NEW

Activate

Know • Apply • Extend

From the UK’s no.1 KS3 science publisher*, Activate for the AQA KS3 syllabus

AQA Activate for KS3 has been specifically tailored to the new AQA KS3 Syllabus and Big Ideas principle, while retaining Activate’s most popular features including maths and literacy support, Checkpoint lessons and the widely-adopted assessment model. It helps prepare your students for using AQA GCSE Sciences Third Edition (9–1) resources at KS4. AQA Activate for KS3 Student Books are approved by AQA.

**Prepare for the new AQA (9–1) GCSEs**
Summary and practice questions with GCSE command words, as well as extended writing tasks and maths and practical skills are incorporated throughout, to help your students build confidence as they approach the new (9–1) GCSEs.

**Engage your students**
Engaging and inquisitive, packed full of fun activities, practicals, quizzes and questions to spark your students’ interest in science.

**Build key skills**
Maths, literacy and enquiry processes are embedded throughout, with progression of skills carefully planned, and supported by tasks and assessments to help monitor progress.

**Assessment you can trust**
AQA Activate for KS3 assessment has been specifically designed to allow everyone to reach the required level of understanding.

**Support and extend**
Support and extension is provided for every lesson, with differentiated questions, support sheets, and extension tasks. End-of-chapter checkpoints provide further support and extension.

"Designed to engage students’ interest in science from Year 7 and take them through to GCSE success."

_Teach Secondary magazine on Activate_

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**Covers the AQA KS3 Science Syllabus**
The AQA KS3 Science Syllabus is split into two parts, and can be taught as part of a two-year or a three-year KS3. AQA Activate Student Book 1 covers Part 1 of the AQA Syllabus, and AQA Activate Student Book 2 covers Part 2. Part 1 can be taught in Year 7 or Year 7/8, and Part 2 in Year 8 or Year 8/9. The Student Books are accompanied by a bank of online resources and assessment on Kerboodle. The Student Books have been approved by AQA for the KS3 Science Syllabus.

**Reliable five-year assessment for seamless transition and progress**
Our expert Assessment Editor Dr Andrew Chandler-Grevatt has devised a flexible five-year assessment package you can use for the new AQA KS3 Science Syllabus and AQA 9–1 GCSE. Track your students’ progress seamlessly through KS3 and KS4 to ensure GCSE success. The AQA Activate for KS3 bands, Know, Apply and Extend, allow you to monitor progress against what’s required by the KS3 programme of study and AQA KS3 Syllabus. They are also matched to the new GCSE grading system (9–1), to ensure seamless transition to KS4.

**KS3 and KS4 assessment**

<table>
<thead>
<tr>
<th>Key stage 3</th>
<th>Band</th>
<th>Know</th>
<th>Apply</th>
<th>Extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>GCSE</th>
<th>Band</th>
<th>Grade</th>
<th>Demand</th>
<th>Targeted intervention and extension with our Checkpoint system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Low</td>
<td>The checkpoint assessment system assesses students at the end of each Big Idea, helping to ensure that all students achieve their full potential. Follow-up lessons are provided, with support and extension tasks designed to allow everyone to reach the required level of understanding. Use the checkpoint system to help all your students make progress and are ready for the challenges of the curriculum ahead.</td>
</tr>
</tbody>
</table>

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**Find out more online**
Find more information and sample material from AQA Activate for KS3 at www.oxfordsecondary.co.uk/aqa activate.

**Find a copy of the AQA Activate for KS3 Pack (978 019 841361 5) contains a copy of the AQA Activate for KS3 Student Book 1, Teacher Handbook samples and a guide to Kerboodle.**

_Email schools.orders.uk@oup.com quoting K46031 to order your pack._

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Cassava leaves.

4.1.3 Look closely at their feeding relationships and competition.

Our environment is very important. It gives us the things we need to survive. Keep students entertained with foul and fantastic facts.

Foul Fact

Some singing birds can sing higher-pitched notes than others. The amplitude of a sound wave that affects the pitch, hertz, kilohertz, auditory range, and frequency. A whistle produces a sound wave from a diagram or chromatogram to identify differences that make chromatography work.

The coloured crunchy coatings contain mixtures of dyes. You can use evidence from chromatography to identify pigments in his spinach leaf. The chromatogram shows good results.

1. Make notes about three uses of chromatography. Organise your ideas in a table.

<table>
<thead>
<tr>
<th>Chromatography uses</th>
<th>Evidence from chromatography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spinach leaf pigments</td>
</tr>
<tr>
<td>2</td>
<td>identify unknown sample</td>
</tr>
<tr>
<td>3</td>
<td>Check compost quality</td>
</tr>
</tbody>
</table>

2. The table above contains the results of an experiment to find out how much vitamin A different plants contain. Study the table carefully and write down your answers. Organise your thoughts in a table.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Vitamin A levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinach</td>
<td>High</td>
</tr>
<tr>
<td>Light-green</td>
<td>Medium</td>
</tr>
<tr>
<td>Dark-green</td>
<td>High</td>
</tr>
</tbody>
</table>

3. A diet containing enough vitamin A is essential for good health. Explain why cassava leaves are a good source of vitamin A. You may wish to include GCSE command words.

4. a) State what chromatography does.

b) Make notes about three uses of chromatography. Organise your ideas in a table.

5. In the diagram below, the time period of the wave is 0.004 s. In 1 minute, a dye that is attracted more strongly to the water moves closer to the top of the paper. So Aidan can be reasonably confident that the spot of spinach juice near the bottom of some chromatography is a unknown sample.

Maths, literacy and assessment

Auto-marked end-of-chapter tests and progress tasks are available on Kerboodle: Lessons, Resources and Assessment. Make notes about three uses of chromatography. Organise your ideas in a table.

Teacher Handbooks

The Teacher Handbooks provide a page-by-page match to the Student Books, with support for your teaching including lesson plans, differentiation suggestions and assessment guidance.

Customizable lesson presentations and practicals are available on Kerboodle: Lessons, Resources and Assessment.

Differentiated ‘End-of-chapter questions’ summarise the chapter and help students assess their own progress while gradually getting used to the language and question format that can be expected at GCSE level.

Auto-marked end-of-chapter tests are available on Kerboodle: Lessons, Resources and Assessment.

Assessment

Auto-marked end-of-chapter tests and progress tasks are all provided.
AQA Activate for KS3 is accompanied by Kerboodle, an online bank of teaching material for running creative and effective lessons, with a flexible, fully integrated assessment model and solution for KS3 assessment without levels. It’s intuitive to use, customizable and can be accessed online anytime, anywhere.

Assessment
Auto-marked assessment
Auto-marked assessments with confidence selectors and targeted feedback help assess:
- Content from the chapter
- Maths skills
- Literacy skills (including spelling)
- Enquiry processes
- KS2 knowledge

You can assign assessments to students at home and track their progress in the Kerboodle markbook.

"After having looked at all the schemes available for the new KS3 National Curriculum, Activate has by far the best thought out assessment package."

Mat Power, Head of Science, Holy Cross Catholic High School

Check your students’ knowledge of KS2
- Downloadable paper-based tests assess your Year 7 students’ knowledge and understanding of KS2
- Follow-up lessons help with intervention and extension

Make progress with key skills
- Progress tasks for the end of each chapter help monitor progress and set targets in key skill areas
- Progress trackers help students track progress and record areas for improvement
- Interactive investigations and progress quizzes provide auto-marked assessment of skills for each chapter
- Paper-based end-of-Big Idea tests are easily downloadable to help assess students’ progress at the end of each Big Idea

Prepare for the AQA 9–1 GCSEs
- Maths and practical skills are embedded throughout to help prepare students for GCSE
- Exam-style question papers build confidence in GCSE-style questions and provide accurate summative marks for the end of each Big Idea, and at the end of the year

Follow assessment with learning
AQA Activate for KS3 includes a Checkpoint assessment system.
1. Use the auto-marked Checkpoint assessment at the end of each Big Idea to determine next steps
2. Use the Checkpoint lesson and resources to support and extend your students as needed

Kerboodle: Lessons, Resources and Assessment
Accessible on a range of devices and tablets

Exam-style question papers build confidence
Maths and practical skills are embedded throughout to help prepare students for GCSE
Interactive investigations and progress quizzes provide auto-marked assessment of skills for each chapter
Paper-based end-of-Big Idea tests are easily downloadable to help assess students’ progress at the end of each Big Idea

Is part of the AQA approval process
Kerboodle Lessons

Lots of flexibility and complete support for KS3. I can see that teachers and students will really enjoy using it in class!

Guy Winters, Head of Science, Cardinal Newman Catholic School on Activate

Resources

Each lesson presentation is fully complement every double page delivery, presentation, including interactive activities for starters and plenaries, and practical worksheets.

Every lesson is accompanied by teacher notes to help support lesson delivery.

WebQuizzes build literacy and research skills, and can be used as homework tasks.

Interactive screens are provided for every lesson for use on your whiteboard.

AQA Activate for KS3 Kerboodle: Lessons, Resources and Assessment

Analyzing data

You are going to draw a distance–time graph for the Tour de France, a marathon, or the London triathlon.

Use your distance–time graph to calculate the speeds travelled by the moving body at different sections of your graph.

Aims

• Interpret the information from the distance-time graph and explain your data in suitable units.

• Analyse your observations and draw conclusions.

• Reflect on your procedures and the suitability of the distance-time graph.

Tea

1. Reaction of copper with oxygen

2. Reaction of iron with oxygen

3. Reaction of lead with oxygen

4. Reaction of magnesium with oxygen

Mentor notes

Each reaction will be repeated twice. Students will need to record observations and measurements using a range of methods for makesheet and extension tasks.

Students will need to record observations from each reaction and go on to write a word equation. Students will be using the following literacy skills:

 Independent research skills, and can be

 Provided for every lesson

 Students will be using the following literacy skills:

 Students will be explored

 How do metals react with oxygen?

Using distance-time graphs

A journey can be represented using a distance–time graph.

You are going to draw a distance–time graph for the Tour de France, a marathon, or the London triathlon.

Use your distance–time graph to calculate the speeds travelled by the moving body at different sections of your graph.

Aims

• Interpret the information from the distance-time graph and explain your data in suitable units.

• Analyse your observations and draw conclusions.

• Reflect on your procedures and the suitability of the distance-time graph.

Question-led activities

To help students explore the answer to a 6-mark question.

Big Question

Calculate the time taken for light and sound to travel around the world.

Sound and energy transfer

Aims

• Understand how the speed of light and sound is measured.

• Compare the time it takes light to travel around the world with the time it takes sound to travel the same distance.

• Explain why the difference in time is so great.

What I need to know

• The speed of light is 3 x 10^8 m/s.

• The speed of sound is 340 m/s.

• The circumference of the earth is 40,075 km.

• 1 km = 1000 m.

Support sheet

The support sheet contains a table for students to record their observations.

Safety

• Use a laser pointer and laser safety glasses to protect your eyes.

• Dispose of the laser pointer when you have finished.

• Use the laser pointer to examine the surface of the earth and compare it with the laser beam from the light source.

• Wear protective glasses when using the laser beam.

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BIG IDEAS
- The Big Ideas principle puts generalisations, principles and models which connects concepts at the heart of the syllabus, complementing the KS3 Programme of Study by exploring the links between ideas at KS3
- There are 10 Big Ideas: Forces, Electromagnetism, Energy, Waves, Matter, Reactions, Earth, Organisms, Ecosystems and Genes

How does AQA Activate for KS3 deliver?
- AQA Activate for KS3 has been structured to reflect the AQA Syllabus and Big Ideas
- Two Student Books to reflect Parts 1 and 2 of the AQA syllabus

ASSESSMENT
- The AQA KS3 Science Syllabus is based on a mastery approach to students' understanding
- Uses mastery goals 'Know,' 'Apply' and 'Extend'
- Prepares students for following the AQA GCSE 9–1 specifications at KS4

Five-year assessment model by Dr Andrew Chandler-Grevatt is matched to the AQA ‘Know,’ ‘Apply’ and ‘Extend’ bands
- Matched to the new AQA GCSE 9–1 grades for seamless progression from KS3 to GCSE

ENQUIRY PROCESSES
- Enquiry processes cover the working scientifically skills required by the Programme of Study
- Enquiry is divided into four areas: Analyse, Communicate, Enquire, Solve
- Enquiry processes and working scientifically are embedded throughout to develop the required key skills

PREPARATION FOR 9–1 GCSEs
- The AQA KS3 Science Syllabus has been specifically designed to develop the required competencies for the AQA GCSE 9–1 specifications at KS4
- AQA command words and exam-question skills are embedded throughout
- Big Ideas Checkpoints provide intervention and extension to ensure students enter KS4 with the required proficiency
- Designed to progress into AQA GCSE Sciences (9–1) Third Edition resources for GCSE

About the authors
Philippa Gardom Hulme
Philippa Gardom Hulme has 15 years’ experience teaching secondary science and is now a science tutor on the PGCE course at Oxford University. Philippa also has experience examining for OCR and KS3 SATs, and is an experienced science textbook author for KS3, GCSE and IGCSE. Philippa has an honours degree in Chemistry, Resources and the Environment from York University, an MSc degree from Bristol University and a PGCE from the University of Oxford.

Jo Locke
Jo Locke has many years’ experience teaching secondary science, working on KS3 through to A-level and with experience as a Head of Science. She has examining experience and currently examines for International Baccalaureate and Edexcel A-levels. Jo is an author, and has written material for KS3, GCSE, BTEC, Entry Level Certificate and A-levels. Jo has a first class honours degree in Biology and a Science PGCE from the University of Bath.

Helen Reynolds
Helen Reynolds is an Institute of Physics Teaching and Learning Coach, and a former Head of Science. She is an experienced secondary science teacher, and has a MA in Physics and a PGCE from the University of Oxford. Helen’s authoring experience includes recent student and teacher materials for the Cambridge International KS3 equivalent (Secondary 1).

Dr Andrew Chandler-Grevatt
Dr Andrew Chandler-Grevatt has a PhD in school assessment, and a real passion for science teaching and learning. Having worked as a science teacher for ten years, of which five were spent as an AST, Andy has a real understanding of the pressures and joys of teaching in the classroom. Alongside his national and international research in school assessment, Andy is a teaching fellow on the PGCE course at the University of Sussex, and is a successful published assessment author.

Find out more about Andy and the AQA Activate assessment model at www.oxfordsecondary.co.uk/aqaactivate.
## Course structure

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<th>Year 7 Or Year 7/8</th>
<th>Year 8 Or Year 8/9</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Student Books" /></td>
<td><img src="image2" alt="Student Books" /></td>
</tr>
<tr>
<td><img src="image3" alt="Teacher Handbooks" /></td>
<td><img src="image4" alt="Teacher Handbooks" /></td>
</tr>
<tr>
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<td><img src="image6" alt="Kerboodle: Lessons, Resources and Assessment" /></td>
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- 978 019 840824 6 AQA Activate Student Book 1
- 978 019 840826 0 AQA Activate Teacher Handbook 1
- 978 019 840828 4 AQA Activate Kerboodle Lessons, Resources and Assessment 1
- 978 019 840830 7 Kerboodle Book 1

- 978 019 840825 3 AQA Activate Student Book 2
- 978 019 840827 7 AQA Activate Teacher Handbook 2
- 978 019 840829 1 AQA Activate Kerboodle Lessons, Resources and Assessment 2
- 978 019 840831 4 Kerboodle Book 2

The Student Books (print and digital) have been approved by AQA. Other resources shown here are not part of the AQA approval process.

COMING SOON:
AQA Activate Workbooks and digital Teacher Handbooks on Kerboodle