

INSTRUCTIONS FOR USING CAREER CARDS

AIMS

The cards are designed to help children to realise that science and other STEM careers are done by 'ordinary' people who have 'normal' interests. This is to help counter the common misconception that scientists are 'boffins', who need to be super-intelligent and that STEM careers are not an option for most people. This is an important message as there is research which shows that many children do not think that science is done by 'people like me'.¹

Secondly, the cards show that there are a wide range of jobs available to people who study STEM subjects and that many of these jobs are within industry.

Thirdly, the cards aim to break down gender and other stereotypes. There is evidence that it is important that we address these stereotypes from a young age.²

Lastly, the resource is designed to alert children to the fact that as they progress through their education, they will have the opportunity to make choices about which subjects they spend more time studying, and that these choices will affect the career choices that are open to them. We do not need to overload them with too much information about qualifications at this stage, but feel that some general ideas about post-16 study, such as 'apprenticeship' or university is useful.

CURRICULUM LINKS

The science curriculum for England (2014)³ states that "teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science" (Page 3 Science programmes of study: key stages 1 and 2). In several sections of the 'non-statutory guidance' of this curriculum, it is suggested that children work scientifically by considering the work of real scientists (Pages 12, 27, 28, 30, 31, 32)

Some of the suggestions below could be used to give a context to ongoing English lessons.

THE CARDS

Each set of cards is based around four employees from Johnson Matthey. For each employee there are six cards comprising

- Name and photograph
- Job title
- What do you do in your job?
- What did you enjoy at school?
- What do you need to be good at for your job?
- What are your hobbies?

- 1 Kings College London. *Science Capital - an introduction*. <https://www.youtube.com/watch?v=A0t70bwPD6Y>
- 2 Mullen Lowe Group. *Inspiring The Future - Redraw The Balance*. <https://www.youtube.com/watch?v=qv8VZVP5csA>
- 3 Department for Education. *Science programmes of study: key stages 1 and 2*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/425618/PRIMARY_national_curriculum_-_Science.pdf

SUGGESTIONS FOR USING THE CAREERS CARDS

ACTIVITY ONE

This activity will probably work best with a small group. The aim is to encourage children to think about what different jobs might entail, and what sort of people might do certain jobs. There are a variety of ways that you could introduce this activity. For example, you could give children the job title cards and ask them to imagine what those jobs might involve before asking them to match the job titles to the photographs and names.

At this point children are likely to point out that it is not possible to tell; it is valuable to give them the opportunity to articulate this idea, as there is much evidence that, despite what we believe, gender and other stereotypes are deeply embedded in all of us from a young age.

You could support them to talk about their understanding by asking questions such as

- Can you explain why you think that it would be this person?
- Does everyone agree with that?
- What makes you think that?
- Could it be this person?

Ask children what they think that these people might have enjoyed at school. Then look at the 'What did you enjoy at school?' cards and see if it is similar to what they guessed. Can they think of anyone in their class who likes the same things as this person? Do they like any of the same things as these people?

As long as children are engaged and there is a good level of discussion, keep adding cards or people. You may choose to end the session by using the PowerPoint presentation (see notes below) to show children which cards match with which people. However, it is important that children still understand that their suggestions are valid, even if they turn out not to match the reality as there is no way of telling for sure who does which job.

ACTIVITY TWO

Show children all of the 'What do you do in your job?' cards and the 'What did you enjoy at school?' cards. Challenge them to see if they can match them up. (In some cases there are clear links between early interests and current career, in others there are none, so this should give rise to some discussion).

Give out the 'What are your hobbies?' cards. Do they think that older people still like doing the things that they enjoyed when they were at school? Can they match these cards to the ones that they already have?

Use the PowerPoint presentation (see notes below) to see if they have correctly matched the three sets of cards. Again, ensure children understand that all of their suggestions are valid as it is impossible to be completely sure which people have which hobbies.



ACTIVITY THREE

The cards can be used as a stimulus for children to make their own sets of career cards. Challenges could include:

- Making a set of cards for their future selves. They could make more than one set; encourage them to think of a range of possibilities. For example, you could discuss that they may have more than one career during their adult lives. If their dream job is not in STEM consider the possibility that there may be a connected STEM career; for example, once they have retired as a premiership footballer they may consider a job as a sports psychologist or nutritionist! The sets of cards made by different children in the class could be used as the basis for a display which encourages children to consider the range of options that are open to them. Encourage children to find out what sorts of choices they will need to make in order to fulfil some of the ambitions on the cards.
- Making a set of cards for famous scientists both past and present. However, be aware of the danger of these being almost exclusively white, able bodied males and ensure that people from a diversity of backgrounds are included. Eg. Stephen Hawkins, Rosalind Franklin, Marie Curie, Maggie Aderin-Pocock and Katherine Johnson. Go to <https://www.famousscientists.org/15-famous-black-scientists-in-history> for examples of famous black scientists.
- Making a set of cards for scientists and engineers that they have met. If they have been on a CCI⁴ visit this might include people from the industry that they visited. Alternatively, it could include visitors into school or family members or family friends. If there is the opportunity, children could interview potential subjects or, if this is not possible, allow them to use artistic license to fill in missing facts such as what their subject liked doing at school.

THE POWERPOINT PRESENTATION

The PowerPoint presentation contains all of the information about each person in the set of cards. It has been designed so that information can be revealed, one piece at a time, for each person, building the tension as new facts are revealed. The notes section of the presentation also contains some additional information about the route that the person took into this career and what qualifications they needed.

4 Children Challenging Industry. This is a highly acclaimed programme which makes links between primary children and science based industries. You can find out more at ciec.org.uk