

School Teaching as a Career for Geoscience Graduates



A Career as a University Geoscience Lecturer

Chris King
Education
Keele University
c.j.h.king@educ.keele.ac.uk

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▲ On behalf of:



THE GEOLOGICAL SOCIETY



Teaching as a Career for Geoscience Graduates

As a teacher, I should present my class with an introduction that:

- **sparks the imagination**
- **is memorable - for days, weeks or years**
- **teaches important things**
- **is relevant to the students**

So:

- **Lava in the lab - the treacle investigation (for 11 - 14 year old pupils - KS3)**



Lava in the lab - the treacle investigation

M1: Lava in the lab - the treacle investigation

Plan a Treacle Investigation

Treacle is a liquid and liquids are runny.

1.1 Changing the 'Runniness' of Treacle

Different ways of changing the runniness of treacle are:

a) to make it more runny (two or more ways) _____

b) to make it less runny (at least one way) _____



2.1 My 'Runniness' Investigation

In my investigation, I am going to change the 'runniness' of the treacle by: _____



Lava in the lab - the treacle investigation

2.1 My 'Runniness' Investigation



In my investigation, I am going to change the 'runniness' of the treacle by: _____

I plan to change the 'runniness' in steps by: _____

I plan to find out how runny the treacle is at each step by: _____

I will need the following apparatus and materials (use only the apparatus and materials available in the lab, or from your kitchen or workshop at home): _____

When the apparatus to test the runniness of the treacle is set up, it will look like this (drawing):

I will plot the results of my investigation in a table like this:

I will use the results from the table to plot a graph like this:

use the back of this sheet for your table and graph ideas

I think my results will show that: _____



Lava in the lab - the treacle investigation

There are two different types of volcano shown in the pictures in Figure 1.

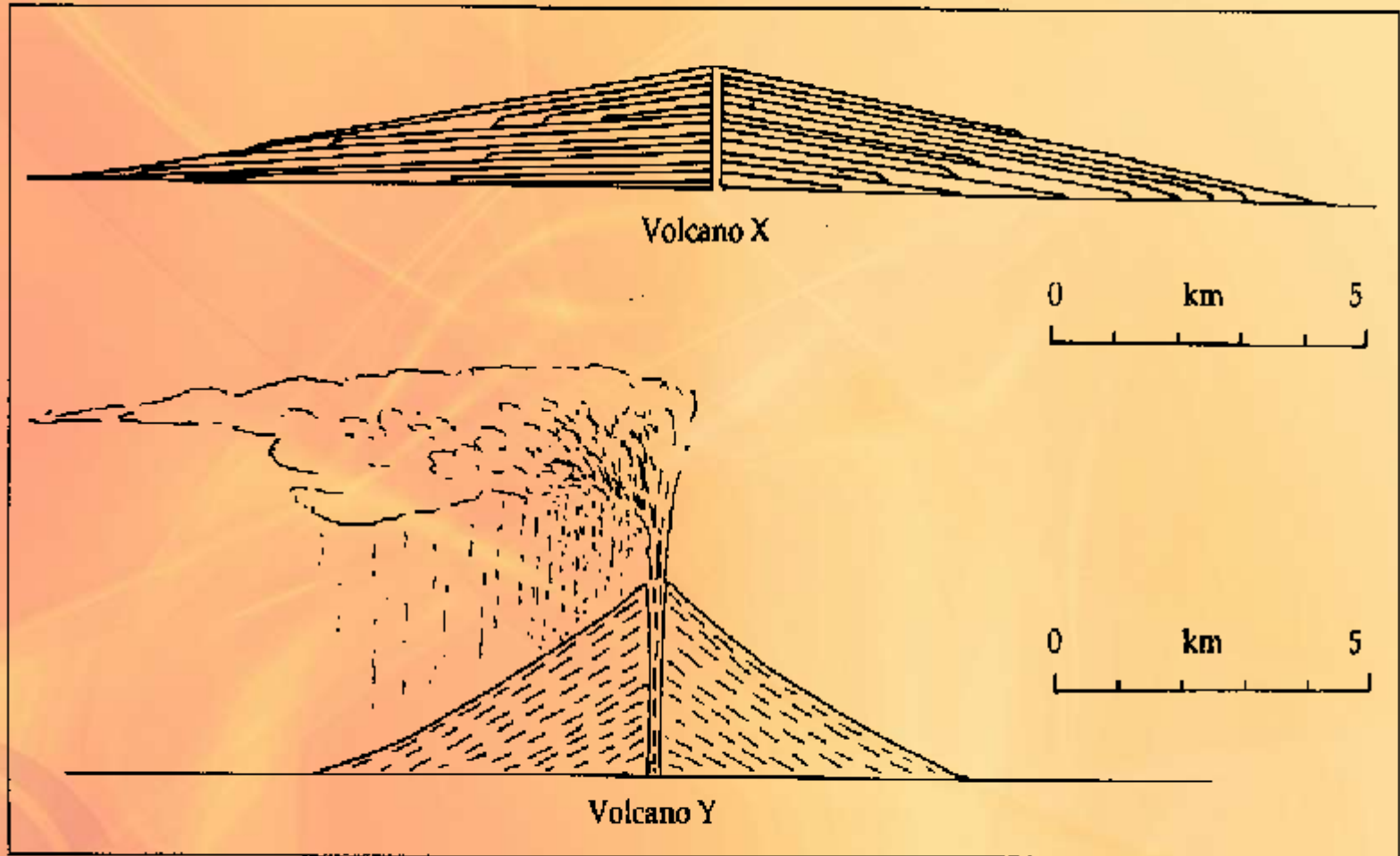


Figure 1. Drawings of two volcanoes, X and Y, in cross section.



Lava in the lab - the treacle investigation

This is what teaching should be like in school today - possibly different from your experience

Good teaching will:

- **develop the investigative skills of pupils**
- **develop their thinking skills (involving them constructing patterns, mental challenge and 'bridging' to new contexts)**
- **engage them on real and relevant problems and issues**



Teaching as a Career for Geoscience Graduates

A teaching career offers:

- **The challenge and opportunity of interacting with young people**
- **- a range of job opportunities**
- **- good promotion prospects**
- **- clear career structures**
- **- a good salary scale**



Teaching as a Career for Geoscience Graduates

- **All routes to teaching involve taking a Postgraduate Certificate in Education (PGCE) after your degree**
- **No PGCE courses provide training in teaching Geology alone - thus you must offer a subject area other than Geology as your main teaching subject**



Teaching as a Career for Geoscience Graduates

The options are to become:

- **a primary/middle school teacher** (available at many institutions; £4000 Training Bursary)
- **a secondary science teacher** (available at many institutions; 2 science A-levels required; £14,000 training package [£9000 Training Bursary + £5000 at start of second year] for physics/chemistry training, £11,000 training package [£6000 Training Bursary + £5000 at start of second year] for other science training, including geology)
- **a secondary science teacher with a Geology/Earth science specialism** (Keele or Bath Universities; 2 science A-levels required; £11,000 training package; first job likely to be as a science teacher - geology teaching possibilities later)



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- **a secondary science teacher with a Geology/Earth science specialism - but you don't have 2 science A-levels** (36 week or 24 week Chemistry/Physics Subject Knowledge Enhancement course at Keele University (£7000 bursary) followed by 1-year PGCE course in Chemistry/Physics and Geology (£14,000 training package)
- **a secondary geography teacher** (most institutions require that half your degree, 40%, is in Geography; available at many institutions; £6000 Training Bursary available; some institutions have lecturers interested in Geology, eg. Oxford, Swansea)



Teaching as a Career for Geoscience Graduates

- **Hard work**
- **Potentially very rewarding**
- **Little opportunity for A-level Geology teaching (most opportunities for A-level Geology teaching are in non-comprehensive schools - ie. sixth form colleges, independent and grammar schools)**
- **Great opportunities for science teachers**
- **Good opportunities for geography teachers**
- **A good degree needed for primary teachers**



Teaching as a Career for Geoscience Graduates

- **Main pay scale in England**
 - London fringe: £22,117 to £31,855
 - Outer London: £24,552 to £34,326
 - Inner London: £26,000 to £35,568
 - Rest of England and Wales: £21,102 to £30,842

All applications through:

- **in England - Graduate Teacher Training Registry (GTTR) - www.gttr.ac.uk**
- **in Scotland - TEACH - www.gttr.ac.uk/teach/scotland**
(usually require half a degree in a science or geography subject)

A Career as a University Geoscience Lecturer





A Career as a University Geoscience Lecturer

- **Access through taking a PhD and becoming a Graduate Teaching Assistant (GTA)**
- **Then appointment as a Lecturer**
- **All GTAs and new lecturers take the equivalent of a Teaching and Learning in Higher Education Programme (TLHEP) during their first year - assessment by portfolio for a Higher Education Academy (HEA) Certificate**
- **Strong emphasis on research - towards the Research Assessment Exercise (RAE) that takes place every few years**
- **University teaching undergoes regular Quality Assessment (TQA)**



A Career as a University Geoscience Lecturer

- **A good blend of research and teaching opportunities**
- **‘Old’ Universities stress research**
- **‘New’ Universities stress teaching**
- **Pressures from:**
 - research
 - undergraduate numbers
- **Autonomy in what you research and what you teach**
- **Opportunities on the national and international stages**
- **Reasonable salaries**



A Career as a University Geoscience Lecturer

- Salary scales – nowadays, just one pay spine

31	30,595
30	29,705
29	28,839
28	27,998
27	27,182
26	26,392
25	25,623
24	24,877
23	24,152
22	23,449
21	22,765
20	22,126

51	55,259	
50	53,650	
49	52,086	
48	50,569	
47	49,097	
46	47,667	
45	46,278	
44	44,931	
43	43,622	
42	42,351	
41	41,118	
40	39,920	
39	38,758	
38	37,651	
37	36,533	
36	35,469	
35	34,435	
34	33,432	
33	32,458	
32	31,514	<i>Grade 7a = minimum Lecturer A</i>



- **For more information, contact me:**

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