



Royal Greenwich
Trust School



Royal Greenwich Trust School
765 Woolwich Road
London
SE7 8LJ



020 8312 5480



info@rgtrustschool.net



<https://www.rgtrustschool.net/>

GCSE Science Exam and Intervention Guide



**University
Schools Trust**
A transformational education

Tuesday, 06 December 2022

Dear Parent/Carers,

RE: RGTS Approach to Science GCSE Tier Entry for Year 11 students

Students at RGTS who study separate sciences, often referred to as Triple Science, will receive 3 separate GCSE grades from 9 to 1; a grade for Biology, Chemistry and Physics.

Students taking Combined Science will study all three sciences, covering roughly two thirds of the content of separate sciences, and receive a qualification equivalent to two GCSEs. This will consist of two equal or adjacent grades from 9 to 1, giving 17 possible grade combinations - for example, (9-9); (9-8); (8-8) through to (1-1). If the grade numbers are different, the highest number will always be reported on the left, for example 9-8, 8-7. (Please see the new GCSE Science grading on page 3).

All Science GCSEs are tiered examinations, meaning there are two levels of papers:

| Tier | Available Grades |
|-----------------|---|
| Foundation tier | Grades 5 to 1 in separate sciences Grades 5-5 to 1-1 in Combined Science |
| Higher tier | Grades 9 to 4 in separate science Grades 9-9 to 4-4 in Combined Science |

It is very important that students are entered for the correct tier.

When we think of grade boundaries, the distance between the 'top' of the grade and the 'bottom' of the grade is known as the 'width'. For example, the higher tiers of Combined Science target twelve grades: 9-9 through to 4-4 at even widths. For the separate sciences (Biology, Chemistry and Physics), the range is 9-4. The width of these grades will change slightly year-on-year depending on the ability of the cohort and how the paper performs. Unfortunately, some students underperform on exam day. This is why there's also an 'allowed' grade 4-3 which is known as the safety net on the Higher tiers for Combined Science.

A student entered for the Higher tier paper that does not achieve a grade 4 in separate sciences, or a 4-3 in Combined Science, will receive an unclassified result (U).

In order to ensure students do not receive a U the approach at RGTS is that any student with a Professional Judgement Grade (PJG) of a 4 or a 5 will be entered for the Foundation tier. Students with a PJG of a 4 or a 5 are at risk of receiving a U if they do not perform well on the day.

Students with a PJG of a 6 or above will be entered for the Higher tier.

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net



Similarities between tiers:

- A grade 4 gained on the Foundation tier is the same as a grade 4 gained on the Higher tier, and this is also the case for grade 5.
- GCSE certificates do not give details of the tier of entry the candidate sat. Thus, a grade 4 on Foundation tier has the same value and is indistinguishable from a grade 4 gained on the Higher tier.
- Tiered exam papers have questions (usually around 20%) that are common to both Foundation and Higher tier. Exam boards use these to align standards between tiers, so it is no easier to get a grade 5 or 4 on one tier than another.

How we support students in Science at RGTS:

- Across KS4 students are assessed using 'mini tests' at the end of each topic. Students receive their grades for each mini-assessment and are aware of their strengths and weakness across each topic.
- All students receive a free science revision guide along with a homework book.
- All students are provided with a detailed a homework schedule (please see pages 5 to 8) to ensure all topics are revised.
- All Satchelone homework assignments include key points and video links to support students further. (Please see an example on page 4.)
- Students have personal logins to the following platforms:
 - Tassomi
 - Kerboodle.These online platforms can be used to access resources that will support all students with their revision (please see pages 9 and 10).

If you would like to discuss the matters raised in this letter further, please do not hesitate to contact me via email: busia.a@rgtrustschool.net

Yours faithfully,

A Busia

Head of Science Faculty



NEW GCSE (9-1), (9-9 to 1-1)

SCIENCE GRADING

| BIOLOGY, CHEMISTRY, PHYSICS | COMBINED SCIENCE |
|-----------------------------|------------------|
| 9 | 9-9 |
| 8 | 9-8 8-8 |
| 7 | 8-7 7-7 |
| 6 | 7-6 6-6 |
| 5 | 6-5 5-5 |
| 4 | 5-4 4-4 |
| 3 | 4-3 3-3 |
| 2 | 3-2 2-2 |
| 1 | 2-1 1-1 |
| U | U |

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net





Homework on Satchel One

Title*

Oxford Revision Guide - P1: Energy Stores and Transfers

Describe the task for your students:*

B U *I* ~~S~~ x_2 x^2

Complete the questions from the oxford revision guide textbook in your homework book. You do not need to write out the questions again. Use the video links and the knowledge organizer in the textbook to support you:

Energy Systems and Transfers - Key Points

An energy system is an object or a group of objects in which energy may change. Energy can be transferred in a system in for main ways:

- Mechanical work – A force moving an object a distance
- Electrical work – Charges moving due to a potential difference
- Heating – Due to temperature differences caused electrically or by a chemical reaction
- Radiation – energy transferred as a wave (Light, infrared, sound etc).

Light and infrared radiation are emitted from the sun. We can show how energy is transferred by using two diagrams. Energy transfer diagrams and Sankey diagrams. Both diagrams are for a child at the top of a slide. The gravitational energy stored in the child at the top of the slide is transferred as mechanical work done to speed up and do work against friction.

The result of this is energy shifts from gravitational potential energy to kinetic energy of the child and internal energy (raising the temperature of the slide and child). The Sankey diagram includes

1226 characters left

Subject*

Science

Class group(s)*

Classes - 5

Student(s)*

Select students

Marking scheme*

No grade required

Issue date*

03/11/2022

Issue on lesson

Select lesson

How should students submit this task?*

Online submission (via SMHW)

Due date*

10/11/2022

Due on lesson

Select lesson

Estimated completion time*

90

minutes

Resources to help you

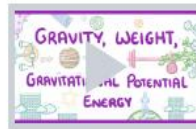
Web links



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...



www.youtube.com/watch?v=...

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net



Year 11 – AQA Combined Science Homework Schedule

| Date | Topic Title | Duration |
|--------|---|-------------------|
| 31-Oct | Week 10 P1: Energy stores and transfers | 1hr 30 min |
| 07-Nov | Week 11 P2: National and global energy resources | 1hr 30 min |
| 14-Nov | Week 12 P3: Supplying electricity and P4: Electric circuits | 2hr 00 min |
| 21-Nov | Week 13 P5: Energy of matter | 1hr 30 min |
| 28-Nov | Week 14 P6: Atoms and P7: Nuclear radiation | 2hr 00 min |
| 05-Dec | Week 15 P8: Forces and P9: Speed | 2hr 00 min |
| 12-Dec | Week 16 P10: Newton's laws of motion | 1hr 30 min |
| 19-Dec | Week 17 P11: Waves and P12: Magnets and electromagnets | 2hr 00 min |
| 26-Dec | Week 18 C1: The atom and C2: Covalent bonding | 2hr 00 min |
| 02-Jan | Week 19 Biology, Chemistry and Physic 1 Practice Paper | 2hr 00 min |
| 09-Jan | Week 20 C3: Ionic and metallic bonding, and structure | 2hr 00 min |
| 16-Jan | Week 21 C4: The Periodic Table and C5: Quantitative chemistry | 2hr 00 min |
| 23-Jan | Week 22 C6: Chemical reactions | 2hr 00 min |
| 30-Jan | Week 23 C7: Electrolysis and C8: Energy changes | 2hr 00 min |
| 06-Feb | Week 24 C9: Rate of reaction and C10: Equilibrium | 2hr 00 min |
| 13-Feb | Week 25 C11: Crude oil and fuels and C12: Chemical analysis | 2hr 00 min |
| 20-Feb | Week 26 Biology, Chemistry and Physic 1 Practice Paper | 2hr 00 min |
| 27-Feb | Week 27 Biology, Chemistry and Physic 1 Practice Paper | 2hr 00 min |
| 06-Mar | Week 28 C13: The Earth's atmosphere and C14: Using the Earth's resources | 2hr 00 min |
| 13-Mar | Week 29 B1: Cell structure and B2: Cell transport | 2hr 00 min |
| 20-Mar | Week 30 B3: Cell division and B4: Organising animals and plants | 2hr 00 min |
| 27-Mar | Week 31 B5: Communicable diseases | 1hr 30 min |
| 03-Apr | Week 32 B6: Preventing and treating disease | 1hr 30 min |
| 10-Apr | Week 33 B7: Non-communicable diseases | 1hr 30 min |
| 17-Apr | Week 34 Biology, Chemistry and Physic 2 Practice Paper | 2hr 00 min |
| 24-Apr | Week 35 B8: Photosynthesis and B9: Respiration | 1hr 30 min |
| 01-May | Week 36 B10: The human nervous system | 1hr 30 min |
| 08-May | Week 37 B11: Hormonal coordination | 1hr 30 min |
| 15-May | Week 38 B12: Homeostasis in action and B13: Reproduction | 2hr 00 min |
| 22-May | Week 39 B14: Variation and evolution and B15: Genetics and evolution | 2hr 00 min |
| 29-May | Week 40 B16: Adaptations, interdependence, and competition | 1hr 30 min |
| 05-Jun | Week 41 B17: Organising an ecosystem and B18: Humans and biodiversity | 2hr 00 min |
| 12-Jun | Week 42 Biology, Chemistry and Physic 2 Practice Paper | 2hr 00 min |
| 19-Jun | Week 43 Biology, Chemistry and Physic 2 Practice Paper | 2hr 00 min |

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net





Year 11 – AQA Triple Science Biology Homework Schedule

| Date | Topic Title | Duration | |
|--------|----------------|--|-------------------|
| 31-Oct | Week 10 | Biology 1 Practice Paper | 2hr 00 min |
| 07-Nov | Week 11 | Chapter 1: Cell biology | 1hr 30 min |
| 14-Nov | Week 12 | Chapter 2: Cell transport | 1hr 30 min |
| 21-Nov | Week 13 | Chapter 3: Cell division | 1hr 30 min |
| 28-Nov | Week 14 | Chapter 4: Organisation in animals | 1hr 30 min |
| 05-Dec | Week 15 | Chapter 5: Enzymes | 1hr 30 min |
| 12-Dec | Week 16 | Chapter 6: Organisation in plants | 1hr 30 min |
| 19-Dec | Week 17 | Biology 1 Practice Paper | 2hr 00 min |
| 26-Dec | Week 18 | Biology 1 Practice Paper | 2hr 00 min |
| 02-Jan | Week 19 | Chapter 7: The spread of diseases | 1hr 30 min |
| 09-Jan | Week 20 | Chapter 8: Preventing and treating disease | 1hr 30 min |
| 16-Jan | Week 21 | Chapter 9: Monoclonal antibodies | 1hr 30 min |
| 23-Jan | Week 22 | Chapter 10: Non-communicable diseases | 1hr 30 min |
| 30-Jan | Week 23 | Chapter 11: Photosynthesis | 1hr 30 min |
| 06-Feb | Week 24 | Chapter 12: Respiration | 1hr 30 min |
| 13-Feb | Week 25 | Biology 2 Practice Paper | 2hr 00 min |
| 20-Feb | Week 26 | Chapter 13: Nervous system & homeostasis | 1hr 30 min |
| 27-Feb | Week 27 | Chapter 14: Hormonal coordination | 1hr 30 min |
| 06-Mar | Week 28 | Chapter 15: Variation | 1hr 30 min |
| 13-Mar | Week 29 | Chapter 16: Reproduction | 1hr 30 min |
| 20-Mar | Week 30 | Chapter 17: Evolution | 1hr 30 min |
| 27-Mar | Week 31 | Chapter 18: Adaptation | 1hr 30 min |
| 03-Apr | Week 32 | Chapter 19: Organising an ecosystem | 1hr 30 min |
| 10-Apr | Week 33 | Biology 1 Practice Paper | 2hr 00 min |
| 17-Apr | Week 34 | Biology 2 Practice Paper | 2hr 00 min |
| 24-Apr | Week 35 | Chapter 20: Humans and biodiversity | 1hr 30 min |
| 01-May | Week 36 | Biology Test 1: Cell biology and Organisation | 1hr 30 min |
| 08-May | Week 37 | Biology Test 2: Infection and response & Bioenergetics | 1hr 30 min |
| 15-May | Week 38 | Biology Test 3: Homeostasis and response | 1hr 30 min |
| 22-May | Week 39 | Biology Test 4: Inheritance, Variation and Evolution | 1hr 30 min |
| 29-May | Week 40 | Biology Test 5: Ecology | 2hr 00 min |
| 05-Jun | Week 41 | Biology 2 Practice Paper | 2hr 00 min |
| 12-Jun | Week 42 | Biology 2 Practice Paper | 2hr 00 min |
| 19-Jun | Week 43 | Biology 2 Practice Paper | 2hr 00 min |

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net





Year 11 – AQA Triple Science Chemistry Homework Schedule

| Date | Topic Title | Duration | |
|--------|-------------|--|------------|
| 31-Oct | Week 10 | Chemistry 1 Practice Paper | 2hr 00 min |
| 07-Nov | Week 11 | Chapter 1: The atom | 1hr 30 min |
| 14-Nov | Week 12 | Chapter 2: Covalent bonding | 1hr 30 min |
| 21-Nov | Week 13 | Chapter 3: Ionic and metallic bonding and structure | 1hr 30 min |
| 28-Nov | Week 14 | Chapter 4: The Periodic Table | 1hr 30 min |
| 05-Dec | Week 15 | Chapter 5: Transition metals and nanotech | 1hr 30 min |
| 12-Dec | Week 16 | Chapter 6: Quantitative chemistry 1 | 1hr 30 min |
| 19-Dec | Week 17 | Chemistry 1 Practice Paper | 2hr 00 min |
| 26-Dec | Week 18 | Chemistry 1 Practice Paper | 2hr 00 min |
| 02-Jan | Week 19 | Chapter 7: Quantitative chemistry 2 | 1hr 30 min |
| 09-Jan | Week 20 | Chapter 8: Reactions of metals | 1hr 30 min |
| 16-Jan | Week 21 | Chapter 9: Reactions of acids | 1hr 30 min |
| 23-Jan | Week 22 | Chapter 10: Electrolysis | 1hr 30 min |
| 30-Jan | Week 23 | Chapter 11: Energy changes | 1hr 30 min |
| 06-Feb | Week 24 | Chapter 12: Rates | 1hr 30 min |
| 13-Feb | Week 25 | Chemistry 2 Practice Paper | 2hr 00 min |
| 20-Feb | Week 26 | Chapter 13: Equilibrium | 1hr 30 min |
| 27-Feb | Week 27 | Chapter 14: Crude oil and fuels | 1hr 30 min |
| 06-Mar | Week 28 | Chapter 15: Organic reactions | 1hr 30 min |
| 13-Mar | Week 29 | Chapter 16: Polymers | 1hr 30 min |
| 20-Mar | Week 30 | Chapter 17: Chemical analysis | 1hr 30 min |
| 27-Mar | Week 31 | Chapter 18: The Earth's atmosphere | 1hr 30 min |
| 03-Apr | Week 32 | Chapter 19: Using the Earth's resources | 1hr 30 min |
| 10-Apr | Week 33 | Chemistry 1 Practice Paper | 2hr 00 min |
| 17-Apr | Week 34 | Chemistry 2 Practice Paper | 2hr 00 min |
| 24-Apr | Week 35 | Chapter 20: Making our resources | 1hr 30 min |
| 01-May | Week 36 | Chemistry Test 1: Atomic structure, the periodic table, bonding & the properties of matter | 1hr 30 min |
| 08-May | Week 37 | Chemistry Test 2: Chemical changes | 1hr 30 min |
| 15-May | Week 38 | Chemistry Test 3: Energy changes and The rate and extent of chemical change | 1hr 30 min |
| 22-May | Week 39 | Chemistry Test 4: Organic chemistry and Chemistry of the atmosphere | 1hr 30 min |
| 29-May | Week 40 | Chemistry Test 5: Chemical analysis and Using resources | 2hr 00 min |
| 05-Jun | Week 41 | Chemistry 2 Practice Paper | 2hr 00 min |
| 12-Jun | Week 42 | Chemistry 2 Practice Paper | 2hr 00 min |
| 19-Jun | Week 43 | Chemistry 2 Practice Paper | 2hr 00 min |

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net



Year 11 – AQA Triple Science Physics Homework Schedule

| Date | Topic Title | Duration | |
|--------|----------------|--|-------------------|
| 31-Oct | Week 10 | Physic 1 Practice Paper | 2hr 00 min |
| 07-Nov | Week 11 | Chapter 1: Energy stores and transfers | 1hr 30 min |
| 14-Nov | Week 12 | Chapter 2: Energy transfers by heating | 1hr 30 min |
| 21-Nov | Week 13 | Chapter 3: National and global energy resources | 1hr 30 min |
| 28-Nov | Week 14 | Chapter 4: Supplying electricity | 1hr 30 min |
| 05-Dec | Week 15 | Chapter 5: Electric circuits | 1hr 30 min |
| 12-Dec | Week 16 | Chapter 6: Energy of matter | 1hr 30 min |
| 19-Dec | Week 17 | Physic 1 Practice Paper | 2hr 00 min |
| 26-Dec | Week 18 | Physic 1 Practice Paper | 2hr 00 min |
| 02-Jan | Week 19 | Chapter 7: Atoms | 1hr 30 min |
| 09-Jan | Week 20 | Chapter 8: Radiation | 1hr 30 min |
| 16-Jan | Week 21 | Chapter 9: Forces | 1hr 30 min |
| 23-Jan | Week 22 | Chapter 10: Pressure in liquids and gases | 1hr 30 min |
| 30-Jan | Week 23 | Chapter 11: Speed | 1hr 30 min |
| 06-Feb | Week 24 | Chapter 12: Newton's laws of motion | 1hr 30 min |
| 13-Feb | Week 25 | Physic 2 Practice Paper | 2hr 00 min |
| 20-Feb | Week 26 | Chapter 13: Braking and momentum | 1hr 30 min |
| 27-Feb | Week 27 | Chapter 14: Mechanical waves | 1hr 30 min |
| 06-Mar | Week 28 | Chapter 15: Electromagnetic waves | 1hr 30 min |
| 13-Mar | Week 29 | Chapter 16: Light and sounds | 1hr 30 min |
| 20-Mar | Week 30 | Chapter 17: Magnets and electromagnets | 1hr 30 min |
| 27-Mar | Week 31 | Chapter 18: Induced potential and transformers | 1hr 30 min |
| 03-Apr | Week 32 | Chapter 19: Space | 1hr 30 min |
| 10-Apr | Week 33 | Physic 1 Practice Paper | 2hr 00 min |
| 17-Apr | Week 34 | Physic 2 Practice Paper | 2hr 00 min |
| 24-Apr | Week 35 | Physics Test 1: Energy | 1hr 30 min |
| 01-May | Week 36 | Physics Test 2: Electricity and Magnetism and Electromagnetism | 1hr 30 min |
| 08-May | Week 37 | Physics Test 3: Particle model of matter and Atomic Structure | 1hr 30 min |
| 15-May | Week 38 | Physics Test 4: Forces | 1hr 30 min |
| 22-May | Week 39 | Physics Test 5: Waves (Higher) | 1hr 30 min |
| 29-May | Week 40 | Physic 2 Practice Paper | 2hr 00 min |
| 05-Jun | Week 41 | Physic 2 Practice Paper | 2hr 00 min |
| 12-Jun | Week 42 | Physic 2 Practice Paper | 2hr 00 min |
| 19-Jun | Week 43 | Physic 2 Practice Paper | 2hr 00 min |

765 Woolwich Road, London SE7 8LJ 020 8312 5480 www.rgtrustschool.net info@rgtrustschool.net





Tassomai is an adaptive learning program helping schools' impact on attainment levels in core subjects at Key Stages 3 and 4. Tassomai's multiple choice micro-quizzes reinforce knowledge through targeted repetition, like a flashcard. The quizzes are supported by short explainer videos and curated links to relevant external resources. At the same time the algorithm is learning each student's strengths and weaknesses; it uses this information to target the gaps in a student's knowledge and provide feedback to teachers on which areas individuals and entire classes need help with.

| | | | |
|--|--|---|--|
| <p>1. Investigating</p> <p>We start by analysing a subject, down to the finest level of detail...</p> | | <p>2. Creating</p> <p>... turning everything a learner needs to know into quiz questions that teach as well as test.</p> | |
| | <p>3. Discovering</p> <p>Every question answered helps us build up a detailed knowledge profile, painting a picture of that child's understanding.</p> | | <p>4. Personalising</p> <p>Our intelligent algorithm works out what a student knows and what they don't, continually adapting the content for each learner.</p> |
| <p>5. Supporting</p> <p>Sometimes we'll suggest a short tutorial video or link offered at just the right time, and designed to supplement learning in a particular topic.</p> | | <p>6. Evolving</p> <p>Tassomai keeps learning, discovering more about what a student understands (and what they don't) with every single interaction.</p> | |
| | <p>7. Reinforcing</p> <p>Students learn through daily practice, with quizzes shown at the optimum time for each learner and repeated occasionally to check that knowledge has been retained.</p> | | <p>8. Celebrating!</p> <p>By using Tassomai, a student's knowledge, understanding and confidence builds until they master the subject, helping them achieve their best possible results.</p> |
| <p>9. Empowering</p> <p>When schools use Tassomai, they can use the program's powerful data and insight to help individual students and to plan lessons.</p> | | <p>10. Reassuring</p> <p>Parents can also see how their children are getting on, where they're doing well, and where they might need a little help.</p> | |



Student Guide to Kerboodle

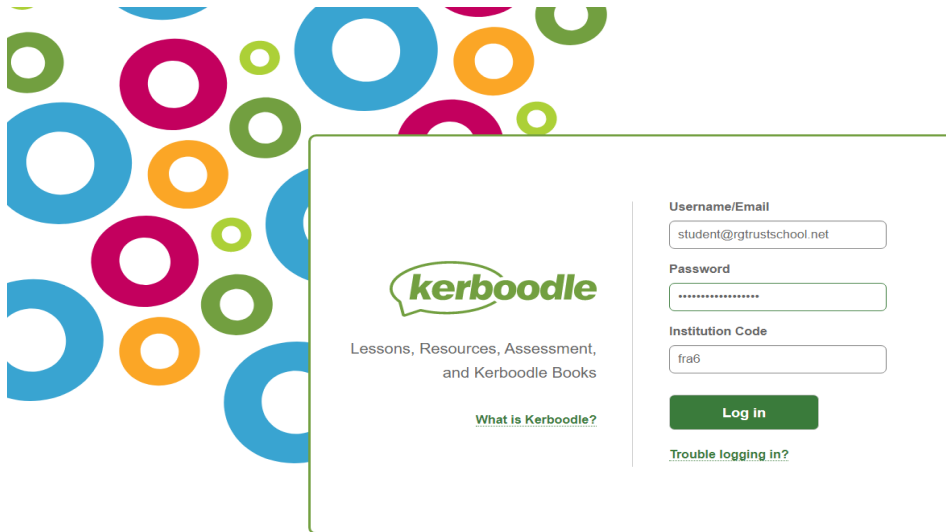
Kerboodle gives student's access to:

Resources – a bank of learning resources including videos, animations, podcasts, worksheets and much more

Digital book – Online and interactive version of the student books for display and annotation

Assessments – Teachers can set homework through Kerboodle for students

MarkBook – Students can see how they have been doing and progressing, including some instant feedback on certain activities.



Go to: <https://www.kerboodle.com/users/login>

Sign in – your username is your school email, password is

The institution code is always the same – **fra6**

Select AQA GCSE Science (9-1)

