

6

STEM Careers Starters and Plenaries

These activities will be available for download from the National STEM Centre careers collection (www.nationalstemcentre.org.uk) and from www.futuremorph.org

1. STEM Quiz

Overview

These ten questions can be presented as a powerpoint quiz to explore the importance of Science and Maths and challenge some typical myths and preconceptions.

Teachers' Notes on Preparation and Delivery

There are a range of different ways in which you can help young people to log their answers including standing in different points of the room based on their answer or issuing red, yellow or green cards that the students can show in response to the three options.

The answers for the questions are as follows:-

1. C
2. A
3. C
4. Maths followed by engineering. Pay not everything but need to take account of the employability rates from different degrees. Universities have to collect information on student destinations www.hesa.ac.uk which can include salary.
5. A – 59% expect to have difficulty finding STEM-skilled people in the next 3 years. With 72% of firms employing STEM skilled staff. CBI Education and Skills Survey 2010
6. C – 2010 UCAS figures 4815 different titles of degree. Degrees are classified into subject groups that include the full range of pure sciences and maths, applied sciences and all fields of engineering. These are further broken down into subject lines eg. for engineering (Electrical, Mechanical, Civil, Aerospace). In addition there are a broad range of combinations such as Chemical Engineering with Management, Physics with finance and Maths and neuroscience, law, languages etc.
7. See www.nationalstemcentre.org.uk for further information on STEM business and industry in each region.
8. A
9. A
10. C

1. STEM Quiz

Activity Sheet

1. Between 2002 and 2009 applications for higher education grew by 12%. however applications for STEM Courses only grew by ?%
A) 6% B) 3% C) less than 1%
2. How many of the following sectors have a growing demand for skilled staff?
Nuclear energy, Renewable energy, Biomedical engineering, Nanotechnology, Computer games design, Space technology
A) 4+ B) 3-4 C) 1-2
3. What percentage of engineering graduates are women?
A) 50% B) 25% C) less than 10%
4. In a study conducted by Price Waterhouse Coopers in 2005, which degree gave the highest life term earning premium?
A) Maths B) Chemistry C) Engineering
5. What percentage of firms recruiting staff with STEM skills report difficulties?
A) 59% B) 25% C) less than 10%
6. How many different degree courses in UK universities require STEM subjects as entry qualifications?
A) 1-2,000 B) 2-3,000 C) 3-5,000
7. Name five of the main STEM related industries or sectors in our region.
8. Which of the following jobs is predicted to have the fastest growth in the UK in the next 5 years?
A) Engineer B) Graphic designer C) Social worker
9. Which of the following STEM jobs has the highest annual salary?
A) Actuary B) Marine engineer C) Entomologist
10. In 2020 which of the following will be commonplace? 1) Self-adjusting intelligent clothes 2) Glass walls that darken or turn into TVs 3) 3d bio-printing of human organs 4) Light-emitting paints 5) Energy from carbon dioxide-absorbing algae.
A) none of the above B) 2 & 4 C) all of the above

2. Who, what, where and how?

Overview

There are a wide range of high quality resources that show people at work in STEM related jobs. These include cartoon images, film clips, photographs and posters. Ask groups of students to identify the job role of the person, (who they are) what tasks they may do on an average day, where they might work and how they use STEM knowledge and skills.

- Who is the person and what job are they doing?
- Where do they work?
- Why are STEM subjects important in their work?

Teachers' Notes

Easily available images of STEM related jobs include the Future Finder characters on Future Morph, the Leading Light photographs and films of STEM ambassadors, film clips on <http://icould.com>, www.careersbox.co.uk. Encourage students to explore the sources of information for finding out more about the jobs featured.

2. Who, what, where and how?

Activity Sheet

Job	Source	Who, what, where and why
Formulation Scientist	Science and Maths Future Morph Poster	Sonia works as a formulation scientist. She studied A levels in Biology, Chemistry and Maths before studying Pharmacy at university. You can find out more through www.abpschools.org.uk
Chemical Engineer	Science and Maths Future Morph Poster	Luis is a Chemical Engineer working with poor communities to ensure technologies support development. You can find out more at http://practicalaction.org or www.whynotchemeng.com
Lighting Engineer	Science and Maths Future Morph Poster and film clip www.futuremorph.org/scienceandmaths	Will is a lighting engineer.
Environmentalist	Science and Maths Future Morph Poster and film clip www.futuremorph.org/scienceandmaths	Jo is an environmentalist
Traffic Control Engineer	Science and Maths Future Morph Poster	Kamleh is a traffic control engineer. She was interested in art and design, maths and physics and uses those subjects in her job. Find out more from the Ambassadors section of www.thelep.org.uk
Geologist	Science and Maths Future Morph Poster and www.centrica.co.uk	Katie is a geologist working with a leading energy company.
Naval Architect	Science and Maths Future Morph Poster	Andy works with QinetiQ on technology based services to the defence and security industry.
Humanitarian Engineer	Science and Maths Future Morph Poster and film clip www.futuremorph.org/scienceandmaths	Andrew is an engineer using his skills and knowledge to support developing countries.

3. Pairs - Matching the job title and the tasks

Overview

The focus of this game is new STEM jobs in three growth sectors: computer technology, healthcare and biotechnology.

Teachers' Notes

The pack has nine job title cards and eight corresponding job description cards. Players lay the cards face down at random on the desk in a 6x3 grid. Players take it in turns to turn over two cards. The aim is to find a job title and matching definition. The winner is the player with the most pairs.

An alternative activity would be a set of cards with cards with the names and descriptions of different areas of engineering (civil, mechanical, electronic, aeronautical drawing on www.tomorrowengineers.org.uk).

3. Pairs - Matching the job title and the tasks

Activity Sheet



Games programmer	Computer technician	Computer hardware engineer
Health records clerk	Plastic surgeon	Biomedical engineer
Tissue engineer	Nanomaterials scientist	Renewable energy process engineer
Responsible for making the games work. Can further specialise in gameplay, artificial intelligence or AI, physics, online, graphics rendering, engine development, middleware tools development, etc.	Responsible for installing, repairing and maintaining computer equipment. Need to have an extensive knowledge of computer hardware and software and be good at trouble-shooting and communication.	Responsible for infrastructure construction (computer chips, fibre, cable, satellites, etc.) Need extensive knowledge of electronics and computing, and understanding of what consumers want.
Responsible for managing information that clinical staff need to look after patients. One of many different careers in the growing field of health informatics	Responsible for repairing and reconstructing abnormalities of the skin and other parts of the body. Need to work with the patient to achieve an appropriate aesthetic result combined with healthy function and form	Responsible for designing equipment to monitor, diagnose, treat and rehabilitate patients. Need knowledge of physical sciences, materials and manufacturing to contribute to the diagnosis and treatment of patients' needs.
Responsible for producing replacement tissue parts for clinical use. Applies the principles of engineering and life sciences in developing biological replacements for diseased/injured tissues.	Responsible for designing and improving production processes for new nanomaterials. Need to be self-motivated and able to work well with a multidisciplinary team of scientists	Responsible for developing economic industrial processes to make energy from waste and biofuels. Need a background in chemical and biochemical processes and engineering; and how to scale up processes from the laboratory into the processing plant

4. A Science and Innovation Timeline

Overview

Inventions using Science and Maths span a huge range of sectors including health, the environment, communications, entertainment and business. Students are asked to match the events and developments with the correct decade and if possible year.

Teachers' Notes on Preparation and Delivery

Ask students to read out the card with the event or development and think about which decade it happened in. See if they can put the developments in order within the decade. Give students blank cards and ask them to write one development they would like to see in the future with an estimated date. Discuss with them what careers/jobs they think would be needed to achieve the developments that have been suggested. What subjects/courses would help?

This could be followed up by Café Sci debating forum where a guest scientist talks for 10–15 minutes followed by conversations that allow participants to discuss their views about scientific issues relevant to everyday life. (www.juniorcafesci.org.uk)

A selection of STEM related events, discoveries and developments



<p>Start of concern about greenhouse gases emissions and levels of carbon dioxide in the atmosphere. 1957</p>	<p>Development of first contraceptive pill. 1954</p>	<p>First email sent. 1972</p>
<p>First computer game devised entitled Spacewar. 1962</p>	<p>First oral polio vaccine developed. 1962</p>	<p>Helen Sharman becomes the first Briton in Space. 1991</p>
<p>Pontiac car manufacturers develop bumpers that absorb the energy of a collision. 1967</p>	<p>First use of lasers in surgery. 1985</p>	<p>First mobile phone call made. 1973</p>
<p>Materials scientists develop synthetic skin. 1986</p>	<p>Apple's iPhone goes on sale with touch screen, media player, camera and web-browser. 2007</p>	<p>Launch of the instant colour camera. 1972</p>
<p>Tim Berners-Lee invents the World Wide Web. 1989</p>	<p>Colour television pictures transmitted for first time. 1951</p>	<p>Three blind patients receive the world's first bionic eyes which convert light into electrical impulses. 2000</p>
<p>Bar codes scanned using lasers are placed on shopping products for the first time. 1974</p>	<p>Report of 90% drop in number of large fish in the sea since 1950. 2003</p>	<p>Invention of disposable contact lenses. 1987</p>

DECADE cards



50s

60s

DECADE cards



70s

80s

DECADE cards



90s

00s

Years

✂

1951

1954

1957

1962

1962

1967

1972

1972

1973

1974

1985

1986

1987

1989

1991

2000

2003

2007

A selection of STEM related events, discoveries and developments



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<p>First computer game devised entitled Spacewar.</p>	<p>First oral polio vaccine developed.</p>	<p>Helen Sharman becomes the first Briton in Space.</p>
<p>Pontiac car manufacturers develop bumpers that absorb the energy of a collision.</p>	<p>First use of lasers in surgery.</p>	<p>First mobile phone call made.</p>
<p>Materials scientists develop synthetic skin.</p>	<p>Apple's iPhone goes on sale with touch screen, media player, camera and web-browser.</p>	<p>Launch of the instant colour camera.</p>
<p>Tim Berners-Lee invents the World Wide Web.</p>	<p>Colour television pictures transmitted for first time.</p>	<p>Three blind patients receive the world's first bionic eyes which convert light into electrical impulses.</p>
<p>Bar codes scanned using lasers are placed on shopping products for the first time.</p>	<p>Report of 90% drop in number of large fish in the sea since 1950.</p>	<p>Invention of disposable contact lenses.</p>

5. What's my line – careers using maths?

Overview

This activity explores how Maths is used in a ten different jobs and work places.

Teachers' Notes on Preparation and Delivery

A powerpoint presentation lets you reveal statements about the job one at a time. Students guess what the job is when they've seen sufficient clues. Get students to explain their reasoning.

Key points for debrief:-

- Numeracy is a core skill in most jobs and for personal money management.
- Numeracy is essential for running your own business.
- There are high paid jobs using maths and statistics in finance and management.
- High level maths is needed in a large number of jobs including engineering, architecture, computer games design.

5. What's my line – careers using maths?

Activity Sheet 1



<ol style="list-style-type: none"> 1. Margaret is a health specialist 2. She has her own private practice but she could work for the NHS 3. Salaries range from around £21,000 to over £75,000 a year 4. Margaret uses maths to maintain her own accounts, tax records and pension plan 5. Doing her degree, she needed a background in maths to understand the action of lenses on changing the angles at which light travels (refraction) and other basic measurements; but now she is qualified she does not use maths a huge amount in her day-to-day job 6. She carries out eye tests as well as prescribing contact lenses and glasses 7. She examines the eyes to detect signs of injury, disease, abnormality and defects in vision 8. Margaret is an optometrist 	<ol style="list-style-type: none"> 1. Justin is a kind of financial analyst 2. He has a first degree in maths and a Master's degree in his specialism 3. Salaries range from around £20,000 to over £100,000 a year 4. He needs to be good at problem solving using a range of both mathematical and non-mathematical techniques 5. He could work in many different employment sectors but he chose transport as air transport interests him a lot 6. Justin recently worked on a predictive model for an airline company to help it make higher profits by increasing its seat share and market share 7. He uses statistics, algorithms and mathematical modelling on computers to help make better decisions about problems that organisations face 8. Justin is an operational researcher
<ol style="list-style-type: none"> 1. Matthew works in insurance 2. He could have chosen to work in pensions, consultancy or investment 3. He did a maths degree and then studied part-time for his professional qualifications 4. Salaries range from around £30,000 to over £170,000 a year 5. He is responsible for managing, advising and evaluating financial risks 6. He uses mathematical and statistical skills and computer programs to build models 7. He applies statistical and financial theories to assess the financial costs and probability of certain events occurring 8. Matthew is an actuary 	<ol style="list-style-type: none"> 1. Steve has always been interested in maps 2. He works mainly out in the field and the rest of the time in the office 3. Salaries range from around £20,000 to over £70,000 a year 4. Steve uses maths to take measurements and draw accurate maps using computer software 5. As well as maths skills, he needs personal skills to work with colleagues and deal with clients 6. He maps features of the landscape, man-made objects and boundaries 7. He collects land measurements and data to make site plans and reports for building and engineering projects 8. Steve is a geomatic or land surveyor
<ol style="list-style-type: none"> 1. Hilary is an academic 2. She works in a university 3. Salaries range from around £28,000 to over £60,000 a year 4. She is responsible for her own work and is not closely supervised by others 5. Hilary does her thinking about work anywhere and at anytime – during the day, in the evenings and at weekends 6. For her PhD, she chose a topic based on her interest in prime numbers 7. She combines research (inventing the new maths of the future) with teaching (explaining maths to students) 8. Hilary is a mathematician 	<ol style="list-style-type: none"> 1. Guang works in a design-related field 2. He didn't get much careers help at school but did his own research carefully 3. Salaries range from around £17,000 to over £60,000 a year 4. He uses computer software in the design process 5. Guang does not use maths much in the artistic phase of the design process; but then he uses a lot of geometry and measurement to help realise his designs 6. He draws plans to scale in two or three dimensions and creates structures with interesting shapes and angles 7. He designs buildings and the spaces in and around them in response to a client's vision 8. Guang is an architect

5. What's my line – careers using maths?

Activity Sheet 2



<ol style="list-style-type: none"> 1. Rohit's job is in the financial sector 2. He works in the family business 3. Salaries range from around £20,000 to over £100,000 a year 4. He has to keep up-to-date with new products and services which might be of interest to his clients 5. He works from his office at home but also meets clients in their offices and homes 6. Rohit uses probability, algebra, geometry, statistics and graphing 7. He analyses the financial affairs of individuals and businesses and then recommends to them how they can achieve their future financial goals and make the best use of their money 8. Rohit is a financial adviser 	<ol style="list-style-type: none"> 1. Amita works in the financial services sector 2. She works for a small company so gets more varied tasks than she would probably get if she worked for a large company and had to specialise in one area 3. Salaries range from £14,000 to over £35,000 a year 4. She works with spreadsheets, databases and word processing software 5. Amita started the job straight after school with GCSE qualifications and then studied part-time for the professional qualifications that will help her to progress 6. She uses maths to maintain and check financial records 7. She collects, checks and analyses financial information such as invoices, payments and receipts 8. Amita is an accounting technician
<ol style="list-style-type: none"> 1. Steve is a graduate working in a branch of the leisure industry 2. He thinks it's great to turn his hobby into a career 3. Salaries range from around £19,000 to over £60,000 a year 4. He works in a studio as part of a team 5. His work is concerned with probability and statistics 6. He needs to know principles of algebra, geometry and calculus to be successful in using the software that he uses in his job 7. He devises, designs and produces computer games 8. Steve is a computer games designer 	<ol style="list-style-type: none"> 1. Paul has very good practical hand skills 2. He started as an Apprentice 3. Salaries range from around £20,000 to over £35,000 a year 4. He works in the manufacture of machinery but other people who do this job could work in a wide range of sectors including transport, healthcare and the production of materials 5. He needs to know how to use algebraic, trigonometric and statistical methods and to be able to use elementary calculus techniques 6. He reads and creates technical drawings 7. He designs, builds, operates and services plant machinery and parts 8. Paul is a mechanical engineering technician

6. STEM in the News – the Science and Maths Behind the Headlines

Overview

This activity identifies stories from the media that shows innovative use of Science, Technology, Engineering and Maths. Recent examples that could be used include:-

- The use of satellite monitoring of moisture levels in different parts of Pakistan to help target aid most effectively.
- The development and testing of a solar energy plane able to store energy and fly at night
- Specialist clothing using nanotechnology that can detect slight changes in the body of the wearer that indicate health problems.
- Development of medication specially designed for the individual patient.

Teachers' Notes on Preparation and Delivery

Ask students to think who is involved in the variety of headlines and how they are using STEM knowledge and skills to address the particular problems.

As a follow-up activity ask students themselves to bring in clips they have found interesting.

7. Matching the statistics

Overview

This activity encourages young people to explore some of the issues associated with equality and diversity in STEM careers and progression.

Teachers' Notes on Preparation and Delivery

Give each group a set of statistics cards and a set of statements that match with the statistics. Ask students to explain their reasoning behind their choice. Discuss with them what the underlying reasons for the statistics might be and whether greater progress is needed and what might help achieve this? You could add some relevant statistics from your own school/college.

Answers

1. 21%

2. 1 in 3

3. 7%

4. 57%

5. 99%

6. 68%

7. Matching the statistics

Activity Sheet



<p>1. The pay gap between young men and young women on apprenticeship schemes.</p>	<p>2. Numbers of girls doing Physics A level.</p>	<p>3. Percentage of professional engineers who are women.</p>
<p>4. Percentage of Biology A level students who are girls.</p>	<p>5. Percentage of successful completions of construction apprenticeships by young men.</p>	<p>6. Percentage of undergraduate students on medicine and related courses who are women.</p>

<p>21%</p>	<p>1 in 3</p>	<p>7%</p>
<p>57%</p>	<p>99%</p>	<p>68%</p>

8. Spot the Celebrity Scientist and Mathematician

Overview

This activity presents a range of science communicators or celebrities:-

1. Robert Winston
2. Liz Bonnin
3. Maggie Aderin-Pocock
4. David Attenborough
5. Brian Cox
6. Alice Roberts

Teachers' Notes on Preparation and Delivery

Ask students to discuss the role of a science communicator. A powerpoint presentation is available that allows the celebrity faces to be revealed gradually so that the group can guess their identity.

8. Spot the Celebrity Scientist and Mathematician

Activity Sheet



9. Top Trumps Activity

Overview

This activity provides 56 different cards relating to professional and technician level jobs that are STEM related.

Teachers' Notes on Preparation and Delivery

'Top Careers in STEM' is a card game for two or more players. There are 56 cards relating to professional, associate professional and technician-level jobs that are STEM-related. The statistics for five criteria are printed on each card. The aim is to win all the cards by beating the specific details of your opponents' cards.

At the start of the game, the cards are dealt equally or as equally as possible. The cards are held face up and the player to the dealer's left begins play. (An alternative way of starting before the players examine their cards is for them to agree upon a category that will determine who starts the game – the way this works is that everyone consults the top card in their pile, and the player whose card has the best statistics in the agreed category starts the first round). The cards contain certain facts and figures such as average (mean) salary, numbers in this job in the UK, etc. The starting player calls out one of these categories that they feel will win, i.e. have the higher value and then lays the card face up before everyone. The remaining players announce the statistics for the category on their cards so that everyone gets to know the careers and labour market information for the STEM sector. The player who has the highest figure wins and takes all the cards placing them at the bottom of their pack. Then it is their turn to call the next figure/fact. If, however, more than one player has a higher ranking that matches (i.e. it's a draw) then the original caller calls again and the cards are left in the middle until someone wins and they then take all of the cards. The game continues until one player holds all of the cards. If the players run out of time, the winner may be decided on the basis of who holds the most cards at that point.

The data on the cards was compiled from the following sources:

1. ASHE 2010 http://www.statistics.gov.uk/downloads/theme_labour/ASHE-2010/tab14-7a.xls
2. Jobfile (Babcock Lifeskills, 2010)
3. Rose, M. (2007) 'Why so fed up and footloose in IT? Spelling out the associations between occupation and overall job satisfaction'. *Industrial Relations Journal* 38:4, 356–384

Job Title	
Job band	1=low – 5=high. Highest wins 3= technician/supervisory 4= associate professional/managerial 5= professional/senior managerial
Numbers (male and female)	Highest wins
Numbers (female)	Highest wins
Average annual salary	Highest wins
Job satisfaction ranking	Highest ranking wins, e.g. 6 is higher than 9

Production, works and maintenance managers

Job band	4/5
Numbers (male and female)	421,000
Numbers (female)	67,000
Average annual salary	49,499
Job satisfaction ranking	6

Managers in construction

Job band	4/5
Numbers (male and female)	103,000
Numbers (female)	6,000
Average annual salary	52,678
Job satisfaction ranking	6

Managers in mining and energy

Job band	4/5
Numbers (male and female)	10,000
Numbers (female)	uncertain
Average annual salary	68,595
Job satisfaction ranking	6

Information and communication technology

Job band	4/5
Numbers (male and female)	171,000
Numbers (female)	32,000
Average annual salary	51,592
Job satisfaction ranking	9

Chemists

Job band	5
Numbers (male and female)	16,000
Numbers (female)	uncertain
Average annual salary	36,623
Job satisfaction ranking	34

Biological scientists and biochemists

Job band	5
Numbers (male and female)	64,000
Numbers (female)	32,000
Average annual salary	36,152
Job satisfaction ranking	34

Physicists, geologists and meteorologists

Job band	5
Numbers (male and female)	13,000
Numbers (female)	uncertain
Average annual salary	46,643
Job satisfaction ranking	34

Hospital and health service managers

Job band	3/4
Numbers (male and female)	56,000
Numbers (female)	37,000
Average annual salary	47,633
Job satisfaction ranking	3

Pharmacy managers

Job band	5
Numbers (male and female)	7,000
Numbers (female)	uncertain
Average annual salary	37,830
Job satisfaction ranking	3

Healthcare practice managers

Job band	3/4
Numbers (male and female)	12,000
Numbers (female)	10,000
Average annual salary	28,612
Job satisfaction ranking	3

Social services managers

Job band	4/5
Numbers (male and female)	17,000
Numbers (female)	11,000
Average annual salary	37,630
Job satisfaction ranking	3

Residential and day care managers

Job band	4/5
Numbers (male and female)	47,000
Numbers (female)	36,000
Average annual salary	29,638
Job satisfaction ranking	3

Farm managers

Job band	4/5
Numbers (male and female)	13,000
Numbers (female)	uncertain
Average annual salary	29,759
Job satisfaction ranking	37

Civil engineers

Job band	4/5
Numbers (male and female)	54,000
Numbers (female)	uncertain
Average annual salary	37,862
Job satisfaction ranking	53

Mechanical engineers

Job band	4/5
Numbers (male and female)	39,000
Numbers (female)	uncertain
Average annual salary	40,223
Job satisfaction ranking	53

Electrical engineers

Job band	4/5
Numbers (male and female)	25,000
Numbers (female)	uncertain
Average annual salary	44,151
Job satisfaction ranking	53

Electronics engineers

Job band	4/5
Numbers (male and female)	7,000
Numbers (female)	uncertain
Average annual salary	44,530
Job satisfaction ranking	53

Chemical engineers

Job band	4/5
Numbers (male and female)	uncertain
Numbers (female)	uncertain
Average annual salary	44,450
Job satisfaction ranking	53

Design and development engineers

Job band	4/5
Numbers (male and female)	67,000
Numbers (female)	uncertain
Average annual salary	36,276
Job satisfaction ranking	53

Production and process engineers

Job band	4/5
Numbers (male and female)	37,000
Numbers (female)	uncertain
Average annual salary	36,391
Job satisfaction ranking	53

Planning and quality control engineers

Job band	4/5
Numbers (male and female)	38,000
Numbers (female)	8,000
Average annual salary	34,185
Job satisfaction ranking	53

IT strategy and planning professionals

Job band	4/5
Numbers (male and female)	89,000
Numbers (female)	13,000
Average annual salary	48,512
Job satisfaction ranking	66

Software professionals

Job band	4/5
Numbers (male and female)	279,000
Numbers (female)	44,000
Average annual salary	38,625
Job satisfaction ranking	66

Medical practitioners

Job band	5
Numbers (male and female)	154,000
Numbers (female)	66,000
Average annual salary	76,000
Job satisfaction ranking	13

Psychologists

Job band	5
Numbers (male and female)	24,000
Numbers (female)	17,000
Average annual salary	38,250
Job satisfaction ranking	13

Pharmacists/ pharmacologists

Job band	5
Numbers (male and female)	25,000
Numbers (female)	18,000
Average annual salary	36,022
Job satisfaction ranking	13

Ophthalmic opticians

Job band	5
Numbers (male and female)	6,000
Numbers (female)	uncertain
Average annual salary	32,535
Job satisfaction ranking	13

Dental practitioners

Job band	5
Numbers (male and female)	9,000
Numbers (female)	uncertain
Average annual salary	39,719
Job satisfaction ranking	13

Veterinarians

Job band	5
Numbers (male and female)	8,000
Numbers (female)	uncertain
Average annual salary	35,819
Job satisfaction ranking	13

Scientific researchers

Job band	5
Numbers (male and female)	31,000
Numbers (female)	14,000
Average annual salary	35,646
Job satisfaction ranking	48

Chartered and certified accountants

Job band	4/5
Numbers (male and female)	76,000
Numbers (female)	36,000
Average annual salary	38,212
Job satisfaction ranking	29

Management consultants, actuaries, economists and statisticians

Job band	4/5
Numbers (male and female)	112,000
Numbers (female)	43,000
Average annual salary	47,478
Job satisfaction ranking	29

Architects

Job band	5
Numbers (male and female)	29,000
Numbers (female)	7,000
Average annual salary	42,373
Job satisfaction ranking	28

Town planners

Job band	5
Numbers (male and female)	10,000
Numbers (female)	uncertain
Average annual salary	35,781
Job satisfaction ranking	28

Quantity surveyors

Job band	4/5
Numbers (male and female)	30,000
Numbers (female)	uncertain
Average annual salary	37,449
Job satisfaction ranking	28

Laboratory technician

Job band	3/4/5
Numbers (male and female)	55,000
Numbers (female)	28,000
Average annual salary	21,607
Job satisfaction ranking	69

Electrical/electronics technicians

Job band	3/4
Numbers (male and female)	12,000
Numbers (female)	uncertain
Average annual salary	31,538
Job satisfaction ranking	69

Engineering technicians

Job band	3/4
Numbers (male and female)	74,000
Numbers (female)	5,000
Average annual salary	32,690
Job satisfaction ranking	69

Building and civil engineering technicians

Job band	3/4
Numbers (male and female)	11,000
Numbers (female)	uncertain
Average annual salary	26,537
Job satisfaction ranking	69

Architectural technologists and town planning

Job band	3/4
Numbers (male and female)	15,000
Numbers (female)	uncertain
Average annual salary	27,010
Job satisfaction ranking	74

Draughts persons

Job band	3/4
Numbers (male and female)	31,000
Numbers (female)	uncertain
Average annual salary	27,129
Job satisfaction ranking	74

IT operations technicians

Job band	3/4
Numbers (male and female)	105,000
Numbers (female)	28,000
Average annual salary	31,536
Job satisfaction ranking	63

IT user support technicians

Job band	3/4
Numbers (male and female)	68,000
Numbers (female)	19,000
Average annual salary	26,174
Job satisfaction ranking	63

Nurses

Job band	3/4/5
Numbers (male and female)	604,000
Numbers (female)	534,000
Average annual salary	25,800
Job satisfaction ranking	18

Midwives

Job band	3/4/5
Numbers (male and female)	uncertain
Numbers (female)	40,000
Average annual salary	29,554
Job satisfaction ranking	18

Paramedics

Job band	2/3
Numbers (male and female)	13,000
Numbers (female)	uncertain
Average annual salary	37,432
Job satisfaction ranking	18

Medical radiographers

Job band	5
Numbers (male and female)	25,000
Numbers (female)	19,000
Average annual salary	31,502
Job satisfaction ranking	18

Pharmaceutical dispensers

Job band	3/4
Numbers (male and female)	29,000
Numbers (female)	27,000
Average annual salary	14,919
Job satisfaction ranking	18

Medical and dental technicians

Job band	3/4
Numbers (male and female)	29,000
Numbers (female)	16,000
Average annual salary	26,028
Job satisfaction ranking	18

Physiotherapists

Job band	5
Numbers (male and female)	36,000
Numbers (female)	29,000
Average annual salary	26,308
Job satisfaction ranking	17

Occupational therapists

Job band	5
Numbers (male and female)	23,000
Numbers (female)	20,000
Average annual salary	25,575
Job satisfaction ranking	17

Speech and language therapists

Job band	5
Numbers (male and female)	uncertain
Numbers (female)	7,000
Average annual salary	25,956
Job satisfaction ranking	17

Aircraft pilots and flight engineers

Job band	3/4/5
Numbers (male and female)	14,000
Numbers (female)	uncertain
Average annual salary	68,582
Job satisfaction ranking	32

Finance and investment analysts/advisers

Job band	4/5
Numbers (male and female)	70,000
Numbers (female)	29,000
Average annual salary	47,742
Job satisfaction ranking	42

Financial and accounting technicians

Job band	3
Numbers (male and female)	22,000
Numbers (female)	9,000
Average annual salary	40,501
Job satisfaction ranking	42

Conservation and environmental protection officers

Job band	5
Numbers (male and female)	22,000
Numbers (female)	8,000
Average annual salary	27,134
Job satisfaction ranking	33

Job band	
Numbers (male and female)	
Numbers (female)	
Average annual salary	
Job satisfaction ranking	

Job band	
Numbers (male and female)	
Numbers (female)	
Average annual salary	
Job satisfaction ranking	

Job band	
Numbers (male and female)	
Numbers (female)	
Average annual salary	
Job satisfaction ranking	