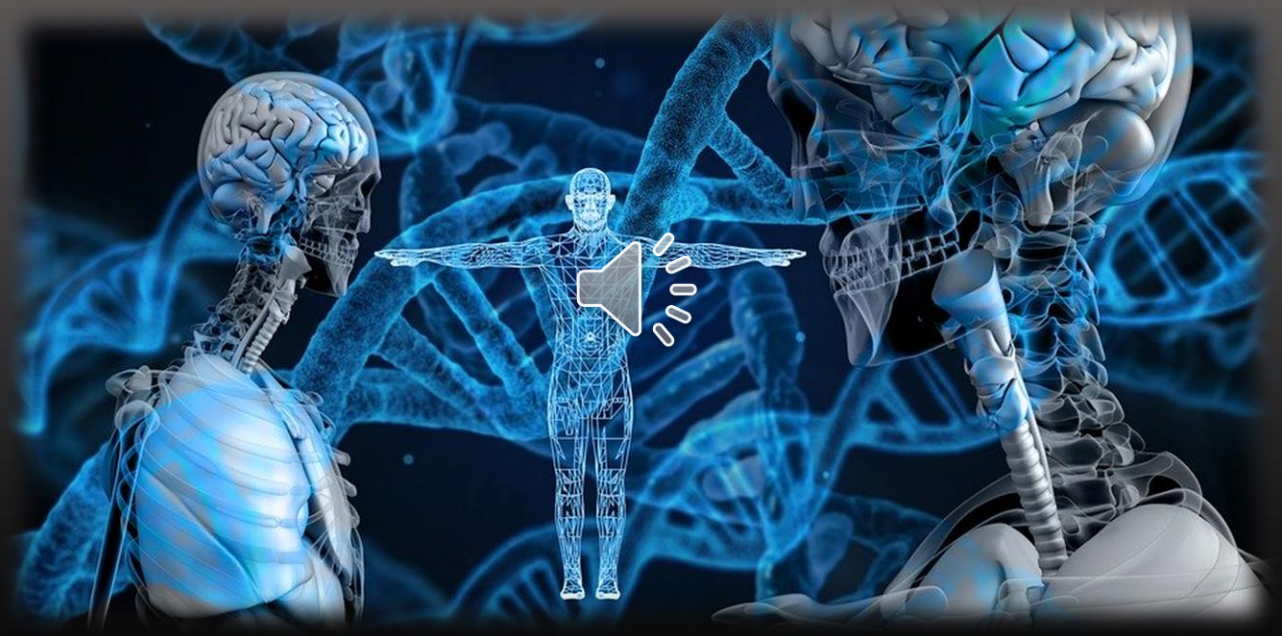
THINKING SCHOOLS ACADEMY TRUST

Science

GCSE



Head of Department : Miss Wilson

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Course Aims

- To develop a student's ability to collect and analyse scientific data critically, using the relevant graphical and numerical skills.
- To encourage effective verbal and written communication, and where appropriate, the ability to utilise Information Technology.
- To encourage understanding of how scientific ideas have developed with time.
- To develop an appreciation of the place of creativity and imagination in the progress of scientific knowledge, to understand that Science does not have all the answers and that there may be a variety of opinions on controversial matters all deserving respect.
- To train pupils in the use of apparatus, equipment and chemical substances, including an appreciation of the hazardous nature of some of these and the confidence and skill to deal safely with them.

And so much more!

Course Outline Combined Science

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Biology

Paper 1 75 minutes
70 marks,
Assesses Topics 1-4
Paper 2 75 minutes
70 marks
Assesses Topics 5-7

1. Cell biology
2. Organisation
3. Infection and Response
4. Bioenergetics
5. Homeostasis and response
6. Inheritance, variation and evolution
7. Ecology

Chemistry

Paper 1 75 minutes
70 marks,
Assesses Topics 8-12
Paper 2 75 minutes
70 marks
Assesses Topics 13-17

8. Atomic Structure and the Periodic Table
9. Bonding, structure and properties of matter
10. Quantitative chemistry
11. Chemical changes
12. Energy Changes
13. Rate and Extent of chemical change
14. Organic
15. Chemical analysis
16. Chemistry of the atmosphere
17. Using Resources

Physics

Paper 1 75 minutes
70 marks,
Assesses Topics 18-21
Paper 2 75 minutes
70 marks
Assesses Topics 22-24

18. Energy
19. Electricity
20. Particle model of matter
21. Atomic Structure
22. Forces
23. Waves
24. Magnetism and electromagnetism

OPTIONS:
Triple Science
(Biology + Chemistry + Physics)

or

Combined Science

You may not opt to study a single science

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Course Outline Triple

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Biology

Paper 1 105 minutes
100 marks,
Assesses Topics 1-4
Paper 2 105 minutes
100 marks
Assesses Topics 5-7

1. Cell biology
2. Organisation
3. Infection and Response
4. Bioenergetics
5. Homeostasis and response
6. Inheritance, variation and evolution
7. Ecology
8. Key Ideas

Chemistry

Paper 1 105 minutes
100 marks,
Assesses Topics 1-5
Paper 2 105 minutes
100 marks
Assesses Topics 6-10

1. Atomic Structure and the Periodic Table
2. Bonding, structure and properties of matter
3. Quantitative chemistry
4. Chemical changes
5. Energy Changes
6. Rate and Extent of chemical change
7. Organic
8. Chemical analysis
9. Chemistry of the atmosphere
10. Using Resources

Physics

Paper 1 105 minutes
100 marks,
Assesses Topics 1-4
Paper 2 105 minutes
100 marks
Assesses Topics 5-8

1. Energy
2. Electricity
3. Particle model of matter
4. Atomic Structure
5. Forces
6. Waves
7. Magnetism and electromagnetism
8. Space Physics

OPTIONS:
Triple Science
(Biology + Chemistry + Physics)

or

Combined Science

You may not opt to study a single science

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Links to other subjects

Both Combined Science and Separate Sciences provide a good foundation for students wishing to continue to study Science at A level.

Science encourages your thinking skills and shows that you are a logical thinker who can solve problems and apply knowledge to new situations. This is a useful skill in other subjects.

Holcombe Habits

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- Accuracy and precision is developed through the correct use of key terms to explain phenomena
- Gathering data is developed through the use of practical work and the acquisition of core competencies
- Questioning and posing problems are developed throughout the course with an emphasis on mathematical skill development.

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Skills needed to succeed in Science

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- Have good organisation and time management
- Have perseverance and enthusiasm
- To work independently and with others
- To have good verbal and written communication
- To make precise measurements
- To have good manipulative skills
- Be able to plan investigations
- To be able to interpret and evaluate data
- To be able to analyse and solve problems
- To be confident in manipulating data

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Career Pathways

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Universities particularly value the logical discipline and transferrable skills developed through studying Sciences.

Popular careers for people with science qualifications include: industrial science (chemistry, petroleum, polymers); microbiology, pharmaceuticals, engineering (nuclear, chemical, electronic, aeronautical to name a few), medicine, dentistry, veterinary medicine and research science.

Qualifications in Science may also lead to careers as diverse as Scientific journalism, accountancy, intellectual property law, medical sales or even teaching.

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Top 10 Universities For Sciences

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University of Cambridge

University of Oxford

University of Bath

Imperial College London

University of St Andrews

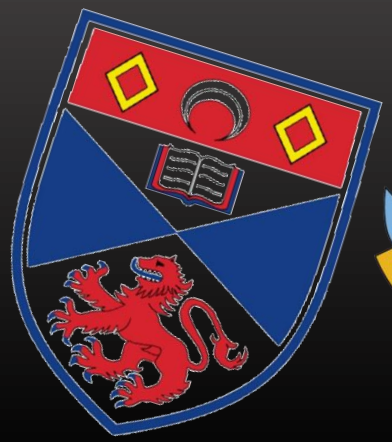
University of York

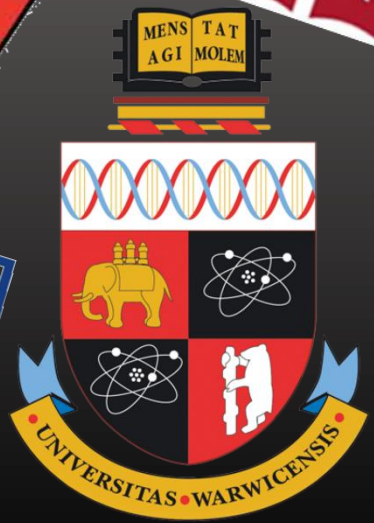
University College London

Durham University

University of Warwick

King’s College London





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