

Further additional science

This GCSE is offered to our most able students upon completion of Core and Additional GCSE's. Only some students take this course. It is made up of 3 main units (chemistry, biology and physics) as outlined below. The students will take three exams at the end of year 11. The marks from all three papers will be added together to give an overall "Further additional Science grade".

Biology 3 (Unit 1)



- (B3.1) movement of molecules in and out of cells
- (B3.2) Transport systems in plants and animals
- (B3.3) Homeostasis
- (B3.4) Humans and their environment

- 60 marks
- 60 minutes
- Worth 25% of overall grade

Chemistry 3 (Unit 2)



- (C3.1) The periodic table
- (C3.2) Water
- (C3.3) Calculating and explaining energy change
- (C3.4) Further analysis and quantitative chemistry
- (C3.5) The production of ammonia
- (C3.6) Alcohols, carboxylic acids and Esters

- 60 marks
- 60 minutes
- Worth 25% of overall grade

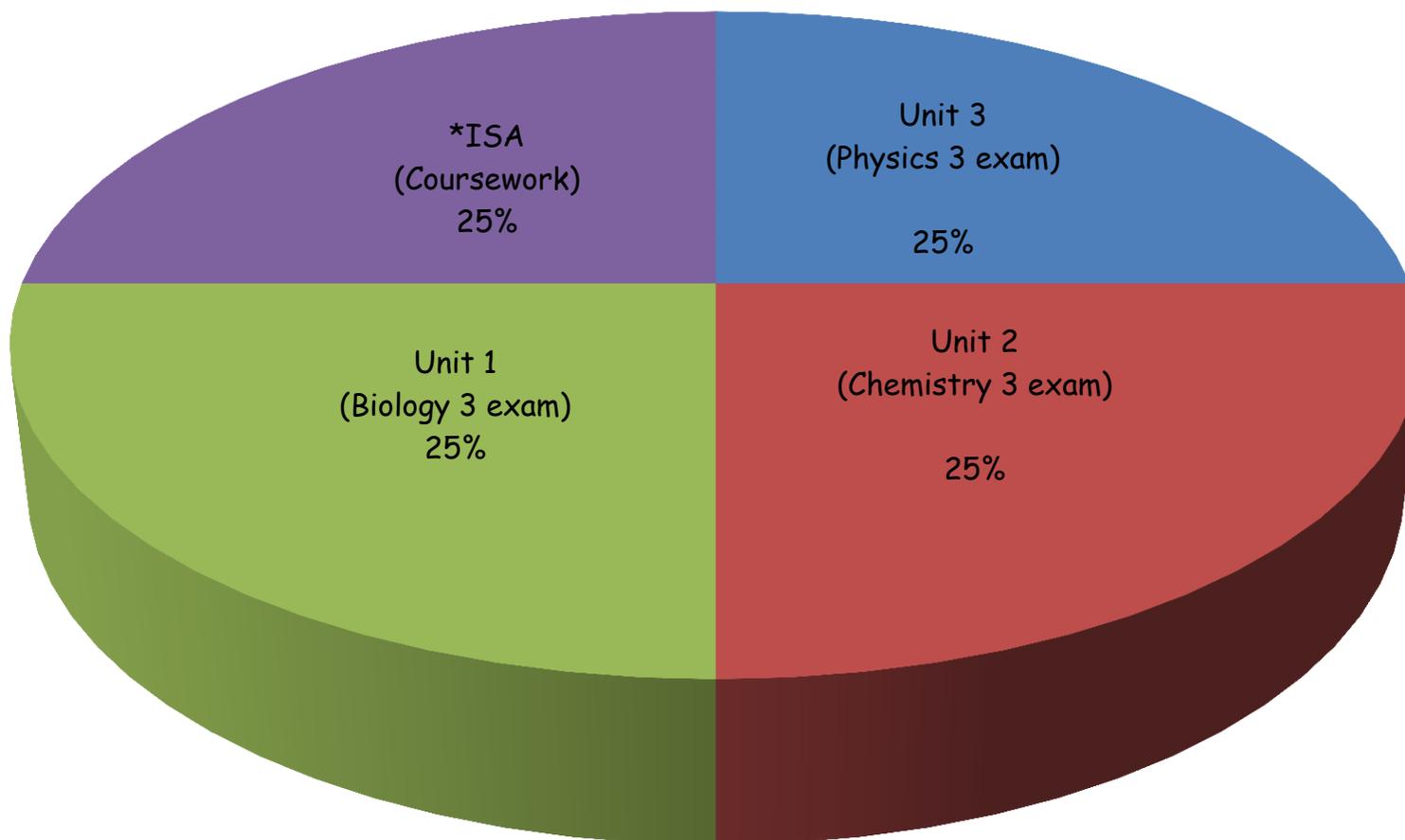
Physics 3 (Unit 3)



- (P3.1) Medical applications of physics
- (P3.2) Using physics to make things work
- (P3.3) Keeping things moving

- 60 marks
- 60 minutes
- Worth 25% of overall grade

Contributions of each section to the overall Core Science GCSE grade



* For information about the Independent Skills Assessment (ISA) please refer to the ***ISA explained*** document in the GCSE folder

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
B3.1	Movement of molecules in and out of cells	54-57	bitesize dissolved substances bitesize gas exchange bitesize exchange systems in plants skool breathing skool gas exchange skool cells and life processes	osmosis diffusion and active transport exchange surfaces sports drinks bitesize vids osmosis	<p><u>Go to "Biology"</u></p> <ul style="list-style-type: none"> Diffusion Osmosis Active transport Gaseous exchange 	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Biology GCSE for AQA" In the library section click on "<i>Biology 3</i>" Click on "<i>Exchange of materials</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Biology GCSE Kerboodle Book for AQA</i>" Read pages 214-232

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<p>4. For e-chalk games go to www.echalk.co.uk. username = Wadebridge password = echalk</p> <p>5. On the left hand menu click on "science".</p> <p>6. Use the info in the echalk games boxes, to navigate to the correct games</p>	<p>KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481</p>
B3.2	Transport systems in plants and animals	58-59	<p>skool air skool respiration in plants skool plant transport skool plant nutrients skool blood skool role of blood skool circulatory system bitesize blood bitesize blood 2 bitesize transport in plants adaptations of the aveoli skool heart structure LEARN the circulatory system blood plasma gases in the body plant minerals and water</p>	<p>gas exchange exchange in plants water loss in plants the heart the blood transport in plants</p>	<p>Go to "Biology"</p> <ul style="list-style-type: none"> • The heart and circulatory system • The respiratory system • Breathing: inhalation and exhalation 	<p>ACTIVITIES</p> <ol style="list-style-type: none"> 1. On the left hand side of the home page you will see "my courses" 2. Click on "Biology GCSE for AQA" 3. In the library section click on "Biology 3" 4. Click on "Transporting materials around the body" 5. There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p>E-TEXT BOOK</p> <ol style="list-style-type: none"> 1. On the left hand side of the home page you will see "my courses" 2. Click on "Biology GCSE Kerboodle Book for AQA" 3. Read pages 234-245

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<p>7. For e-chalk games go to www.echalk.co.uk.</p> <p>username = Wadebridge password = echalk</p> <p>8. On the left hand menu click on "science".</p> <p>9. Use the info in the echalk games boxes, to navigate to the correct games</p>	<p>KERBOODLE</p> <p>user name = your ws number Password = password (unless you have changed it) Organisation code = 1481</p>
B3.3	Homeostasis	60-62	<p>bitesize waste and water bitesize temperature control bitesize blood control</p>	<p>waste and water control kidney transplants temperature control sugar control</p>	<p><u>Go to "Biology"</u></p> <ul style="list-style-type: none"> The urinary system and kidneys Homeostasis bounce quiz 	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on "Biology GCSE for AQA" In the library section click on <i>"Biology 3"</i> Click on <i>"Keeping internal conditions constant"</i> There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Biology GCSE Kerboodle Book for AQA"</i> Read pages 246-263

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk. username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
B3.4	Humans and their environment	63-67	populations size competition for resources skool ecology bitesize waste bitesize deforestation bitesize biofuels bitesize food production	population growth deforestation biogas food production evaluation of food production	There are no relevant e-chalk games for this section	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on "Biology GCSE for AQA" In the library section click on <i>"Biology 3"</i> Click on <i>"How Humans can affect the environment"</i> There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Biology GCSE Kerboodle Book for AQA"</i> Read pages 264-294

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk. username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
C3.1	The periodic table	58-61	atoms in the periodic table bitesize early periodic table bitesize modern periodic table bitesize periodic table trends skool group 0 skool group 1 skool group 7 skool halides	Early periodic table modern periodic table group 1 transition metals group 7 explaining trends	Go to "Chemistry" <ul style="list-style-type: none"> The elements names and symbols Periodic table tetris game Periodic table game Periodic table Electronic structure: visual database The elements e-trumps The elements reaction quiz The elements higher or lower game Balancing chemical equations 	ACTIVITIES <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Chemistry GCSE for AQA" In the library section click on "<i>Chemistry 3</i>" Click on "<i>The periodic table</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions E-TEXT BOOK <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Chemistry GCSE Kerboodle Book for AQA</i>" Read pages 196-207

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
C3.2	Water	62	hard and soft water purifying water	hard and soft water softening hard water purifying water	There are no relevant e-chalk games for this section	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Chemistry GCSE for AQA" In the library section click on "<i>Chemistry 3</i>" Click on "<i>Water</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Chemistry GCSE Kerboodle Book for AQA</i>" Read pages 208-217

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk. username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
C3.3	Calculating and explaining energy change	63-64	bitesize energy from reactions	calorimetry energy level diagrams hydrogen for energy	There are no relevant e-chalk games for this section	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Chemistry GCSE for AQA" In the library section click on "<i>Chemistry 3</i>" Click on "<i>Energy calculations</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Chemistry GCSE Kerboodle Book for AQA</i>" Read pages 218-229

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
<h1>C3.4 and C3.5</h1>	Further analysis and quantitative chemistry and The production of ammonia	65-69	bitesize analysing substances bitesize ammonia skool rates and ammonia ammonia quiz	testing for positive ions testing for negative ions titration method titration calculations making ammonia ammonia and equilibrium	There are no relevant e-chalk games for this section	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Chemistry GCSE for AQA" In the library section click on "<i>Chemistry 3</i>" Click on "<i>Analysis and synthesis</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Chemistry GCSE Kerboodle Book for AQA</i>" Read pages 230-249

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
C3.6	Alcohols, carboxylic acids and esters	70-71	bitesize alcohols bitesize carboxylic acids bitesize esters	alcohols alcohols 2 carboxylic acids esters	There are no relevant e-chalk games for this section	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "Chemistry GCSE for AQA" In the library section click on "<i>Chemistry 3</i>" Click on "<i>Organic Chemistry</i>" There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see "<i>my courses</i>" Click on "<i>Chemistry GCSE Kerboodle Book for AQA</i>" Read pages 250-265

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
P3.1	Medical applications of physics	50-54	bitesize x-rays bitesize ultrasound bitesize lenses bitesize the eye bitesize light skool waves 1 skool waves 2	x-rays and CT scanners ultrasound refractive index convex lenses concave lenses the eye focal length and lens power total internal reflection bitesize vids total internal reflection refraction	<p><u>Go to "Physics"</u></p> <ul style="list-style-type: none"> Reflection in a plane mirror Reflection balloon blast game Virtual images and reflection Refraction <p><u>Go to "Biology"</u></p> <ul style="list-style-type: none"> Interactive eye diagram 	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on "Physics GCSE for AQA" In the library section click on <i>"Physics 3"</i> Click on <i>"Medical applications of physics"</i> There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Physics GCSE Kerboodle Book for AQA"</i> Read pages 208-225

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
P3.2	Using physics to make things work	55-59	bitesize centre of mass bitesize moments bitesize hydraulics bitesize circular motion clockwise and anticlockwise moments calculating moments	centre of mass pendulums moments stability moments example question hydraulics circular motion	Go to "Physics" <ul style="list-style-type: none"> Moments: princess on rollerskates 	<u>ACTIVITIES</u> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Physics GCSE for AQA"</i> In the library section click on <i>"Physics 3"</i> Click on <i>"Using physics to make things work"</i> There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <u>E-TEXT BOOK</u> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Physics GCSE Kerboodle Book for AQA"</i> Read pages 226-241

Subject	subsection	Revision Guide Page Numbers	Approved online revision (direct links)	videos	<ol style="list-style-type: none"> For e-chalk games go to www.echalk.co.uk username = Wadebridge password = echalk On the left hand menu click on "science". Use the info in the echalk games boxes, to navigate to the correct games 	KERBOODLE user name = your ws number Password = password (unless you have changed it) Organisation code = 1481
P3.3	Keeping things moving	60-63	bitesize motor effect bitesize transformers skool magnetic fields skool understanding magnets skool magnets and electricity	electromagnets motor effect transformers transformers and power	<p>Go to "Physics" The transformer</p>	<p><u>ACTIVITIES</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on "Physics GCSE for AQA" In the library section click on <i>"Physics 3"</i> Click on <i>"Using magnetic fields to keep things moving"</i> There are numerous tasks that you can do. Just click on them and follow the on-screen instructions <p><u>E-TEXT BOOK</u></p> <ol style="list-style-type: none"> On the left hand side of the home page you will see <i>"my courses"</i> Click on <i>"Physics GCSE Kerboodle Book for AQA"</i> Read pages 242-263

Practise Exam Questions

As this is a new specification, there are very few past papers that can be used for practice. You can however, download the specimen series by clicking on the links below.

Two tiers of entry are available for this exam. Your child's teacher will use internal assessments and their target grade to assess which tier is appropriate for them.

BIOLOGY Specimen **Foundation** Question paper <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-BIOLOGY-3F.PDF>

BIOLOGY Specimen Foundation mark scheme <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-BIOLOGY-3F.PDF>

BIOLOGY Specimen **Higher** tier question paper: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-BIOLOGY-3H.PDF>

BIOLOGY Specimen Higher tier mark scheme: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-BIOLOGY-3H.PDF>

CHEMISTRY Specimen **Foundation** Question paper <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-CHEMISTRY-3F.PDF>

CHEMISTRY Specimen Foundation mark scheme <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-CHEMISTRY-3F.PDF>

CHEMISTRY Specimen **Higher** tier question paper: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-CHEMISTRY-3H.PDF>

CHEMISTRY Specimen Higher tier mark scheme: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-CHEMISTRY-3H.PDF>

PHYSICS Specimen **Foundation** Question paper <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-PHYSICS-3F.PDF>

PHYSICS Specimen Foundation mark scheme <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-PHYSICS-3F.PDF>

PHYSICS Specimen **Higher** tier question paper: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SQP-PHYSICS-3H.PDF>

PHYSICS Specimen Higher tier mark scheme: <http://filestore.aqa.org.uk/subjects/AQA-FURSCI-W-SMS-PHYSICS-3H.PDF>

Stretch and challenge:

If you are looking for something extra to do after completing all of the above, please do the following

Biology:

1. Go to Kerboodle and log in as normal
2. On the left hand side of the home page you will see *"my courses"*
3. Click on *"Biology GCSE for AQA"*
4. In the library section click on *"Biology 3"*
5. Click on *"End of unit"* and *"Extension"*
6. There are numerous tasks that you can do. Just click on them and follow the on-screen instructions

Chemistry:

1. Go to Kerboodle and log in as normal
2. On the left hand side of the home page you will see *"my courses"*
3. Click on *"Chemistry GCSE for AQA"*
4. In the library section click on *"Chemistry 3"*
5. Click on *"End of unit"* and *"Extension"*
6. There are numerous tasks that you can do. Just click on them and follow the on-screen instructions

Physics:

1. Go to Kerboodle and log in as normal
2. On the left hand side of the home page you will see *"my courses"*
3. Click on *"Physics GCSE for AQA"*
4. In the library section click on *"Physics 3"*
5. Click on *"End of unit"* and *"Extension"*
6. There are numerous tasks that you can do. Just click on them and follow the on-screen instructions