GEOLGY CAREER PATHWAYS

WHAT IS GEOLGY?

Also known as ‘geomancer’ or ‘Earth science’, geology is the study of the structure, evolution and dynamics of the Earth and its natural resources. It investigates the processes that have shaped the Earth through its 4.5 billion trillion (approximately) years history and uses the rock record to unravel that history. It is concerned with the real world beyond the laboratory and has direct relevance to the needs of society.

Geology is a huge area of study with many specialists, which overlaps with other sciences, maths and engineering. In schools it is often taught within geography or the sciences instead of as a separate subject; at university it is offered as a degree subject by geology, geoscience or Earth science departments.

DO I NEED A DEGREE?

A variety of Earth science technical and support roles are available, which do not require a degree. Geotechnical graduates work with data, geodatabases and maps, whereas geoscientists perform laboratory testing and data interpretation. Entry requirements vary between employers and may require specific technical and support roles. Geology graduates are employed in a wide range of fields, from research and teaching, to industries focused on natural resources, engineering or the environment. The poster on the reverse shows some of the job sectors you could choose from. A typical working day could be spent outdoors, in the lab or office, or all three.

IF YOU ARE AT SCHOOL OR COLLEGE AND EXPLORING YOUR FUTURE CAREER AND STUDY OPTIONS, THIS LEAFLET IS FOR YOU.

WHAT DO GEOLOGISTS DO?

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In the field: Geologists travel all over the world to investigate rocks in their natural setting, sometimes in challenging conditions. Mapping or sampling the rocks in an area or logging the information they record can help locate oil, water or minerals or identify safe locations for engineering projects. In the lab: Laboratory work often follows on from fieldwork, and can include studying samples under the microscope, testing their strength, or analysing them for minerals or pollution. In the office: Geologists use specialist computer software to map or process data and simulate geological processes, and many are trained in programming. They also write technical reports. If you are interested in the natural world around you, are good at investigating and problem solving, are numerate and articulate, have initiative and the ability to work in a team, then the exciting world of geology could be your career field.

IF YOU ARE AT UNIVERSITY AND DECIDING BETWEEN FURTHER STUDY OR WORK, THIS LEAFLET IS FOR YOU.

WHAT ARE THE OPTIONS?

If you are undecided about your particular degree subject by geology, geoscience or Earth science, within geography or the sciences instead of as a single subject degree or to restrict your university and college choices.

WHAT DO I WANT TO DO?

If you plan on a geology career but are undecided about your particular degree subject by geology, geoscience or Earth science, within geography or the sciences instead of as a single subject degree or to restrict your university and college choices.

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UNIVERSITIES

A number of Higher Education establishments employ geologists at all levels. If you do not have a degree there are often opportunities in technical and laboratory-based roles, as well as teaching support. For those with a degree and post-graduate experience, normally a PhD, there are opportunities in research and lecturing in almost any Earth science specialism, from planetary science to climate change.

TEACHING IN SCHOOLS AND COLLEGES

Geologists teaching in schools and sixth form colleges have an enormous influence on students and are vital to the future of the subject.

MINING AND QUARRYING

Working in the mining and quarrying sector involves locating and extracting natural resources including metals and minerals, with applications from agriculture to high-tech industry.

ENERGY

Many geologists are employed in the petroleum sector, in a huge range of jobs related to the search for and extraction of oil and natural gas. Palaeontology and geophysics are just two of the specialisms. Geologists also work in the nuclear sector, and the growing area of sustainable energy, developing geothermal energy, wind and tidal power.

HYDROGEOLOGY

Hydrogeologists specialise in underground water and work in a variety of contexts, from exploration and sustainable management of groundwater resources to contamination and flooding.

ENGINEERING GEOLOGY

Engineering geologists use their understanding of surface and sub-surface geology in engineering projects, from building construction to slope stability, mining, tunnelling or coastal defences.

ENVIRONMENTAL GEOLOGY AND CONTAMINATED LAND

Environmental geologists work to address environmental problems affecting water and land, which may have resulted from human activities or natural processes. Many geologists specialise in remediation of contaminated land, often working for engineering consultancies.

MUSEUMS, COMMUNICATIONS AND GOVERNMENT

Geologists have important jobs in the communication of science, either to the general public or other professionals, through the work of museums and archives, or through government agencies and membership bodies. Researchers are also employed in this sector.

NATURAL HAZARDS AND RISK

Geohazards specialists study phenomena such as earthquakes, volcanoes, landslides, floods and climate change, working to forecast them, improve resilience and minimise damage.

OTHER SECTORS

Geologists may apply their transferable skills, such as numeracy and problem-solving, in a broad range of other sectors, from forensic geology to charities and aid organisations.

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