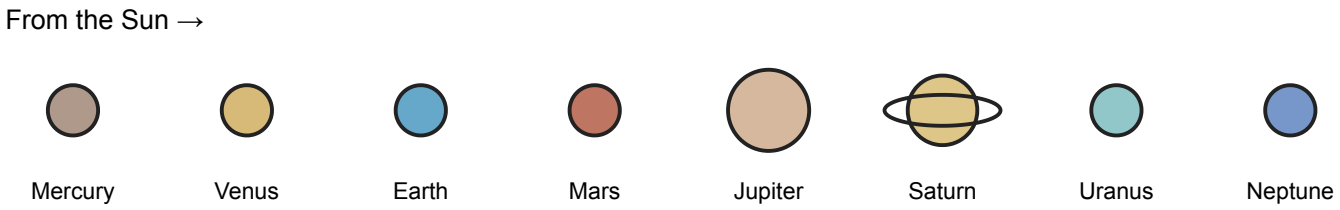
GRADES 2–3

Solar System Planet Order

Name / chosen name: _____

Our solar system has eight planets. Use this order diagram to complete the questions. The Sun is a star; Pluto is a dwarf planet.



Schematic only: planet sizes, colors, gaps and positions are not to scale. All eight planets orbit the Sun; they are not usually lined up.

1. Write the eight planets in order from the Sun

_____

_____

2. Which planet lies between Earth and Jupiter?

_____

_____

3. How is the Sun different from a planet?

_____

_____

Source: NASA — planets

GRADES 2–3

Planet Fact Matching

Name / chosen name: _____

Match each planet to a fact letter. Each letter is used once. Use the NASA source with an adult if needed.

1. Mercury → _____

2. Venus → _____

3. Earth → _____

4. Mars → _____

5. Jupiter → _____

6. Saturn → _____

7. Uranus → _____

8. Neptune → _____

A. Largest planet in our solar system

B. Our home planet

C. Most distant of the eight planets from the Sun

D. Closest planet to the Sun

E. Well known for its bright ring system

F. Often called the Red Planet

G. Hottest planet in our solar system

H. Rotates with a strongly tilted axis

Source: NASA — planets

K–5

Design an Imaginary Planet

Name / chosen name: _____

Invent a fictional planet. Your drawing is imaginative, so do not label invented details as real scientific facts.

1. Planet name and invented features

2. An imagined habitat

3. One real planet fact that inspired a different detail

GRADES 2–3

Moon Phases Learning

Name / chosen name: _____

The Moon reflects sunlight. As it orbits Earth, we see different amounts of its sunlit half. These four markers repeat in a cycle of about 29.5 days.

New Moon | First quarter | Full Moon | Third quarter

White shows the sunlit part; dark shows the part not lit by the Sun. Schematic northern-hemisphere orientation: apparent orientation varies by location and viewpoint. Ordinary phases are not caused by Earth's shadow.

1. At which marker do we see a fully lit disk?

2. Why is the Moon not making its own light?

3. Why can the Moon look different during a month?

Source: NASA — Moon phases

Source: NASA — Moon questions

GRADES 2–3

Moon Observation Log

Name / chosen name: _____

Use a reliable Moon-phase calendar or safe observations with an adult. Do not look at the Sun. Record what you actually find; cloudy weather or no observation is a valid entry.

Date and source	Draw the lit shape	What I notice

1. One change I noticed

2. One question to investigate

Source: NASA — Moon phases

K–5

Space Teamwork Skills

Name / chosen name: _____

This is a classroom teamwork challenge inspired by mission planning; it is not real astronaut training. Choose seated, spoken or drawn participation.

OBSERVE: describe three details in a picture.

COMMUNICATE: give a partner clear drawing instructions.

PLAN: list three supplies for an imaginary mission.

CHECK: compare your plan with a partner's suggestion.

1. A strategy that helped our team

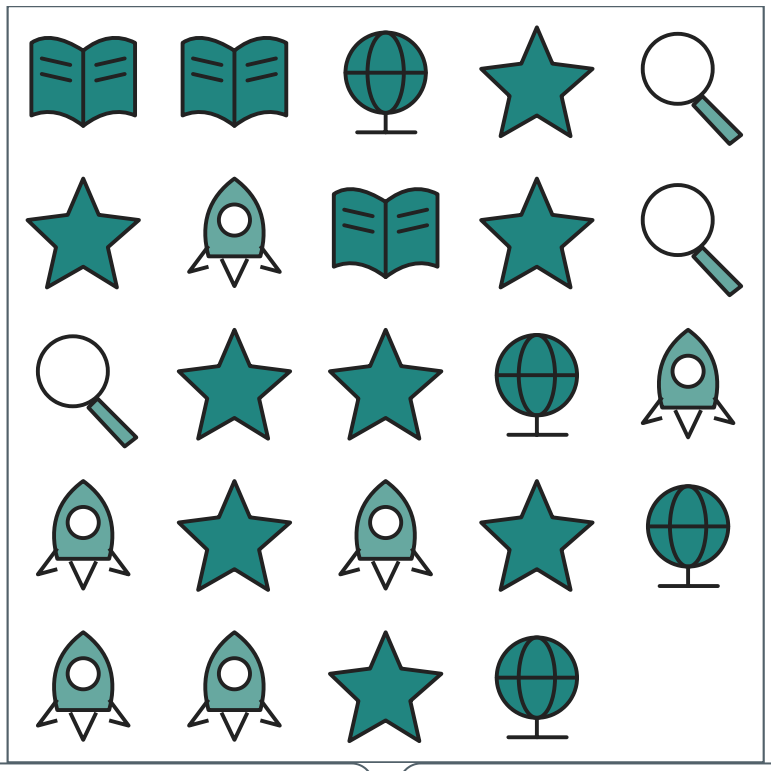
2. One instruction we could make clearer

K–5

Space I Spy

Name / chosen name: _____

Count only the objects inside the activity box. Each complete icon counts once. Use pointing, marking or grouping to keep track.



Rockets: _____

Stars: _____

Globes: _____

Magnifiers: _____

Books: _____

1. My counting strategy

GRADES 2–3

Space Word Search

Name / chosen name: _____

Find 12 words across, down, diagonally or backwards. Circle each whole word.

A	F	V	C	L	B	U	A	G	X	C	I	B	M	R	R
I	E	Y	K	J	Z	D	K	T	B	A	C	A	Y	A	E
H	B	R	M	U	O	T	R	R	V	N	R	R	R	N	M
W	Y	P	O	P	B	P	W	E	P	S	A	M	U	K	G
S	U	U	C	I	U	C	X	X	L	S	X	I	C	A	T
E	S	H	X	T	A	F	B	B	A	T	V	D	R	E	U
A	F	Q	N	E	S	M	E	V	N	L	F	Q	E	Q	Q
R	Q	A	M	R	M	U	Y	K	E	B	W	O	M	G	N
T	W	Z	J	N	K	Q	N	G	T	W	S	Q	O	A	V
H	E	A	U	M	Y	V	N	E	P	T	U	N	E	V	E
T	R	G	M	L	Q	E	B	M	V	W	N	Y	W	A	V
J	I	O	J	T	V	T	H	S	Z	X	A	X	P	G	H
U	O	B	D	M	J	B	Q	F	E	N	R	B	D	P	D
N	O	P	R	S	J	O	H	O	S	U	U	Q	T	C	D
H	P	E	Y	O	P	V	I	N	Z	S	J	Y	D	W	Z
S	A	T	U	R	N	S	T	H	Q	Y	P	U	N	B	R

MERCURY · VENUS · EARTH · MARS · JUPITER · SATURN · URANUS · NEPTUNE · ORBIT · MOON · SUN · PLANET

1. Use one word in your own sentence

_____

_____

K–5

Standing Rocket Model Challenge

Name / chosen name: _____

Challenge: make a paper rocket-shaped model that stands upright for ten seconds. This model is not launched.

Materials: two sheets of paper, a small strip of tape and a ruler. An adult helps with optional cutting.

1. My prediction about base width

2. First test: base width and stand time

3. One change, then a second test

4. What my tests suggest

Test on a clear, stable table. No flames, pressure, projectiles or climbing. Change one feature at a time; keep paper and tape limits the same.

K–5

Design a Space Station

Name / chosen name: _____

Imagine a space station. Include places for work, rest and supplies; explain how your fictional design meets a need.

1. A task this station supports

2. Two useful spaces and why I included them

3. A question to research about living in space

GRADES 2–3

Space Mission Log

Name / chosen name: _____

Plan an imaginary space-science mission. No actual travel or dangerous test is involved.

1. Our question or destination

2. What we hope to observe

3. Equipment or people who could help

4. A possible problem and a plan

5. What would count as useful evidence

GRADES 2–3

Planet Fact Cards

Name / chosen name: _____

Cut out or use the eight cards flat. Put the planets in order and choose a fact to check in NASA's source.

Mercury

Closest planet to the Sun.

Venus

Hottest planet in our solar system.

Earth

Our home planet.

Mars

Often called the Red Planet.

Jupiter

Largest planet in our solar system.

Saturn

Well known for its bright ring system.

Uranus

Rotates with a strongly tilted axis.

Neptune

Most distant of the eight planets from the Sun.

Source: NASA — planets

GRADES 2–3

Planet Research Sheet

Name / chosen name: _____

Choose a real planet and use NASA or another educator-approved space-science source. Distinguish supported facts from guesses.

1. Planet and source title / website

2. Position from the Sun

3. A supported fact about its surface or atmosphere

4. A supported fact about its moons or rings

5. How I checked these claims

6. A question I still have

Source: NASA — planets

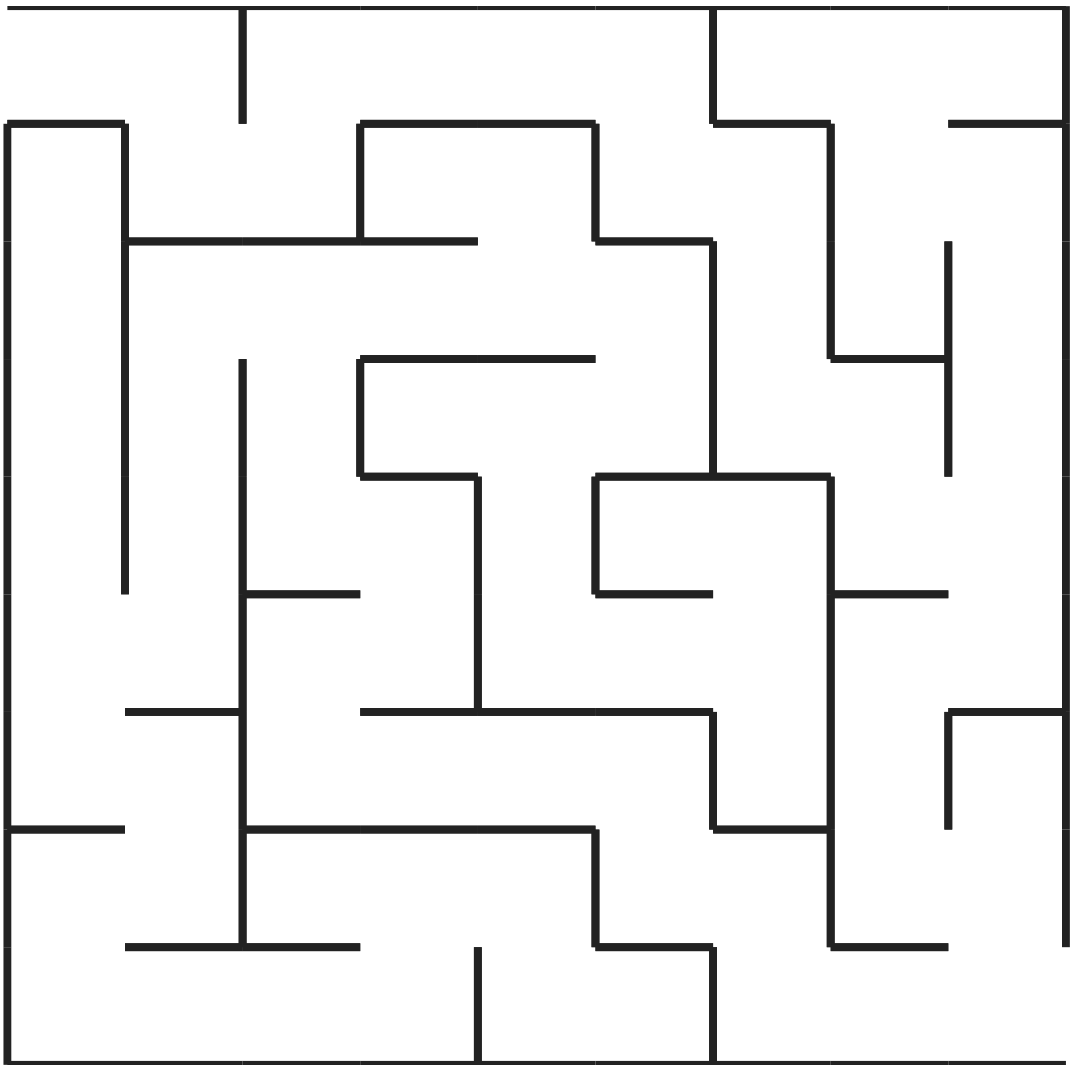
K–5

Space Explorer Maze

Name / chosen name: _____

Trace a route from the left entry to the bottom-right exit. Try pencil, pointing or partner directions.

START →



FINISH →

Imagine this is a route on a fictional station. Real space missions use carefully researched plans, not maze routes.