

Key Stage KS3
 Year Group 8
 Subject Science - Physics
 Topic Space Physics

The following table shows the different resources for the topic/subject/year group above.

The topic has been split into various **subtopics**, which consist of a variety of **lessons**, each containing online **student notes** and an **online activity**. Each subtopic has an associated **classroom activity** with teacher's notes. There is a **topic assessment** covering questions from the entire topic.

Table of Contents

Subtopic	Lesson	Learning Objectives	Classroom Activity	Student Notes	Online Activity "Test Yourself Questions"	Topic Assessment		
Our Planet	Day, Night and Seasons	<ul style="list-style-type: none"> Identify the Earth's tilt Identify how long it takes for the Earth to orbit the Sun Identify how long the Earth takes to complete 1 rotation Identify the summer and winter months for the northern and southern hemispheres Understand why we have summer and winter Understand the difference in lengths of daytime and nighttime in summer and winter Days of equal daytime and nighttime are called equinoxes 	<p>Objective To be able to understand how the Earth's tilt has an impact with seasons, days and nights.</p> <p>See materials tab: Day, Night and Seasons – RASOR</p>	Day, Night and Seasons – RASOR	Test Yourself Questions – Day, Night and Seasons – RASOR	Space Assessment Year 8 – RASOR		
	The Moon	<ul style="list-style-type: none"> Identify how long it takes for the moon to orbit the Earth Understand how we are able to see the moon Identify the phases of the moon Understand how the moon affects tides on the Earth 					The Moon – RASOR	Test Yourself Questions – The Moon – RASOR
	Eclipses	<ul style="list-style-type: none"> Understand how a solar eclipse is formed Understand how a lunar eclipse is formed Identify the differences between an umbra and penumbra 					Eclipses – RASOR	Test Yourself Questions – Eclipses – RASOR
Our Solar System	Gravity	<ul style="list-style-type: none"> Understand the difference between mass and weight Understand gravity force ($W=mg$), and to know $g = 10 \text{ N/kg}$ Understand how the force is affected by distance and mass 	<p>Objective Learn the main factors for a habitable world.</p> <p>Be able to arrive at scientific conclusions based on given evidence.</p> <p>See materials tab: The Sun and its Planets – RASOR</p>	Gravity – RASOR	Test Yourself Questions – Gravity – RASOR			
	The Sun and its Planets	<ul style="list-style-type: none"> Identify the planets in our solar system Understand the difference characteristics of inner and outer planets Identify factors that make Earth habitable 					The Sun and its Planets – RASOR	Test Yourself Questions – The Sun and Planets – RASOR

Key Stage KS3
 Year Group 8
 Subject Science - Physics
 Topic Space Physics

The Universe	Stars and Galaxies	<ul style="list-style-type: none"> Understand what a star is and how it is formed Understand that stars may have solar systems formed around them Understand what a galaxy is and to know which galaxy we live in 	Objective To be able to draw and identify the orbit shapes of planets, asteroids and comets. See materials tab: Space Rocks – RASOR	Stars and Galaxies – RASOR	Test Yourself Questions – Stars and Galaxies – RASOR
	A Light Year	<ul style="list-style-type: none"> Understand what a light year is and how it relates to the speed of light Understand how to make simple calculations using speed = distance/time Identify how far the closest stars and galaxies are to us 		A Light Year – RASOR	Test Yourself Questions – A Light Year – RASOR
	Space Rocks	<ul style="list-style-type: none"> Understand what a comet are and their orbits Understand the phases that turn an asteroid into a meteorite Identify space rocks by what they look like and their size 		Space Rocks – RASOR	Test Yourself Questions – Space Rocks – RASOR

Access full course here: <https://rasor.co.uk/courses/science/>

National Curriculum Notes

The above content aligns with the following elements from the national curriculum:

- ✓ Gravity force, weight = mass x gravitational field strength (g), on Earth $g=10$ N/kg, different on other planets and stars.
- ✓ Gravity forces between Earth and Moon, and between Earth and Sun (qualitative only).
- ✓ Our Sun as a star, other stars in our galaxy, other galaxies.
- ✓ The seasons and the Earth's tilt, day length at different times of year, in different hemispheres.
- ✓ The light year as a unit of astronomical distance.

Please note that RASOR is currently in the early stages of development. Please let us know if you have any feedback!