

Space Line — NGSS Correlation (page-by-page)

What the 28 Space books teach, and on which page

BARRARI ACADEMY · Correlation Guide · Ages 8–12 (grades 3–7)

20 September 2026 · Next Generation Science Standards (NGSS)

The standard for Science (Space)

The Space line is **aligned to the Next Generation Science Standards (NGSS)** for **ESS1 — Earth’s Place in the Universe**, the space-science standard most U.S. states use, and it also carries genuine **PS2 (forces)** and **ETS1 (engineering design)** coverage through the rockets and exploration Journey. NGSS is a **three-dimensional** standard, so every book is built to carry all three dimensions:

- a **Disciplinary Core Idea (DCI)** across its seven chapters,
- a **Science & Engineering Practice (SEP)** in its Chapter-7 hands-on *Experiment* and in the per-chapter “**Your Mission**” argue-from-evidence prompts,
- a **Crosscutting Concept** (patterns, scale, systems & models, cause & effect).

All **28 books across 4 Journeys** share one structure, so they build the same science skills, each Journey leaning into a different core idea.

The shared structure -> what it teaches

Feature in every book	What it teaches
The Mission Map / scale page (early spread)	Analyzing data on scale — MS-ESS1-3; the Crosscutting Concept of <i>Scale, Proportion & Quantity</i>
The seven chapters (facts, diagrams, “Did you know?”)	The book’s Disciplinary Core Idea — ESS1.A / ESS1.B / PS2 / ETS1
“Your Mission” prompt (one per chapter, open)	SEP: engaging in argument from evidence ; asking questions
Chapter 7 — the Experiment (hands-on model)	SEP: developing & using models / planning an investigation
Word search / crossword / maze	Vocabulary (not a science-content claim)
“For Grown-ups & Checkers” answer key	Teacher support (answers, not a standard)

Verified structure (read from the approved interiors): 41-page books; a title page (p.1), a Mission Map / scale spread, a *Space Words to Know* glossary, **seven chapters** (Chapter 7 is always the hands-on Experiment), a *For Grown-ups & Checkers* answer key, and a credits page that states the NGSS ESS1 alignment. Exact chapter pages per book are in the table below.

Per-Journey emphasis

Journey	Lead NGSS core idea	Also strong on
1 • The Solar System	Earth & the Solar System (ESS1.B)	scale of solar-system objects (MS-ESS1-3)
2 • Stars & Galaxies	The Universe & Its Stars (ESS1.A)	brightness vs distance (5-ESS1-1); gravity in galaxies
3 • Earth in Space	The Earth-Sun-Moon system (ESS1.B, MS-ESS1-1)	data on shadows/seasons (5-ESS1-2)

Page-by-page correlation — all 28 books

For every book: the **seven chapters** (with pages) carry the core idea; **Chapter 7** is the hands-on model (SEP). “Your Mission” prompts appear inside each chapter.

Journey 1 — The Solar System

SPC-1-1 • The Sun, Our Star

NGSS: ESS1.A, ESS1.B • +5-ESS1-1, MS-ESS1-3

Chapters: 1. What Is the Sun? (p.11) • 2. How Big, How Hot? (p.15) • 3. Inside the Sun (p.19) • 4. The Sun’s Stormy Face (p.23) • 5. Sunlight & Life (p.26) • 6. The Sun at the Heart of Everything (p.29) • 7. Make a Sun Clock (p.33) (*Experiment*)

Why these codes: The Sun is our nearest star (ESS1.A) and the center of the solar system (ESS1.B); its size/heat and ‘nearest star’ framing support 5-ESS1-1 (brightness vs distance) and scale.

SPC-1-2 • The Rocky Planets

NGSS: ESS1.B • +MS-ESS1-3

Chapters: 1. What Makes a Planet “Rocky”? (p.11) • 2. The Speedy Little World (p.15) • 3. The Hidden Furnace (p.19) • 4. The Red Planet (p.23) • 5. Coming Home (p.27) • 6. Could Anything Live There? (p.30) • 7. How Big, How Far? (p.33) (*Experiment*)

Why these codes: The four rocky planets as members of the solar system (ESS1.B); the Ch.7 scale model and the Earth-referenced size pages are MS-ESS1-3 (analyze data on scale).

SPC-1-3 • The Gas Giants

NGSS: ESS1.B • +MS-ESS1-3

Chapters: 1. What Is a “Gas Giant”? (p.11) • 2. The King of Planets (p.15) • 3. The Ringed Wonder (p.19) • 4. The Tipped-Over World (p.23) • 5. The Windy Edge (p.27) • 6. Giant Storms in Space (p.30) • 7. Make Saturn’s Rings (p.34) (*Experiment*)

Why these codes: The gas giants as members of the solar system (ESS1.B); Earth-referenced size pages and the rings model give MS-ESS1-3 (scale).

SPC-1-4 • Moons

NGSS: ESS1.B • +MS-ESS1-2

Chapters: 1. Moon vs Planet (p.11) • 2. Our Moon (p.14) • 3. The Moons of Jupiter (p.18) • 4. Titan & Saturn’s Moons (p.22) • 5. Triton & the Far Icy Moons (p.26) • 6. Hidden Oceans — Could There Be Life? (p.29) • 7. Build an Icy Moon (p.33) (*Experiment*)

Why these codes: Moons orbiting planets within the solar system (ESS1.B); orbits held by gravity feed MS-ESS1-2.

SPC-1-5 • Asteroids, Comets & Meteors

NGSS: ESS1.B • +MS-ESS1-3

Chapters: 1. Planet vs Space Rock (p.11) · 2. The Asteroid Belt (p.14) · 3. Comets, the Icy Visitors (p.18) · 4. Meteors & Shooting Stars (p.22) · 5. Meteorites — Rocks That Land (p.25) · 6. The Day the Dinosaurs Met an Asteroid (p.28) · 7. Make a Comet (p.32) (*Experiment*)

Why these codes: Asteroids, comets and meteors as small bodies of the solar system (ESS1.B); classification and sizes support MS-ESS1-3 (scale/data).

SPC-1-6 · Dwarf Planets & the Edge

NGSS: ESS1.B · +MS-ESS1-3

Chapters: 1. Planet vs Dwarf Planet (p.11) · 2. Pluto (p.14) · 3. Why Pluto's Story Changed (p.18) · 4. Ceres & the Others (p.22) · 5. The Kuiper Belt (p.25) · 6. The Far Edge of the Solar System (p.28) · 7. Clear Your Orbit! (p.32) (*Experiment*)

Why these codes: Dwarf planets and the outer solar system (ESS1.B); the 'clear your orbit' classification and the edge/scale content support MS-ESS1-3.

SPC-1-7 · Gravity & the Great Orbits

NGSS: MS-ESS1-2, ESS1.B · +5-PS2-1, PS2

Chapters: 1. Stronger Pull or Weaker Pull? (p.11) · 2. Why Everything Circles the Sun (p.14) · 3. The Great Race: Fast & Slow (p.18) · 4. The Shape of an Orbit (p.22) · 5. A Flat, Spinning Family (p.25) · 6. The Great Dance (p.28) · 7. The Marble & the Bowl (p.32) (*Experiment*)

Why these codes: Gravity as the force that runs the solar system: MS-ESS1-2 (role of gravity in orbital motion); 'stronger/weaker pull' and the marble-and-bowl model reach 5-PS2-1 / PS2.

Journey 2 — Stars & Galaxies

SPC-2-1 · What Is a Star?

NGSS: ESS1.A · +5-ESS1-1

Chapters: 1. Suns Across the Sky (p.11) · 2. Why Stars Shine (p.15) · 3. Big Stars & Small Stars (p.19) · 4. Star Colors & Heat (p.23) · 5. How Far Away Are the Stars? (p.26) · 6. Our Nearest Star Neighbors (p.29) · 7. Measure Brightness with a Flashlight (p.33) (*Experiment*)

Why these codes: What stars are and why they shine (ESS1.A); 'How Far Away Are the Stars' + the flashlight-brightness experiment are 5-ESS1-1 (brightness vs distance, argue from evidence).

SPC-2-2 · The Life of a Star

NGSS: ESS1.A

Chapters: 1. Where Stars Are Born (p.11) · 2. A Star Switches On (p.15) · 3. The Long, Steady Life (p.19) · 4. When a Star Grows Old (p.23) · 5. The Quiet End of a Small Star (p.26) · 6. The Explosive End of a Giant (p.29) · 7. Build a Star-Life Wheel (p.33) (*Experiment*)

Why these codes: The life cycle of a star (ESS1.A); the star-life wheel is the model/SEP.

SPC-2-3 · Constellations

NGSS: ESS1.A · +5-ESS1-2

Chapters: 1. Pictures in the Stars (p.11) • 2. Mapping the Whole Sky (p.15) • 3. The Stars of the Zodiac (p.19) • 4. Famous Star Patterns (p.23) • 5. The Star That Points North (p.26) • 6. A Sky That Changes with the Seasons (p.29) • 7. Make a Star Projector (p.33) (*Experiment*)

Why these codes: Star patterns and the sky (ESS1.A); 'A Sky That Changes with the Seasons' is 5-ESS1-2 (seasonal appearance of stars).

SPC-2-4 • Galaxies

NGSS: ESS1.A • +MS-ESS1-2

Chapters: 1. What Is a Galaxy? (p.11) • 2. Our Home: The Milky Way (p.15) • 3. The Shapes of Galaxies (p.19) • 4. Galaxy Neighbors: The Local Group (p.23) • 5. Clusters & the Cosmic Web (p.26) • 6. The Monster in the Middle (p.29) • 7. Make a Spinning Galaxy (p.33) (*Experiment*)

Why these codes: Galaxies and the Milky Way (ESS1.A); the spinning-galaxy model reaches MS-ESS1-2 (gravity in motions within galaxies).

SPC-2-5 • Nebulae

NGSS: ESS1.A

Chapters: 1. What Is a Nebula? (p.11) • 2. Star Nurseries (p.15) • 3. Glowing, Dark & Reflection Clouds (p.19) • 4. When Small Stars Die: Planetary Nebulae (p.23) • 5. When Giants Explode: Supernova Remnants (p.26) • 6. The Great Star Recycling (p.29) • 7. Make a Nebula Viewer (p.33) (*Experiment*)

Why these codes: Nebulae as star nurseries and remnants (ESS1.A); the star-recycling story is the core idea.

SPC-2-6 • Black Holes

NGSS: ESS1.A • +MS-ESS1-2, PS2

Chapters: 1. What Is a Black Hole? (p.11) • 2. How a Black Hole Is Born (p.15) • 3. The Parts of a Black Hole (p.19) • 4. Big and Small Black Holes (p.23) • 5. What Happens Near a Black Hole? (p.26) • 6. Seeing the Invisible (p.29) • 7. Make a Gravity Well (p.33) (*Experiment*)

Why these codes: Black holes as stellar remnants (ESS1.A); the gravity-well experiment models extreme gravity (MS-ESS1-2 / PS2).

SPC-2-7 • The Universe

NGSS: ESS1.A • +MS-ESS1-2

Chapters: 1. What Is the Universe? (p.11) • 2. How Big Is the Universe? (p.15) • 3. The Big Bang (p.19) • 4. The Expanding Universe (p.23) • 5. What the Universe Is Made Of (p.26) • 6. The Story of Everything (p.29) • 7. Make an Expanding Universe (p.33) (*Experiment*)

Why these codes: The universe, the Big Bang and expansion (ESS1.A); the expanding-universe model is the SEP.

Journey 3 — Earth in Space

SPC-3-1 • Day & Night

NGSS: 5-ESS1-2, ESS1.B

Chapters: 1. Why the Sun Rises & Sets (p.11) · 2. Earth Is Spinning (p.15) · 3. Time Zones Around the World (p.19) · 4. Longest & Shortest Days (p.23) · 5. Sunrise, Sunset & Shadows (p.26) · 6. Day & Night on Other Planets (p.29) · 7. Spin a Globe & a Lamp (p.33) (*Experiment*)

Why these codes: Day and night from Earth's spin (ESS1.B); 'Sunrise, Sunset & Shadows' + the globe-and-lamp model give 5-ESS1-2 (represent data on shadows and day/night).

SPC-3-2 • The Seasons

NGSS: 5-ESS1-2, MS-ESS1-1 · +ESS1.B

Chapters: 1. Why We Have Seasons (p.11) · 2. Earth's Tilt (p.15) · 3. Following the Sun Through the Year (p.19) · 4. Seasons North & South (p.23) · 5. The Land of the Midnight Sun (p.26) · 6. How Plants & Animals Feel the Seasons (p.29) · 7. Model the Tilted Earth (p.33) (*Experiment*)

Why these codes: Seasons from Earth's tilt: 5-ESS1-2 (seasonal patterns) and MS-ESS1-1 (Earth-sun model); 'Model the Tilted Earth' is the model.

SPC-3-3 • The Moon's Phases

NGSS: MS-ESS1-1 · +ESS1.B

Chapters: 1. Why the Moon Changes Shape (p.11) · 2. Sunlight and the Half-Lit Moon (p.15) · 3. The Cycle of Phases (p.18) · 4. Waxing and Waning (p.22) · 5. The Moon's Hidden Face (p.25) · 6. A Calendar in the Sky (p.29) · 7. Model the Moon's Phases (p.33) (*Experiment*)

Why these codes: Lunar phases in the Earth-sun-moon system (MS-ESS1-1); 'Model the Moon's Phases' is the model.

SPC-3-4 • Eclipses

NGSS: MS-ESS1-1 · +ESS1.B

Chapters: 1. What Is an Eclipse? (p.11) · 2. Shadows in Space (p.15) · 3. The Solar Eclipse (p.18) · 4. The Lunar Eclipse (p.22) · 5. Why Not Every Month? (p.25) · 6. Eclipses Through History (p.29) · 7. Model an Eclipse (p.33) (*Experiment*)

Why these codes: Eclipses in the Earth-sun-moon system (MS-ESS1-1); 'Model an Eclipse' is the model.

SPC-3-5 • Tides

NGSS: ESS1.B, MS-ESS1-1 · +PS2

Chapters: 1. What Are Tides? (p.11) · 2. The Moon's Pull (p.15) · 3. Two Tides a Day (p.18) · 4. Spring & Neap Tides (p.22) · 5. Why Tides Differ Place to Place (p.25) · 6. Tides & Life (p.29) · 7. Model the Tides (p.33) (*Experiment*)

Why these codes: Tides from the Moon's gravity (ESS1.B, Earth-moon system); the tide model is the SEP; gravity is PS2.

SPC-3-6 • Earth's Place in Space

NGSS: ESS1.A, ESS1.B · +MS-ESS1-3

Chapters: 1. Our Home, the Earth (p.11) · 2. The Solar System (p.15) · 3. The Sun Is a Star (p.18) · 4. The Milky Way (p.22) · 5. Galaxies & the Universe (p.25) · 6. Our Cosmic Address (p.29) · 7. Make a Scale Model (p.33) (*Experiment*)

Why these codes: Earth's cosmic address, solar system to universe (ESS1.A + ESS1.B); 'Make a Scale Model' is MS-ESS1-3 (scale).

SPC-3-7 • Are We Alone?

NGSS: ESS1.B

Chapters: 1. The Big Question (p.11) • 2. What Life Needs (p.15) • 3. Life Close to Home (p.18) • 4. Planets Around Other Stars (p.22) • 5. Listening for Signals (p.25) • 6. Could We Find Them? (p.29) • 7. Design a Message to the Stars (p.33) (*Experiment*)

Why these codes: Conditions for life and the search beyond Earth (ESS1.B); 'Design a Message' is argue/communicate from evidence.

Journey 4 — Exploration & Rockets

SPC-4-1 • How Rockets Work

NGSS: ETS1, PS2 • +5-PS2-1

Chapters: 1. What Is a Rocket? (p.11) • 2. Action & Reaction (p.15) • 3. Fuel & Fire (p.18) • 4. Getting to Orbit (p.22) • 5. Rocket Stages (p.25) • 6. Rockets Through History (p.29) • 7. Build a Balloon Rocket (p.33) (*Experiment*)

Why these codes: How rockets work: PS2 (action-reaction thrust) and ETS1 (design); 'Fighting Gravity' is 5-PS2-1; the balloon rocket is design + test.

SPC-4-2 • Satellites

NGSS: ETS1, PS2

Chapters: 1. What Is a Satellite? (p.11) • 2. How Satellites Stay Up (p.15) • 3. Kinds of Orbits (p.18) • 4. What Satellites Do (p.22) • 5. Finding Your Way (p.25) • 6. Space Junk (p.29) • 7. Orbit on a String (p.33) (*Experiment*)

Why these codes: Satellites and orbits: PS2 (how they stay up) and ETS1 (what they do, by design); 'Orbit on a String' is the model.

SPC-4-3 • Astronauts

NGSS: ETS1, PS2

Chapters: 1. Who Are Astronauts? (p.11) • 2. Living Without Weight (p.15) • 3. Eating & Sleeping in Space (p.18) • 4. The Spacesuit (p.22) • 5. Spacewalks (p.25) • 6. Staying Healthy & Getting Home (p.29) • 7. The Falling Cup (p.33) (*Experiment*)

Why these codes: Astronauts and life without weight: PS2 (free-fall, 'The Falling Cup') and ETS1 (the spacesuit as engineered solution).

SPC-4-4 • The Space Station

NGSS: ETS1

Chapters: 1. What Is the Space Station? (p.11) • 2. Building in Orbit (p.15) • 3. A Home in Space (p.18) • 4. Air, Water & Power (p.22) • 5. Science in Space (p.25) • 6. Getting There & Living Together (p.29) • 7. Build a Model Station (p.33) (*Experiment*)

Why these codes: The Space Station as an engineered home in orbit (ETS1); 'Build a Model Station' is design.

SPC-4-5 • Landing on the Moon

NGSS: ETS1 • +ESS1.B

Chapters: 1. The Great Goal (p.11) • 2. The Journey There (p.15) • 3. The First Steps (p.18) • 4. Walking on the Moon (p.22) • 5. What We Found & Brought Back (p.25) • 6. Going Back (p.29) • 7. Make Moon Craters (p.33) (*Experiment*)

Why these codes: Landing on the Moon as an engineered mission (ETS1), set in the Earth-moon system (ESS1.B).

SPC-4-6 • Robots in Space

NGSS: ETS1

Chapters: 1. Why Send Robots? (p.11) • 2. How Robots Explore (p.15) • 3. Rovers (p.18) • 4. Landers & Probes (p.22) • 5. Talking Across Space (p.25) • 6. Amazing Robot Missions (p.29) • 7. Be a Rover Driver (p.33) (*Experiment*)

Why these codes: Robots in space: engineering design and problem-solving across distance (ETS1); 'Be a Rover Driver' is the design activity.

SPC-4-7 • The Future of Space Travel

NGSS: ETS1

Chapters: 1. What Comes Next? (p.11) • 2. Cheaper Rockets (p.15) • 3. To the Moon & On to Mars (p.18) • 4. Living on Other Worlds (p.22) • 5. New Ways to Fly (p.25) • 6. Space for Everyone (p.29) • 7. Design the Future (p.33) (*Experiment*)

Why these codes: The future of space travel: defining problems and designing solutions (ETS1).

Wording — ALIGNED

Because the page-by-page correlation exists (this document), each Space book qualifies for:

“Aligned to the Next Generation Science Standards (NGSS), ESS1: Earth’s Place in the Universe, grades 3–7.”

Books in Journey 4 additionally align to **PS2 (forces)** and **ETS1 (engineering design)**.

What the Space line does not claim

- **MS-ESS1-4 (Earth’s rock/fossil history)** — belongs to the *Planet Earth* line, not Space.
- Full lab-report data collection beyond the built-in Experiment and record-and-graph prompts.

NGSS codes used in this guide

Code	Performance expectation / core idea
ESS1.A	The universe and its stars (DCI).
ESS1.B	Earth and the solar system (DCI).
5-ESS1-1	Support an argument that the apparent brightness of the sun and stars is due to their relative distances from Earth.
5-ESS1-2	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars.
5-PS2-1	Support an argument that the gravitational force exerted by Earth on objects is directed down (toward the planet’s center).
MS-ESS1-1	Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses, and

MS-ESS1-2	seasons. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
MS-ESS1-3	Analyze and interpret data to determine scale properties of objects in the solar system.
PS2	Motion and stability: forces and interactions (thrust, free-fall, gravity).
ETS1	Engineering design: define a problem, develop and test a model, improve the solution.