



Science: it's a people thing

A discussion workshop for girls

CONTENTS

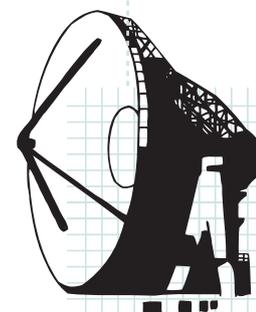
Supporting Materials

1. Background notes for facilitators	2-3
2. Running your workshop: Options 1 and 2	4-8
3. Planning checklist	9
4. Role model guidelines	10-12
5. Further information	13

Materials for duplication

1. Comments for discussion	14-15
2. Quiz	16
3. Did you know? – answers to quiz	17
4. Feedback form	18
5. Role model briefing sheet	19

In addition there is an editable PowerPoint presentation and the *comments for discussion* in a form to be duplicated and cut up for round-table discussions.





Science: it's a people thing

A discussion workshop for girls

Comments for discussion about girls doing science, technology, engineering and mathematics

These comments are based on research with young people and their parents. They can be used to stimulate discussion with young people about gender stereotypes associated with science, technology, engineering and mathematics. Cut out the copies of these comments also in this pack and reproduce on laminated card. Young people can be invited to choose a comment to discuss:

- why people make these kinds of comments
- what would be an appropriate response if someone says this to them
- any similar comments that they have heard and how they could respond

School and college

"Physics is really hard. If you want to get good grades, you are better off doing biology and chemistry."

"Research has shown that girls don't have scientific brains."

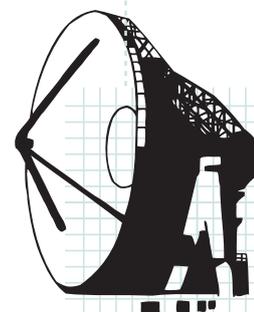
"A girl doing science or engineering at university would be lonely because there aren't any other girls."

"I take after my Mum and she says that she was useless at physics, so I don't expect I will take it at A-level."

"I'm more of a creative person, so I am not going to choose science subjects."

"Girls are better at English and other arts subjects than they are at maths and science."

"Doing science limits your opportunities – do arts subjects to keep your options open."





Science: it's a people thing

A discussion workshop for girls

Comments for discussion

The world of work

"What do you want to go into technology for? It will be full of geeks."

"Science is not very girly... being a scientist is not a very sexy job."

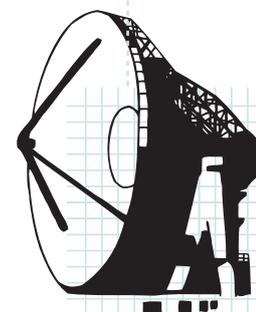
"Girls are better at jobs that involve people."

"Astronomy and space are really interesting but I'm not clever enough to be a scientist."

"My Dad says, 'Engineers have to work in dirty, dangerous conditions, out in all weathers. Wouldn't you prefer to be in a nice warm office?'"

"I am interested in dance and music, so science is not really relevant to what I want to do."

"I want a job where I can help people and make a difference, so I am not considering doing physics or engineering."





Science: it's a people thing

A discussion workshop for girls

Quiz

1. True or false?

Of those who sit GCSE biology, chemistry and physics, girls are more likely than boys to get an A* – C grade.

2. What proportion of those who do A-level physics are girls?

- a. about 1 in 5
- b. about a third
- c. about half
- d. about two thirds

3. What proportion of those getting a degree in computer science are women?

- a. 3%
- b. 20%
- c. 30%
- d. 50%

4. What proportion of those getting a degree in veterinary science are women?

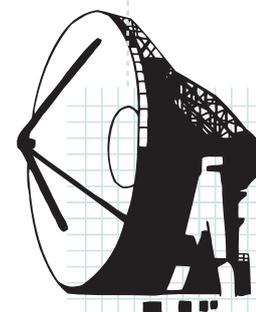
- a. 10%
- b. 40%
- c. 60%
- d. 70%

5. How many more engineers does the UK economy need by 2020?

- a. we only need two thirds the number we have now
- b. we need to maintain the same number we have now
- c. we need to double the number we have now

6. How many of the current engineering workforce in the UK are women?

- a. 6%
- b. 25%
- c. 30%
- d. 50%





Science: it's a people thing

A discussion workshop for girls

Answers to quiz

1. In 2013, girls achieved better or equal A*–C GCSE grades compared with boys in virtually every STEM subject except mathematics (1 percentage point difference).¹
2. In 2012, nearly 4 out of 5 (79%) of those who took A-level physics were boys.² This proportion has remained unchanged for more than 20 years. (Nearly half (46%) of all co-educational secondary schools sent no girls on to do physics at A-level in 2011.)³
3. In 2012, men were awarded 83% of engineering and technology degrees and 81% of computer-science degrees.⁴
4. In the same year, 71% of medicine, dentistry and veterinary science degrees went to women.⁵
5. The UK needs to double the number of recruits into engineering to meet demand.⁶
6. Only 6% of the engineering workforce in the UK are women.⁷

¹ Joint Qualification Council GCSE results June 2013

² Joint Qualification Council, quoted in *The State of Engineering, Engineering UK 2013*

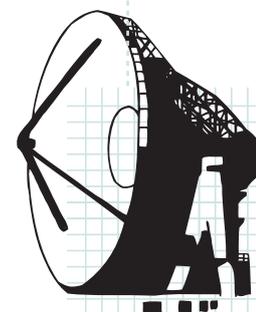
³ *It's Different for Girls, Institute of Physics, 2012*

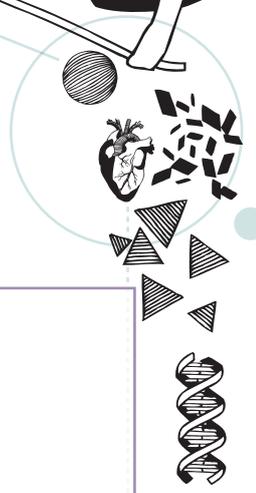
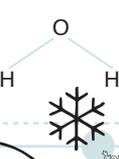
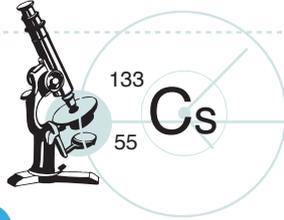
⁴ HESA, 2011/12

⁵ HESA as above

⁶ *Engineering UK at launch of The State of Engineering, 2013*

⁷ Royal Academy of Engineering analysis of the Labour Force Survey, 2004-10, quoted in *Diversity Data, RAEng, 2012*





Science: it's a people thing

A discussion workshop for girls

Feedback form for participants

1. What was the most interesting thing about the workshop today?

2. What would you like to know more about after being in this workshop?

3. What do you see yourself doing in the future? (at school or college or in work)

4. Has this workshop made you think about anything differently?

5. Do you have suggestions for changes to future workshops – please outline with reasons for the changes you suggest.

About you:

Your age:

Your school:

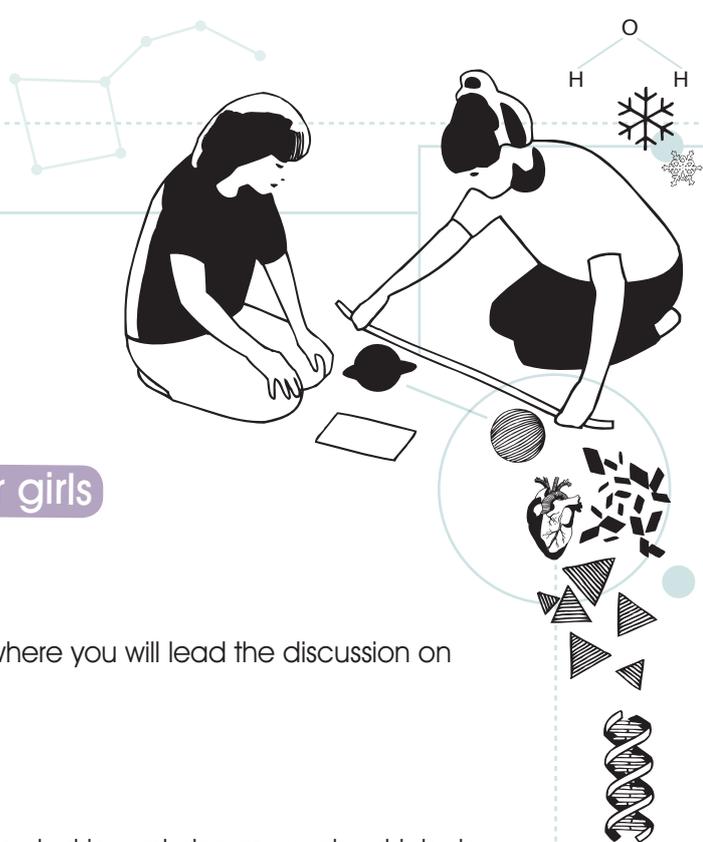
The workshop:

Date

Location

Please give the form to one of the role models or facilitators. Thank you for getting involved today!





Science: it's a people thing

A discussion workshop for girls

Role model briefing sheet

Thank you for volunteering to be involved in a workshop, where you will lead the discussion on a table and allow girls to ask you questions.

Workshop aims

The workshop is intended to inspire girls who might be interested in exploring more about jobs in science, technology, engineering and mathematics – particularly in areas where women are under-represented. It is intended help girls explore the impact stereotypes may have on their choices of subjects and careers and show them that choosing science (particularly physics) and mathematics keeps their options open for entry into a range of interesting jobs and careers. We want to give girls 'a voice' in the debate – an opportunity to share their views and experience and help grow their confidence around the issues in a safe environment.

Here are some pointers to help you prepare:

- The workshop facilitator will provide information on the ages of the girls and the type of school or schools they come from. This will help you to adjust the level of descriptions of your work in order to make them accessible and meaningful to the students.
- Please bring a photograph and/or materials or equipment from your workplace with you to help students better visualise what you do.
- When you are facilitating discussion on your table, please help structure discussion, challenge what isn't true and keep discussions positive.
- Encourage all girls to participate and contribute.
- Be honest and open about being in a predominantly male environment, and whether you have any coping strategies.

Questions you should be prepared to answer:

- What sort of things do you do in a particular day/week?
- What qualifications did you need to get your job? Include A levels or other level 2 qualifications.
- What is a typical salary for someone starting in your job and later on?
- What is the gender balance at your work?
- What career progression opportunities are there?
- Does the job have particular perks, such as travel?
- If you have children, what work/life balance arrangements have you and your employer put into place?
- What are the best and the worst things about your job?

In addition to this sheet, you should also be sent the session outline by the facilitator.

