

Edexcel GCSE (9-1) **Astronomy**

Opening up the universe

Discover our new qualification for 2017





Edexcel GCSE Astronomy 2017

This guide provides an overview of the specification for our new Edexcel GCSE (9-1) Astronomy qualification for first teaching in 2017.

We'll address changes to the qualification and outline how our specification will inspire your students to explore the wonders of space. We'll also outline the high-quality support you can expect.

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Opening up the universe

Astronomy is an **exciting way to encourage students towards science**, as well as **giving talented students the opportunity** to apply existing knowledge and understanding to the world around them.

As with our Edexcel GCSE (9-1) Science specifications, our Edexcel GCSE (9-1) Astronomy specification is straightforward to deliver. It includes a range of observational activities - some with the naked eye and others with anything from simple binoculars to more complex telescopes - to suit the variety of resources available in schools.

“Science is about exploring, and the only way to uncover the secrets of the universe is to go and look.”

Professor Brian Cox





Working with you

We've worked with teachers, subject associations and universities to ensure that our Edexcel GCSE (9-1) Astronomy specification has been shaped by you, for your students, to help them get the most out of the course and reach their true potential.

Next steps ...

Once you've read through this guide, turn to the back page for details of how to **sign up to teach** our new qualification and get specification updates, free support and event invitations.

Qualifications at a glance

Naked-eye Astronomy	Telescopic Astronomy
Content overview	
1 Planet Earth 2 The lunar disc 3 The Earth-Moon-Sun system 4 Time and the Earth-Moon-Sun cycles 5 Solar System observation 6 Celestial observation 7 Early models of the Solar System 8 Planetary motion and gravity	9 Exploring the Moon 10 Solar astronomy 11 Exploring the Solar System 12 Formation of planetary systems 13 Exploring starlight 14 Stellar evolution 15 Our place in the Galaxy 16 Cosmology
Assessment overview	
 Written examination: 1 hour 45 minutes	 Written examination: 1 hour 45 minutes
 50% of the qualification 100 marks	 50% of the qualification 100 marks
Observational skills <ul style="list-style-type: none"> ★ Students must undertake at least one unaided and one aided observation. ★ Centres must confirm that each student has completed at least one unaided and one aided observation by completing and submitting an Observation Statement. ★ Students will need to use their knowledge and understanding of observational techniques and procedures in the written assessments. 	

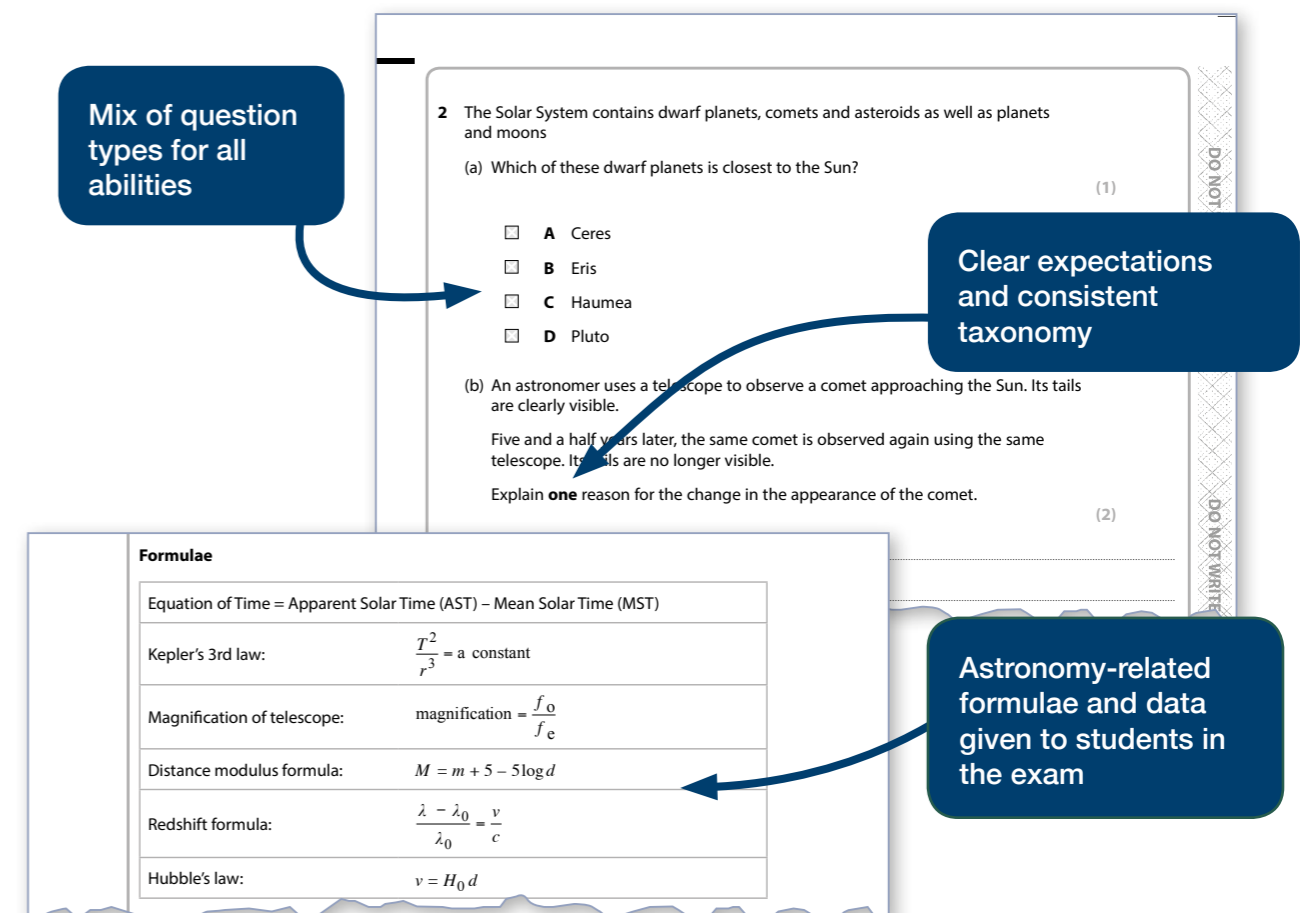
Clear specification and assessments for all

We are the only Awarding Body to offer a GCSE qualification in Astronomy, so we have worked hard to ensure the course caters for a range of abilities, whilst still ensuring that it is clear and easy to deliver and assess at every level.

GCSE Astronomy can work in a number of ways in your school's curriculum: alongside GCSE Combined Science, as an optional subject in its own right, as an after-school or lunchtime option, or alongside A level subjects to add breadth of content and skills for Sixth Form students.

Based on your feedback, the 2017 assessment offers:

- ★ two shorter question papers to help students who struggle with long exams
- ★ ramped question papers to engage pupils in each question, giving a gradual increase in difficulty across each paper, while providing a supportive start to each new question theme
- ★ stretch for gifted science students and engaging and relevant content for lower ability students.



Mix of question types for all abilities

Clear expectations and consistent taxonomy

Astronomy-related formulae and data given to students in the exam

Formulae

Equation of Time = Apparent Solar Time (AST) – Mean Solar Time (MST)	
Kepler's 3rd law:	$\frac{T^2}{r^3} = a \text{ constant}$
Magnification of telescope:	$\text{magnification} = \frac{f_o}{f_e}$
Distance modulus formula:	$M = m + 5 - 5 \log d$
Redshift formula:	$\frac{\lambda - \lambda_0}{\lambda_0} = \frac{v}{c}$
Hubble's law:	$v = H_0 d$

Learning built on innate fascination

Astronomy has fascinated humans for centuries. Ancient civilisations studied the night skies, films explore both science fact and fiction about the world beyond our reach, and the latest revelations about our universe are always in the news.

Inspire your students by showing them how they, like scientists throughout the ages, can use their imaginations, observe and record visual measurements carefully to understand more about the universe they are part of.

Integrated observational activities

Observations add interest and relevance to the theory, and we've set out a whole range of exciting activities that take into account the variety of resources available to find the one most suitable for your students.



Content that enriches the science curriculum

The course is a natural progression from astronomy covered in KS3 science, and helps to bring science and maths to life in a highly visual and engaging way.

How our position in the Solar System affects the natural phenomena of the world around us.

The forces governing the life cycle of stars and how they appear in the night sky.

The studies students can conduct themselves through aided and unaided observations.

The ways astronomers, past and present, have discovered Earth's position within our galaxy and the universe.



Trusted expert support when you need it

We've put together a package of free support to help you **plan** and **teach** our new Edexcel GCSE (9-1) Astronomy qualification, **track and assess** students' progress, and **develop** your own professional knowledge and skills.

Find out more about our free support at www.edexcel.com/gcseastronomy17

Plan

- ★ **Specification** and **sample assessment materials**.
- ★ Get to grips with changes to content and assessment with our free **Getting Started Guide**.
- ★ Follow our **Mapping Guide** from the current specification to the 2017 specification.
- ★ Adapt our free, editable 2-year **course planner** and **scheme of work** to suit your department.

Track and Assess

- ★ Look at **past papers** to develop homework and test resources.
- ★ Access **guidance on question types**, with sample answers and commentaries.

ResultsPlus

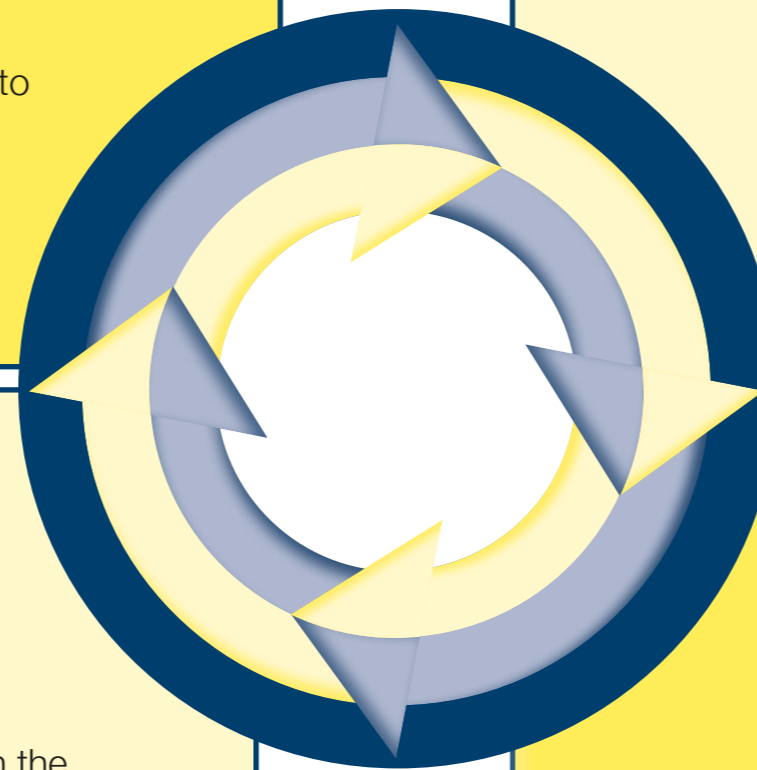
- ★ Analyse your students' exam performance with our free online **ResultsPlus service**.
www.edexcel.com/resultsplus

Teach

- ★ Choose from a list of **observational activities**, which form part of the specification content.
- ★ Understand how astronomy-related mathematics are used within each topic with the '**Use of mathematics**' guide in the specification.
- ★ Feel confident with the **short guides to the new topics** covered in the 2017 specification.

Develop

- ★ Join us and your fellow teachers at a **free Getting Ready to Teach** event in spring 2017.
- ★ Contact your **Subject Advisor Team** for advice when you need it.



Getting Ready to Teach events

Free Getting Ready to Teach events will support you in delivering our Edexcel GCSE (9-1) Astronomy specification for first teaching in September 2017. During the event you will:

- ★ discover more about the structure, content and assessment of the new qualification
- ★ explore possible teaching and delivery strategies
- ★ take part in planning activities
- ★ have the opportunity to network and share ideas with other teachers
- ★ get answers to your questions about the new qualification.

Our Getting Ready to Teach events will be running throughout spring 2017.

Find out more and book your place at
www.edexcel.com/astrotraining

What's happening and when for GCSE Astronomy?

Autumn 2016	Spring/Summer 2017	Autumn 2017	Summer 2019
Accredited specification available for GCSE (9-1) Astronomy.	Attend a free Getting Ready to Teach event.	Start teaching the new GCSE.	First assessments take place.

Subject support

If you have any questions, Julius and Stephen are our resident experts and always happy to help. Sign up to receive emails to keep up with the latest information on training events, news, government announcements and more.



Stephen Nugus
Subject Advisor



Julius Edwards
Subject Advisor

☎ 020 7010 2190

✉ TeachingAstronomy@pearson.com

🐦 @PearsonSciences

www.edexcel.com/gcseastronomy17

Looking for a textbook?*

GCSE Astronomy by Nigel Marshall is available from Mickledore Publishing.



*Paid-for resources are not a prerequisite for the delivery of our Edexcel specification.

Next steps...

Sign up to teach

Edexcel GCSE (9–1) Astronomy

If you're interested in teaching our qualification, sign up to get our specification updates and support.

Sign up to teach at:

www.edexcel.com/teachastronomy

Get in touch

For general enquiries, information and support, we're here to help.

☎ **020 7010 2190**

✉ **TeachingAstronomy@pearson.com**

🐦 **@Edexcel**

Visit us online:

www.edexcel.com/gcseastronomy17

