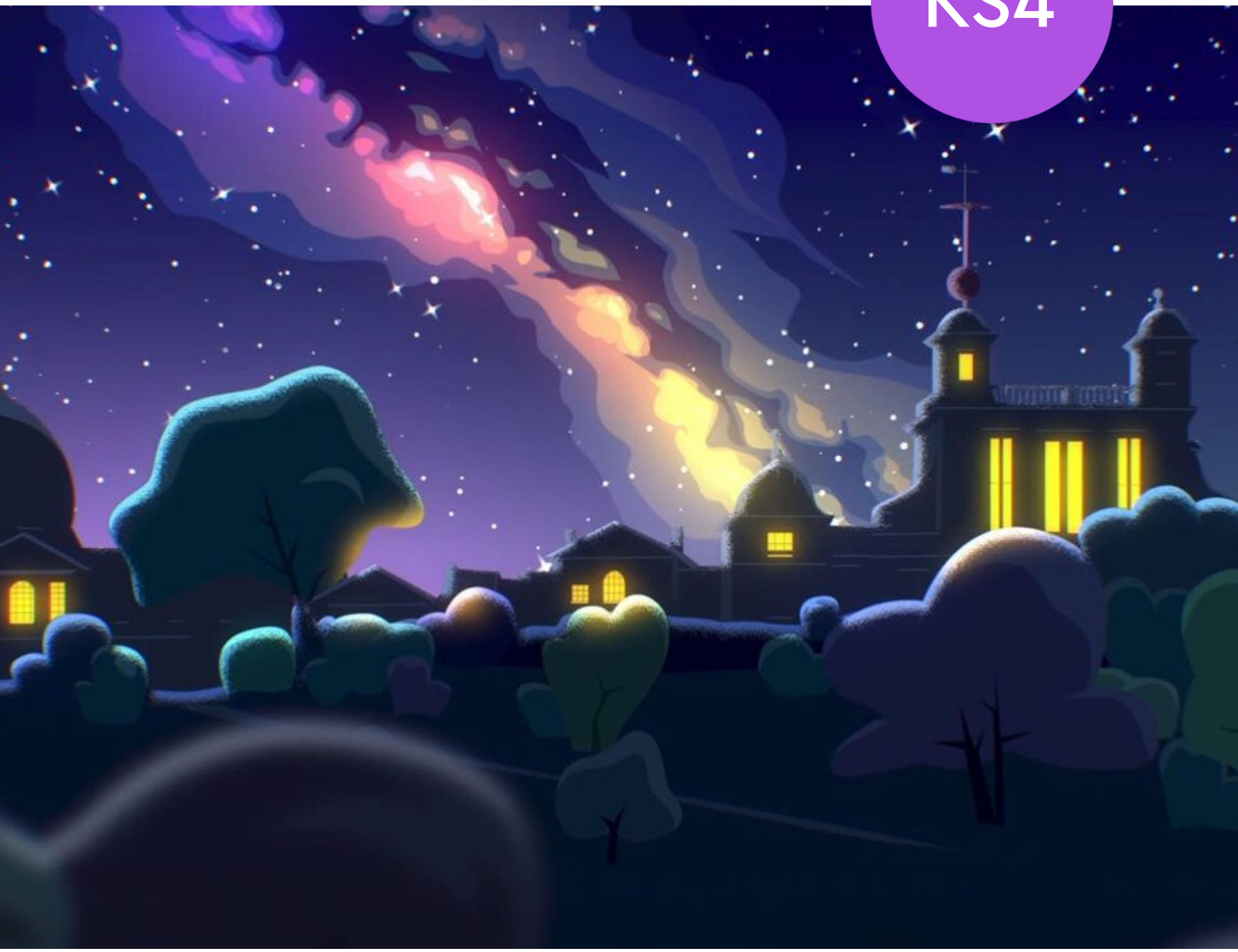


Key Stage 4 Resource Pack

KS4



Hello Key Stage 4 Teacher!

We have a wealth of resources on our website to support your in-class teaching. If you had any questions about this guide or about our videos and activities let us know by emailing ROGEducation@rmg.co.uk.

Solar System

The Rosetta Mission

- **Resource type:** Video
- **Topics covered:** Weight and mass, standard form, comets, spacecraft
- **Find it here:** [The Rosetta Mission | Royal Museums Greenwich](#)

Looking for Jupiter

- **Resource type:** Classroom activity and video
- **Topics covered:** Observations, Stellarium software, constellations
- **Find it here:** [Looking for Jupiter | Royal Museums Greenwich](#)

Space Rocks

- **Resource type:** Video
- **Topics covered:** Asteroids, meteors, Kuiper belt, Oort cloud, comets
- **Find it here:** [Space rocks | Royal Museums Greenwich](#)

Our Sun

- **Resource type:** Video
- **Topics covered:** Sun, solar magnetic field, sunspots, solar flares
- **Find it here:** [Our Sun | Royal Museums Greenwich](#)

How do we know how old the Sun is?

- **Resource type:** Classroom activity and video
- **Topics covered:** Sun, Newton's law of gravitation, Kepler's third law
- **Find it here:** [How do we know how old the Sun is? | Royal Museums Greenwich](#)

Stars, Galaxies and Beyond

Coordinate Systems

- **Resource type:** Classroom activity and video
- **Topics covered:** Horizontal and equatorial coordinate systems
- **Find it here:** [Coordinate Systems video | Royal Museums Greenwich](#)

Great Galaxies

- **Resource type:** Video
- **Topics covered:** Milky Way, black holes, star colour and temperature, globular clusters
- **Find it here:** [Great Galaxies | Royal Museums Greenwich](#)

Stars and the HR Diagram

- **Resource type:** Video
- **Topics covered:** Stellar magnitude, distance, evolution, HR diagram
- **Find it here:** [Stars and the H-R Diagram | Royal Museums Greenwich](#)

The Origin of the Elements

- **Resource type:** Video
- **Topics covered:** Big bang, matter and antimatter, nuclear fusion, supernovae
- **Find it here:** [The Origin of the Elements | Royal Museums Greenwich](#)

Galaxy Statistics

- **Resource type:** Classroom activity
- **Topics covered:** Galaxies, cosmology, bar charts, meridian, IQR
- **Find it here:** [Galaxy Statistics | Royal Museums Greenwich](#)

Stellar Sat Nav

- **Resource type:** Classroom activity

- **Topics covered:** Bearings, constellations
- **Find it here:** [Stellar Sat Nav | Royal Museums Greenwich](#)

Measuring the Universe

- **Resource type:** Classroom activity
- **Topics covered:** Constellations, parallax, parsecs, arcseconds, scatter graphs
- **Find it here:** [Measuring the Universe | Royal Museums Greenwich](#)

Alien Worlds and the Doppler Effect

- **Resource type:** Classroom activity and video
- **Topics covered:** Doppler effect, collecting data, Audacity software
- **Find it here:** [Alien worlds and the Doppler effect | Royal Museums Greenwich](#)

Radius and Volume of Exoplanets

- **Resource type:** Classroom activity
- **Topics covered:** Exoplanets, orbits, eclipses, transits, volume of a sphere
- **Find it here:** [Radius and Volume of Exoplanets | Royal Museums Greenwich](#)

Mechanics

What is Gravity?

- **Resource type:** Classroom activity and video
- **Topics covered:** Gravity, weight, mass
- **Find it here:** [What is Gravity? | Royal Museums Greenwich](#)

Newton's Laws of Motion

- **Resource type:** Classroom activity and video
- **Topics covered:** Newton's laws of motion, impacts, gravitational field strength, weight
- **Find it here:** [Newton's Laws of Motion | Royal Museums Greenwich](#)

Kepler's Third Law

- **Resource type:** Classroom activity
- **Topics covered:** Kepler's third law, graphs, astronomical units
- **Find it here:** [Kepler's 3rd Law | Royal Museums Greenwich](#)

Big Questions

How will the Universe End?

- **Resource type:** Classroom activity and video
- **Topics covered:** Newton's law of gravitation, standard form, cosmological units, speed, distance, time
- **Find it here:** [Teacher resources: The fate of the Universe | Royal Museums Greenwich](#)

How Big is the Universe?

- **Resource type:** Classroom activity and video
- **Topics covered:** Velocity, distance, Hubble's constant, cosmological units
- **Find it here:** [How big is the Universe? | Royal Museums Greenwich](#)

What's inside a Black Hole?

- **Resource type:** Classroom activity and video
- **Topics covered:** Gravity, Kepler's third law, black holes, straight-line graph
- **Find it here:** [What's inside a black hole? | Royal Museums Greenwich](#)

Are there Aliens?

- **Resource type:** Classroom activity and video
- **Topics covered:** Drake equation, probability, Milky Way, exoplanets, spectra, transits
- **Find it here:** [Are there aliens? | Royal Museums Greenwich](#)

What is Light?

- **Resource type:** Classroom activity and video
- **Topics covered:** Electromagnetic spectrum, waves, Sun, Milky Way, wavelengths
- **Find it here:** [Colour and Wavelength in Space | Royal Museums Greenwich](#)

What makes the universe colourful?

- **Resource type:** Classroom activity and video
- **Topics covered:** Orbital speed, types of orbit, wavelength and frequency of light
- **Find it here:** [What Makes the Universe Colourful? | Royal Museums Greenwich](#)

Where does space begin?

- **Resource type:** Video
- **Topics covered:** Earth's atmosphere, types of light, satellites
- **Find it here:** [Where does space begin? | Royal Museums Greenwich](#)

Royal Observatory Greenwich

History of the Royal Observatory Greenwich

- **Resource type:** Classroom activity and video
- **Topics covered:** History of the Royal Observatory Greenwich
- **Find it here:** [The history of the Royal Observatory Greenwich | Royal Museums Greenwich](#)