

TOPIC PACKS · GRADES 3–6

Space!

A cross-curricular themed week

Why space works as a theme

Space is one of those topics where every child has questions. It naturally pulls in maths (huge numbers), science (forces, light, life), English (sci-fi writing), art (planets, rockets), and computing (coding a Mars rover). Five days, five subjects, one big idea.

Suggested timetable

Day	Subject	Activity
Monday	Science	The solar system — planets in order, fast facts
Tuesday	Maths	Distances in space, big numbers, scale
Wednesday	English	Astronaut diary writing — first day on Mars
Thursday	Art & Design	Planet paintings and rocket design
Friday	Computing	Algorithm to land a rover, debugging the code

Day 1 — Solar system fast facts

Planet	Distance from Sun	Day length	One fact
Mercury	58 million km	59 Earth days	Closest to the Sun, no atmosphere



Planet	Distance from Sun	Day length	One fact
Venus	108 million km	243 Earth days	Hotter than Mercury — thick clouds trap heat
Earth	150 million km	24 hours	The only planet with known life
Mars	228 million km	24h 37m	Has the tallest volcano in the solar system
Jupiter	778 million km	9h 56m	Has 95 moons and a giant storm bigger than Earth
Saturn	1,427 million km	10h 42m	Famous for its bright rings of ice and rock
Uranus	2,871 million km	17h 14m	Spins on its side
Neptune	4,498 million km	16h 6m	Coldest planet, 80°C colder than your freezer

Day 1 mnemonic and activity

MNEMONIC: 'My Very Easy Method Just Speeds Up Names' — first letters spell Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune. **ACTIVITY:** Each child picks a planet and creates a 'planet passport' with name, distance, fact, and a drawing. Display in order around the classroom.

Day 2 — Maths (45 min)

BIG NUMBERS: Write the distance from the Sun to each planet on the board. Practise reading 4,498,000,000 — 'four billion, four hundred and ninety-eight million'. Children work in pairs to write distances in words. **SCALE MODEL:** Take the class outside. Mark the Sun at one end of the playground. Use a scale of 1 metre = 30 million km. Mark each planet's position. The huge gaps between outer planets surprise everyone. **EXTENSION:** Calculate how long light takes to reach each planet from the Sun (light travels 300,000 km per second).

Day 3 — English (60 min)

WRITING TASK: 'My First Day on Mars' — diary entry from a future astronaut. Use these prompts: • Stepping out of the spacecraft for the first time • What does Mars look, feel and smell like? • What does the Earth look like from there? (A small blue dot) • A problem you have to solve • A message you want to send home **SUCCESS CRITERIA:** Use first-person, past tense,



descriptive language for the senses, and at least one piece of dialogue (radio communication with Earth).

Day 4 — Art & Design (60 min)

PLANET PAINTING: Use circles cut from card. Paint each planet using observed details (Jupiter's bands, Saturn's rings, Mars's red dust, Earth's blue and green). Add stars by flicking white paint. **ROCKET DESIGN:** Children design their own rocket on paper. Must include: nose cone, fuel tanks, fins for stability, a name, and a flag. Discuss: Why are rockets the shape they are? (Aerodynamics, fuel storage, balance.)

Day 5 — Computing (45 min)

Print a 6x6 grid 'Mars surface' on the floor with markers showing rocks (don't crash!), water (collect a sample!), and a base camp. Children write algorithms to navigate a 'rover' (a child or a toy car) from start to finish, picking up samples and avoiding rocks. **FORMAT:** Forward 2, Right turn, Forward 1, etc. When the algorithm fails (and it will), children debug. This is real coding, just on the floor. **EXTENSION:** Use Scratch or Code.org to make a digital version.

End-of-week class quiz

1. Which planet is closest to the Sun?
2. How many planets are in our solar system?
3. Which planet has the most moons?
4. Why is Mars red?
5. Whose footprints are still on the Moon today?
6. If you stood on the Moon, why would you weigh less?
7. What's the name of the storm on Jupiter?
8. Which planet spins on its side?
9. How long does light take to reach Earth from the Sun? (8 minutes)
10. What was the first artificial satellite called? (Sputnik 1)

