

Lesson plan: Science 2

Science 2

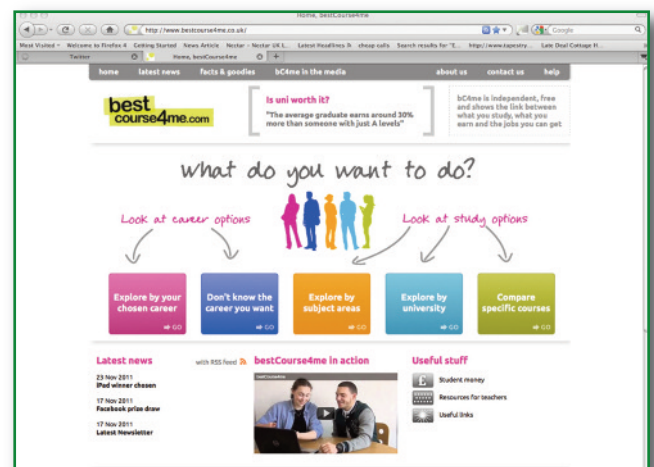
Graduates who studied a science related degree at University go into an extremely wide range of occupations. However, for a number of degrees a particular science A-level or set of science A-levels is an entry requirement for the course.

This is a great exercise for students currently taking one or more science A-Levels and who want to gain a better understanding of where their A-levels might lead to in terms of higher education and career options.

To start with click on the blue 'Don't know what career you want tab' in the middle of the home page to be taken to the A-level selection section.

To select an A-level and begin the search either:

- Scroll down the list of alphabetically ordered A-levels and click on the one you want;
- or,
- type the A-level you wish to select into the search box that says 'type text to search for' and then click the green 'find' arrow to the right of the box.



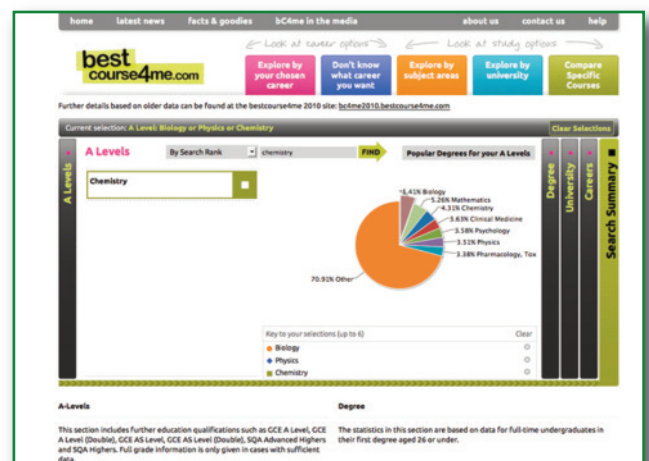
1. A-Level

As an example pick the following three Science A-levels from the list on the left hand side:

Biology
Chemistry
Physics

As soon as you select one or more A-level subjects from the list, a pie chart will appear on the right hand side. This pie chart depicts popular degree courses taken by people with the A-levels selected.

Note: Swapping and changing A-Levels will alter the data of the pie chart automatically.



1. Degree

Moving on, click on the **Degree** tab to be taken to the next section of the page. The data previously displayed in the pie chart will appear in list form.

Example: At the top of the list you will see that 5% of the people with the A-level combination of Biology, Physics and Chemistry went on to study Biology at degree level, 5% studied Maths and 4% went on to do Chemistry and so on.

Q. Ask students to identify what percentage of people with the A-Levels Biology, Chemistry and Physics went on to study Physics at University.
A. 4%

Select the degree option **Pharmacology, Toxicology and Pharmacy** from the list of degrees.

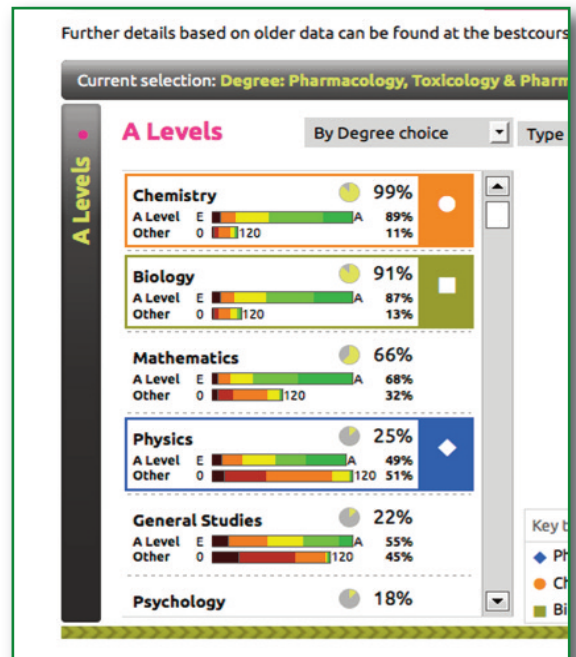
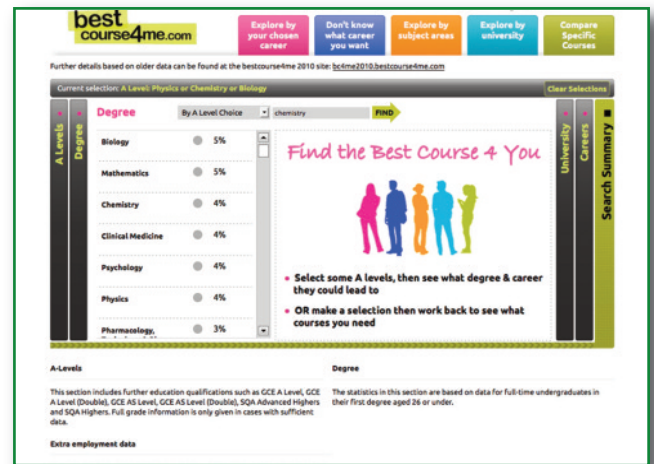
A-level thermometer

With **Pharmacology, Toxicology and Pharmacy** selected go back and click on the A-level tab to introduce students to the A-level thermometer feature.

A list will promptly appear listing all the A-levels taken by individuals who studied **Pharmacology, Toxicology and Pharmacy** at university. The subjects are ordered with the most common A-level at the top, you will see that **Chemistry** is the most common A-level taken by individuals who went on to do Pharmacology, Toxicology and Pharmacy at university.

The A-level thermometer shows;

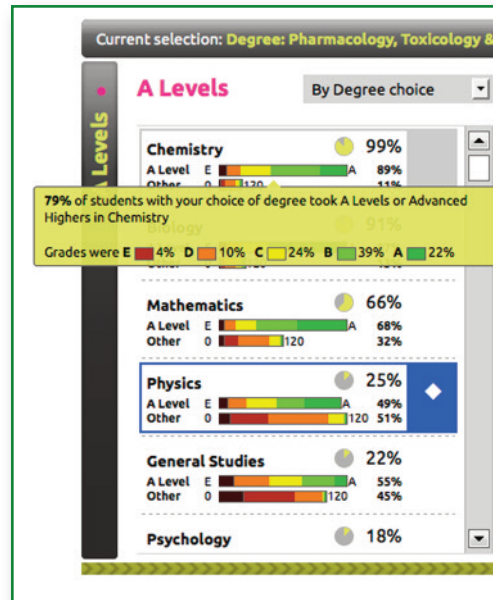
- The percentages relating to the A-levels and other qualifications such AS Level, BTEC or Highers taken by Pharmacology, Toxicology and Pharmacy students;
- and,
- the grades that were achieved in these qualifications (in percentages).



Hover the mouse over each of the bars to reveal the colour key and see the exact percentages.

Q. Ask students to identify what percentage of Pharmacology, Toxicology and Pharmacy students have an A-Level Mathematics grade B and above.
A. 73%

This process is also highly useful to gain an understanding of the A-levels subjects and grades achieved by students who take a particular course at a certain University. You will notice that the A-levels taken and grades achieved will vary from one University to the next, even though the degree selection is the same. Choose one University at a time and see how the A-level results alter.



Now, go back to the **Degree** section.

At this stage students can begin to select different degrees to gain an understanding of the kinds of careers that follow on from different degree courses.

Up to six selections can be made so that they can be compared alongside one another.

For this exercise keep the degree choice **'pharmacology, toxicology and pharmacy'**.

Once a selection has been made a line graph will appear to the right hand side that denotes the average lifetime earning of graduates from the degree selections that have been made.

Example: Hover the mouse over the fourth orange point on the graph.

Q. Ask students to identify what this point represents.

A. The fourth point on the graph represents the average lifetime earnings for Pharmacology, Toxicology and Pharmacy aged 50 years old, which is £909 per week.



3. University

Clicking on the next vertical tab titled University will give a list of all the Universities offering the courses that have been selected, in this case Pharmacology, Toxicology and Pharmacy.

- Students could be reminded to include a mix of local universities as well as institutions further a field so a comparison can be made between the different types of institutions.
- Along with taking locality into account students could also be encouraged to choose a range that includes perhaps a mix of different types of institutions for example a mix of Russell group, million +, 1994 group and University Alliance institutions (see the Glossary on the 'Help' section of our website for definitions.)

Once a University has been selected from the list a line graph will appear on the right hand side. This graph reveals the average graduate starting salaries from the Universities selected. Select Cardiff University, Nottingham Trent and University of Bath.

Example: Hover the mouse over each bar.

Q. Ask students to identify which graduates have the highest average starting salaries out of the three Universities.

A. University of Bath graduates earn on average £476 per week

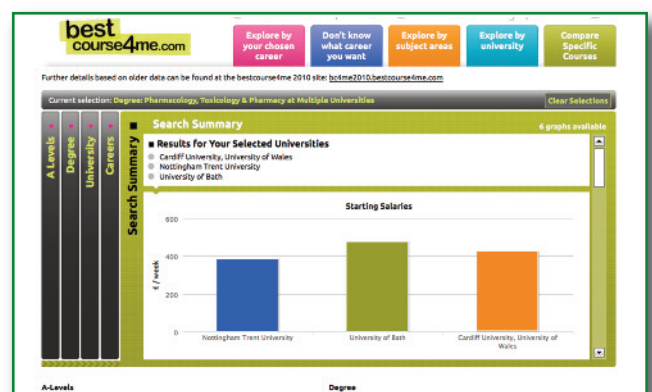


Discussion point: Ask students why they think differences in salaries might occur?

Note: differences in earnings will arise partly due to wages varying across the different regions of the UK and partly due to differences in the way that employers value degrees from different types of universities and degree courses.

*Note: To look at data that takes university and course into account for average graduate starting salary go to the **Search Summary** section. This is useful if for example students wanted to know the average starting salary of Pharmacology, Toxicology and Pharmacy graduates from Cardiff University.*

Once you have clicked on the **Search Summary** tab scroll down until you find the graph titled 'starting salaries for graduates of Pharmacology, Toxicology and Pharmacy' and hover the mouse over the bar



labeled 'Cardiff University'. You will see that the average starting salary for Pharmacology, Toxicology and Pharmacy graduates from Cardiff University is £418 per week.

4. Career

To gain an idea of career options that follow on from particular degrees click on the **Career** tab. A list of occupations will appear in alphabetical order, clicking on the drop down menu above the list choose sort 'by degree choice'. Sorting occupations by the degree choices selected will put them in order, with the most popular career paths that follow on from the selected degrees moving to the top of the list.

Example: with the degree selection **Pharmacology, Toxicology and Pharmacy** click on the career tab.

Q. Ask students to identify what Pharmacology, Toxicology and Pharmacy graduates are most likely to do career-wise.

A. The data show that 40% of graduates with a degree in pharmacology, toxicology and pharmacy go on to be health care professionals.

To see a graph representing the lifetime earning by age of any of the professions select them from the list and the graph will appear on the right hand side.

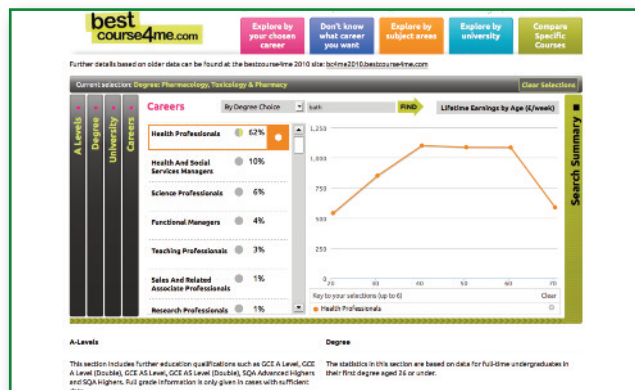
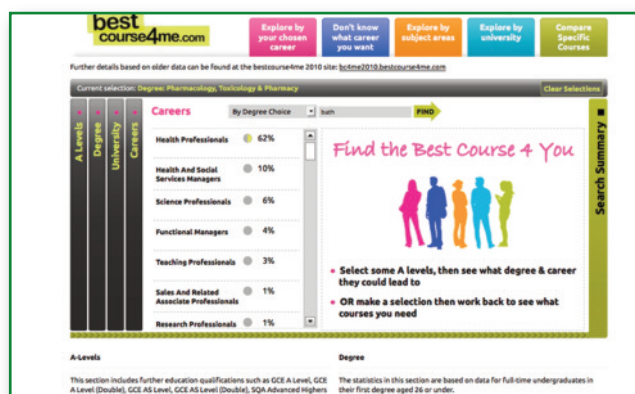
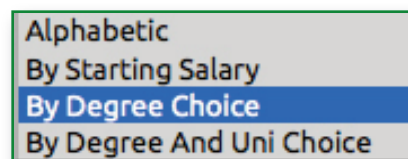
Example: Click on the career option 'Health Care Professional' and hover the mouse over the second orange point on the graph.

Q. Ask students to identify what this point represents.

A. The point represents the average weekly earnings for Health Care Professionals aged 31 years old which is £850.

Up to 6 occupations can be selected so that a comparison can be made.

The final tab **Search Summary** gives an overview of all the selections that have been made displaying such data as average-starting salaries for selected occupations as well as average lifetime earnings, taking university and degree course into consideration.



Things for students to think about in this exercise...

- Do any of the degree courses I have in mind require any particular set of science A-Levels?
- What are the popular degree courses that people who studied a Science/ Sciences at A-level go on to do?
- What is the average starting salary and average lifetime pay for graduates with a science related degree?
You could also encourage students to pick a non science degree option against which to compare the data they have for science.