HANDS DOWN EDUCATION · 6-WEEK UNIT STUDY PLANNER

Space & Astronomy unit study

Build a K-12 homeschool curriculum around space — astronomy, rocketry, and the history of exploration woven through reading, math and science.

GRADE BANDS K-2 · 3-5 · 6-8 · 9-12
FULL GUIDE https://handsdowneducation.com/homeschool/space

How to use this planner

The six weeks below are sequenced from the guide's sample week: five weeks that each take one core subject through the topic, then a showcase week that turns the portfolio into a final product. Run each activity at the level your child is at (the grade band notes tell you how), keep the output, and by week six you have a portfolio that shows the unit end to end.

Pace is yours. A week here is three to five working sessions; a topic that is going well can take two calendar weeks, and one that has run dry can be closed early. Tick the box when a week's output is in the portfolio.

Six-week scope and sequence

Wk	Focus	Key activity	Portfolio output	Done
1	**Reading & Writing through space & astronomy**	Read about the Apollo 13 failure, then write the mission-control transcript for an emergency your child invents — technical, terse, and in the present tense.	Portfolio entry: the week's reading & writing piece, dated, with one line from your child on what they found out.	☐
2	**Math through space & astronomy**	Scale the solar system onto your street: if the Sun is a beach ball at your front door, calculate where every planet lands in the neighborhood.	Portfolio entry: the week's math piece, dated, with one line from your child on what they found out.	☐
3	**Science through space & astronomy**	Build and fly a baking-soda or stomp rocket three ways, changing one variable per launch, and chart apogee against the change.	Portfolio entry: the week's science piece, dated, with one line from your child on what they found out.	☐
4	**Social Studies through space & astronomy**	Map the space race as geopolitics: who launched what, when, and what each side was trying to prove — then connect it to today's commercial launches.	Portfolio entry: the week's social studies piece, dated, with one line from your child on what they found out.	☐
5	**Art through space & astronomy**	Design mission patches for a family Mars crew, following the real conventions NASA patches use: symbols, names, and one Latin motto.	Portfolio entry: the week's art piece, dated, with one line from your child on what they found out.	☐
6	**Showcase and review**	Choose one final product that pulls the unit together — a presentation, an exhibit, a field guide or a short documentary — and give the week to making it. Finish with a portfolio review: lay every week's output on the table and let your child narrate what changed in what they know about space & astronomy.	The final product plus a one-page unit summary in your child's words, filed with the portfolio.	☐

Running it at your child's level

K-2 anchors on the observable: moon phases logged nightly on the fridge, planet order, day and night. Naked-eye astronomy beats telescopes at this age — no equipment frustration.

High schoolers can run real orbital mechanics in free simulators, follow live mission telemetry, and write research summaries on exoplanet discovery methods — genuine pre-physics coursework.

A sample week, subject by subject

Reading & Writing

Read about the Apollo 13 failure, then write the mission-control transcript for an emergency your child invents — technical, terse, and in the present tense.

Math

Scale the solar system onto your street: if the Sun is a beach ball at your front door, calculate where every planet lands in the neighborhood.

Science

Build and fly a baking-soda or stomp rocket three ways, changing one variable per launch, and chart apogee against the change.

Social Studies

Map the space race as geopolitics: who launched what, when, and what each side was trying to prove — then connect it to today's commercial launches.

Art

Design mission patches for a family Mars crew, following the real conventions NASA patches use: symbols, names, and one Latin motto.

Common questions

Do we need a telescope?

No. Naked-eye observation, free planetarium software, and NASA's public image archives cover years of curriculum. A telescope is a rewarding upgrade, not a prerequisite.

Can space really carry the humanities too?

Comfortably. The history of exploration, the literature of science fiction, the ethics of colonization, the geopolitics of the space race — the humanities content is at least as rich as the science.

My child only cares about rockets, not stars. Does that work?

Yes — engineering-first children thrive with rocketry, propulsion, and design challenges as the spine, with astronomy entering as context for where the rockets go.