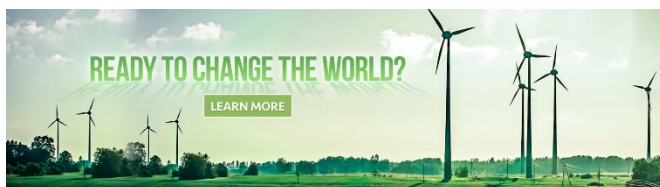


Curricular Area: Science

Course Title: Environmental Science

Course Description



Living Environment National 3

- What factors affect where organisms live?
- Why are plants so important?
- Potential impact of chemicals used to improve the world's food production.

Earth's Resources National 3 with the opportunity to experience some National 4 level work

- Renewable energy sources and their use on Scotland, benefits and potential problems
- Minerals, rocks and soils.

Sustainability National 3 with the opportunity to experience some National 4 level work

- What is climate change, what causes it, what consequences are there and can anything be done to manage its impact?

Assessment

There are a variety of assessments to allow students to demonstrate their knowledge ranging from making a "Renewable power plants" model, writing a scientific report, contributing to a debate, writing front pages of a newspaper, making posters as well as more formal "tests"

Home Study Expectations

This can range from research to more extended pieces of work. Usually formal home study is issued every 2-3 weeks.

Possible next level of study in S4-6

Students will be able to progress in 3 ways:

National 4 in Environmental Science leading to N5 Environmental Science in S5 and then Higher Environmental Science in S6

Or:

National 4 in Biology or Chemistry or Physics in S4 leading to National 5 in Biology or Chemistry or Physics in S5

Or:

National 5 Skills for Work Laboratory Science

Wider Achievement Opportunities

Learning will be consolidated by research projects, experiments, dissections, visiting lectures and trips.

Possible career paths

There are lots of career options including tackling issues such as global climate change, pollution, use of land and water resources and changes in wildlife habitats, e.g. ecologist, land surveyor, energy engineer, tree surgeon, waste plant manager.

For more information see: <https://nationalcareersservice.direct.gov.uk/job-profiles/environmental-sciences>

Course Description

Fragile Earth CfE Level 3 and 4

- How do humans obtain food, energy, raw materials and water?
- What conflicts does this have for the environment?
- How can science help to resolve any environmental issues it causes?



Nature's Chemistry CfE Level 3 and 4

- What are fuels and what impact does their use have on the environment?
- What can Chemists do to improve crop yield?
- The chemistry of everyday consumer products that come from plants, e.g. medicines, food, drink

Rates of Reactions National 4 with the opportunity to experience some National 5 level work

- What makes some chemical reactions quicker than others?
- How can we measure the rate of chemical reactions?

Atoms, Elements and Bonding National 4 with the opportunity to experience some National 5 level work

- What are atoms and ions?
- How do atoms join together to form compounds?

Assessment

There are a variety of assessments to allow students to demonstrate their knowledge ranging from making a "Planet to sustain life" model, writing a scientific report, contributing to a debate, writing front pages of a newspaper, making posters as well as more formal "tests"

Home Study Expectations

This can range from research to more extended pieces of work. Usually formal home study is issued every 2 weeks.

Possible next level of study in S4-6

Students will be able to progress in 2 ways:

National 4 or 5 in Chemistry leading to Higher Chemistry and then Advanced Higher Chemistry

Or:

National 5 Skills for Work Laboratory Science

Or:

National 3 or 4 in Environmental Science leading to N5 Environmental Science in S5 and then Higher Environmental Science in S6.

Wider Achievement Opportunities

Learning will be consolidated by research projects, experiments, investigations, visiting lectures and trips.

Possible career paths

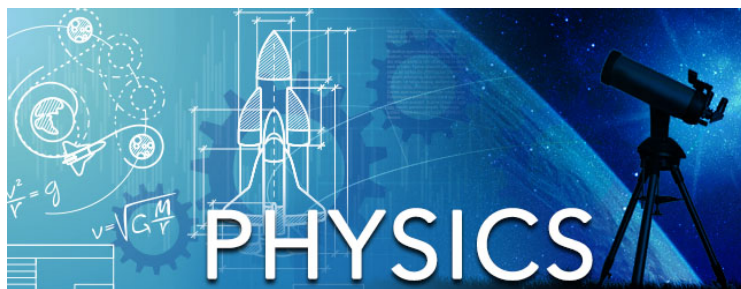
There are lots of career options both in and out of the laboratory e.g. discovering new medicines, protecting the environment, inventing new products, using forensic analysis to solve crime, Science advisors for politics and policy makers, consultants on economic impact of chemical issues, Science writing and communication, art: illustrations in Chemistry textbooks, magazines and many more.

For more information see: <http://www.rsc.org/careers/future/career-options>

Course Description

Fragile Earth CfE Level 3 and 4

- How do humans obtain food, energy, raw materials and water?
- What conflicts does this have for the environment?
- How can science help to resolve any environmental issues it causes?



Waves and Radiation CfE Level 3, 4 with the opportunity to experience some National 5 level work

- How do we use waves and light as technology in our modern world?
- What are the sources, effects and risks of nuclear radiation?

Dynamics National 4 with the opportunity to experience some National 5 level work

- How do forces such as gravity affect travel to other planets?
- How likely are extra-terrestrials to exist in our universe?

Assessment

There are a variety of assessments to allow students to demonstrate their knowledge ranging from making a “Fuels of the Future” model, writing a scientific report, contributing to a debate, writing front pages of a newspaper, making posters as well as more formal “tests”

Home Study Expectations

This can range from research to more extended pieces of work. Usually formal home study is issued every 2 weeks.

Possible next level of study in S4-6

Students will be able to progress in 2 ways:

National 4 or 5 in Physics leading to Higher Physics and then Advanced Higher Physics

Or:

National 5 Skills for Work Laboratory Science

Or:

National 4 in Practical Electronics

Wider Achievement Opportunities

Learning will be consolidated by research projects, experiments, visiting lectures and trips.

Possible career paths

There are lots of career options including many types of engineering careers e.g. aeronautical, electrical, civil or mechanical, research in laboratories or the natural environment, geologist, medical physicist, food related careers, meteorology, and education, Science advisors for politics and policy makers, consultants on economic impact of chemical issues, Science writing and communication, art: illustrations in Physics textbooks, magazines and many more.

For more information see <http://www.physics.org/careers.asp?contentid=381>