start making more time for conversation and analysis in and around your activities. Baking is a good place to start. It involves measurements, maths, reading, following instructions, practical skills and chemical reactions – and it's incentivised with a yummy treat. Let your child choose what they want to make from a cookbook.


““What do you think happens when you put the wrong type of blood in someone?” “Did you know that your breakfast cereal is magnetic?””



know that biomedical scientists are working in hospital laboratories to help keep everybody safe and well. Help them understand that biomedical scientists and laboratory staff are a major part of the healthcare service, and that biomedical science is behind the diagnosis, prevention and control of infection and disease. If you foresee eyes rolling into the back of heads, IBMS members can ask us (communications@ibms.org) for a copy of our *Superlab* comic, which uses fun characters and puzzles to teach and impart these lessons.

If you're interested in getting children involved in activities that reach beyond generic skillsets and more deeply into biomedical science as a subject, our members have helped us to develop some new activity sheets for children. Each sheet represents a 10-20 minute activity which introduces and puts into practice an aspect of biomedical science ("magnetic cereal", "centrifugal force", "blood grouping" etc). They outline the things you will need, what aspects of the science to explain and how to put the experiments in motion.

These new resources are available to download on the following webpage: ibms.org/activities

Whether dealing with your own children, visiting a school or a children's ward, remember that these techniques are great outlines to engage children with biomedical science, but nobody is the perfect parent or teacher. Just like in science, outcomes will be different to expectations, and sometimes disappointing. Children are not always in the mood to learn or behave – and the dreams of perfect cohesion projected in articles like these can fall to dust. But don't despair. Biomedical science is a noble calling and just telling children who you are and what you do will be enough to impart the knowledge that scientists are out there in their communities helping people through their healthcare journeys. 

Guide them around the shop so that they can pick up their ingredients. Besides handling the oven, give them complete ownership of the process. If you can help a child to experience enquiry and discovery – things they associate with play – then you can begin to help them build on their natural curiosity and turn it into a lifelong skill.

Whatever activity you set up, try not to praise the child's ability or intelligence too much. Praising their process is a more effective tactic if you want to embed the potential for a passion for biomedical science. This means praise for their hard work, their strategies, their focus, their perseverance, their use of errors to learn, and their improvement – the sorts of skills you would be happy to see in a colleague. As they make decisions, ask them what they are doing and why. Studies suggest that most children become more intelligent problem-solvers

when they are taught to test hypotheses and explain their own reasoning.

As children grow and become more outward looking, they inevitably come into contact with illness, disease and death, and it is important for them to

NATIONAL PATHOLOGY WEEK:

Pathology Week, which takes place on 4 to 10 November, is a great time to set up stands in hospital lobbies or visit schools and children's wards to inform young people about biomedical science.

To enhance public engagement events, members can order boxes of promotional items from the resources section of the IBMS website (you can choose your items, including the *Superlab* comic). If you want to make your event or stand more fun and interactive have a look at IBMS activities page (ibms.org/activities).