

# WJEC A Level Chemistry and Careers in Chemistry

Find examples of relevant careers for subsections of the curriculum and link through to job profiles for further information. The profiles will give your students real world examples of jobs in the aspects of chemistry they enjoy most. They are written by teachers for teachers.

Simply click on the job title to go to the job profile on A Future in Chemistry.

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### AS Unit 1 – The language of chemistry, structure of matter

- 1.1 Formulae and equations
- > <u>Scientist, food and pharmaceuticals</u>
- > <u>Senior laboratory technician</u>

### 1.2 Basic ideas about atoms

- > <u>Chemistry engineer, nuclear</u>
- Dermal toxicologist
- <u>Radioactive waste consultant</u>
- <u>Research assistant, healthcare</u>

### 1.3 Chemical calculations

- Analyst higher apprentice, organic chemistry
- > Analytical chemist, health
- > Analytical chemists, Thames Water
- » Bioanalytical scientist
- <u>Chemistry engineer, nuclear</u>
- Dermal toxicologist
- > <u>Director</u>
- Head of computational toxicology
- > Medicinal chemist, drug discovery

### 1.4 Bonding

- Analytical technician, plastics
- Bionanotechnology PhD student
- <u>Co-founder and machine learning lead</u> of tech startup Ignota Labs
- › <u>Computational toxicologist</u>
- › Dermal toxicologist

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- > Technical services chemist, cosmetics
- > Scientist, food and pharmaceuticals
- Secondary school science teacher
- Senior laboratory technician
- > <u>Technical services chemist, cosmetics</u>

#### Nanotoxicologist

- > Pollution control officer
- Process chemist higher apprentice, pharmaceuticals
- Professor of environmental chemistry
- School science technician
- > Scientist, food and pharmaceuticals
- Secondary school science teacher
- Senior laboratory technician
- <u>Technical services chemist, cosmetics</u>
- Research fellow
- Research innovations manager
- <u>Science communicator</u>
- > <u>Secondary school science teacher</u>



### A Level Chemistry and Careers in Chemistry 2 of 9

### 1.4 Bonding continued

- > Development chemist, printing and inks
- Nanotoxicologist
- > <u>Postdoctoral research associate</u>

### 1.5 Solid structures

- Associate professor and enterprise, partnerships and innovation lead
- Bionanotechnology PhD student
- <u>Chief scientist at agritech company,</u> <u>Lambda Energy</u>
- <u>Co-founder and machine learning lead of</u> <u>tech startup Ignota Labs</u>
- Computational toxicologist
- > Dermal toxicologist
- Development chemist, printing and inks
- Microplastics toxicologist
- Nanotoxicologist

#### 1.6 The periodic table

- Analyst higher apprentice, organic chemistry
- > Analytical chemists, Thames Water
- > Chemistry engineer, nuclear
- > Development chemist, printing and inks
- Laboratory analyst and higher degree apprentice, water
- Museum scientist

- Senior principal scientist
- > <u>Senior software developer</u>
- Technical services chemist, cosmetics
- <u>PhD researcher</u>
- > Postdoctoral research associate
- > Principal air quality consultant
- > Quality officer, genomics research
- > <u>Science communicator</u>
- Secondary school science teacher
- Senior software developer
- <u>Technical services chemist</u>, <u>cosmetics</u>
- Process chemist higher apprentice, pharmaceuticals
- Professor of environmental chemistry
- > <u>Science communicator</u>
- > <u>Secondary school science teacher</u>
- Senior curator

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- 1.7 Simple equilibria and acid-base reactions
- Analytical chemist, healthcare
- Analytical chemists, Thames Water
- > <u>Development chemist, printing and inks</u>
- Laboratory analyst and higher degree apprentice, water

### AS Unit 2 – Energy, rate and chemistry of carbon compounds

- 2.1 Thermochemistry
- > <u>Chemistry engineer, nuclear</u>
- › <u>Chief chemist</u>
- › <u>Director</u>
- Process chemist higher apprentice, pharmaceuticals

### 2.2 Rates of reaction

- > <u>Chemistry engineer, nuclear</u>
- > <u>Chief executive officer, ViridiCO2</u>
- Process chemist higher apprentice, pharmaceuticals

### 2.3 The wider impact of chemistry

- Analyst higher apprentice, organic
  <u>chemistry</u>
- Associate professor
- Associate professor and enterprise, partnerships and innovation lead
- Bioleaching lab technician

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- Project leader in enhanced experimentation
- > Scientist, food and pharmaceuticals
- Secondary school science teacher
- Senior laboratory technician
- > <u>Secondary school science teacher</u>
- Senior principal scientist
- > Chief executive officer, ViridiCO2
- <u>Chief scientist at agritech company,</u> <u>Lambda Energy</u>
- Chief technology officer and cofounder of Lixea, a sustainable solutions company
- > <u>Director</u>

- > <u>School science technician</u>
- Scientist, food and pharmaceuticals
- Senior laboratory technician



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### 2.3 The wider impact of chemistry continued

- Environmental process specialist
- > Executive editor, scientific publishing
- Head of computational toxicology
- Head of research and sustainability
- Head of toxicology
- Marine biogeochemist
- Marketing development manager
- Medicinal chemist, drug discovery
- Microplastics toxicologist
- Museum scientist
- > PhD researcher
- › Pollution control officer
- > Principal air quality consultant
- > Professor of biorefineries
- Professor of environmental chemistry
- > Qualified Person, pharmaceuticals
- » <u>R&D Chemist</u>

- Radioactive waste consultant
- > Research & development team leader
- Research fellow, battery recycling
- > <u>Research scientist, microplastics</u>
- Science career coach and mentor
- > <u>Scientific Consultant</u>
- Scientist, Incident Management & Crisis Resolution
- Secondary school science teacher
- Section leader, wind
- Senior curator
- > Senior director of chip research
- Senior principal scientist
- Senior research and development scientist
- > <u>Senior science manager</u>
- > <u>Soil scientist</u>
- Solar technology engineer
- <u>Technical services chemist, cosmetics</u>



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### 2.4 Organic compounds

- Associate principal scientist, food
- Associate scientist, pharmaceuticals
- > <u>Chief technology officer</u>
- > <u>Computational toxicologist</u>

### 2.5 Hydrocarbons

- Analytical technician, plastics
- Associate principal scientist, food
- <u>Chief technology officer and co-founder</u> of Lixea, a sustainable solutions company
- Marketing development manager
- Microplastics toxicologist

### 2.7 Alcohols and carboxylic acids

- › Forensic scientist
- > <u>Secondary school science teacher</u>

### 2.8 Instrumental analysis

- Advanced apprentice, forensics
- Analyst higher apprentice, organic chemistry
- Analytical chemist, health
- > Analytical chemists, Thames Water
- Assistant analyst, drug control centre
- Associate principal scientist, food

- Development chemist, printing and inks
- › Forensic toxicologist
- Microplastics toxicologist
- Research scientist, microplastics
- Principal air quality consultant
- Project leader in enhanced experimentation
- » <u>R&D Chemist</u>
- > Research innovations manager
- Secondary school science teacher
- Senior science manager
- › Associate researcher
- > Associate scientist, pharmaceuticals
- › Astrochemist
- Atmospheric chemist
- Chief technology officer
- Chief technology officer and cofounder of a robotic chemists' company

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2.8 Instrumental analysis continued			
>	Dermal toxicologist	>	Professor of environmental chemistry
>	Development chemist, printing and inks	>	Research assistant, healthcare
>	Director of IRC in biomedical materials	>	Research innovations manager
>	Environmental chemist	>	Scientific associate, NMR
			<u>spectroscopy</u>
>	Forensic scientist	>	Scientist, food and pharmaceuticals
>	Forensic toxicologist	>	Secondary school science teacher
>	Head of computational toxicology	>	Senior analytical systems technician
>	Head of toxicology	>	Senior director of chip research
>	Laboratory analyst and higher degree apprentice, water	>	Senior laboratory technician
>	Museum scientist	>	Senior scientist, household goods
>	<u>Nanotoxicologist</u>	>	Soil scientist
>	Pollution control officer	>	Sports scientist
>	Principal air quality consultant	>	Teaching technical specialist
>	Process chemist – higher apprentice,	>	University laboratory technician
	pharmaceuticals		<u>apprentice</u>



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### A2 Unit 3 – Physical and inorganic chemistry

### 3.1 Redox and standard electrode potential

- > Associate professor and enterprise, >> Research fellow, battery recycling partnerships and innovation lead
- > Chemistry engineer, nuclear
- > Patent attorney
- > PhD researcher
- 3.4 Chemistry of the d-block transition metals
- Analytical chemists, Thames Water
- > Bioleaching lab technician
- > Chief executive officer, ViridiCO2
- > Chief technology officer
- > Director
- Environmental process specialist

### 3.5 Chemical kinetics

> Chemistry engineer, nuclear

### 3.6 Enthalpy changes for solids and solutions

- > Chemistry engineer, nuclear
- Chief chemist

### 3.7 Entropy and feasibility of reactions

> Chemistry engineer, nuclear

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- Scientific Consultant
- > Secondary school science teacher
- Solar technology engineer
- Laboratory scientist apprentice
- > Museum scientist
- Product and process development manager
- > Project manager
- Secondary school science teacher
- Senior principal scientist

 Project leader in enhanced experimentation



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### 3.9 Acid-base equilibria

- > Analytical chemist, healthcare
- > Analytical chemists, Thames Water
- Development chemist, printing and inks

### A2 Unit 4 – Organic chemistry and analysis

#### 4.1 Stereoisomerism

- > Associate principal scientist, food
- Medicinal chemist, drug discovery
- Nanotoxicologist

### 4.2 Aromaticity

- > Analytical technician, plastics
- Associate principal scientist, food

### 4.3 Alcohols and phenols

> <u>Secondary school science teacher</u>

### 4.4 Aldehydes and ketones

Flavour chemist and innovation

### 4.5 Carboxylic acids and their derivatives

> Flavour chemist and innovation

#### 4.6 Amines

> Development chemist, printing and inks

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- <u>Laboratory analyst and higher degree</u> <u>apprentice, water</u>
- > Scientist, food and pharmaceuticals

- > Research innovations manager
- Secondary school science teacher
- > <u>Nanotoxicologist</u>
- > Senior science manager



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### 4.7 Amino Acids, Peptides and Proteins

- > <u>Postdoctoral research associate</u>
- > Quality officer, genomics research

### 4.8 Organic Synthesis and Analysis

- Advanced apprentice forensics
- Analyst higher apprentice, organic chemistry
- > Analytical chemist, healthcare
- > Analytical chemists, Thames Water
- Analytical technician, plastics
- » Bionanotechnology PhD student
- > Chief technology officer
- Chief technology officer and co-founder of a robotic chemists' company
- Chief technology officer and co-founder of Lixea, a sustainable solutions company
- > Development chemist, printing and inks
- > Director of IRC in biomedical materials
- > Director of medicinal chemistry
- > Environmental chemist
- › Forensic scientist
- > Forensic toxicologist
- Household goods scientist
- Laboratory analyst and higher degree apprentice, water
- <u>Laboratory scientist apprentice</u>
- > Marketing development manager
- > Medicinal chemist, drug discovery

› Museum scientist

Senior laboratory technician

- Nanotoxicologist
- Process chemist higher apprentice, pharmaceuticals
- › Professor of biorefineries
- Professor of environmental chemistry
- > R&D Chemist
- <u>Research assistant, healthcare</u>
- <u>Research innovations manager</u>
- Scientific associate, NMR spectroscopy
- Scientist, Incident Management & Crisis
  <u>Resolution</u>
- Secondary school science teacher
- Senior analytical systems technician
- > Senior director of chip research
- > <u>Senior science manager</u>
- > Soil scientist
- > Sports scientist
- <u>Teaching technical specialist</u>
- > University laboratory technician apprentice
- <u>Technical services chemist, cosmetics</u>

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