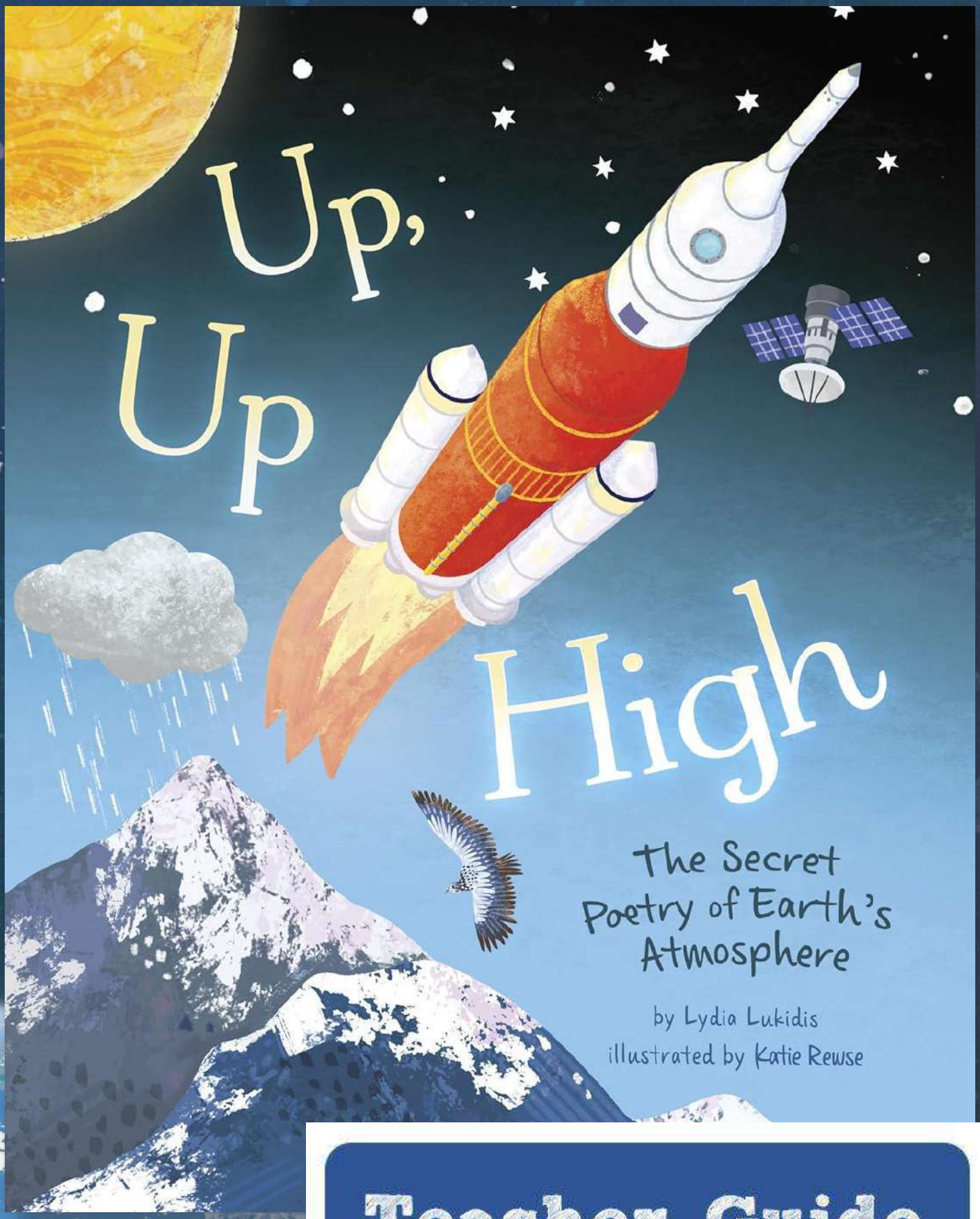


Teacher Guide

Table of Contents

LYDIA LUKIDIS

capstone®

How to Use This Guide

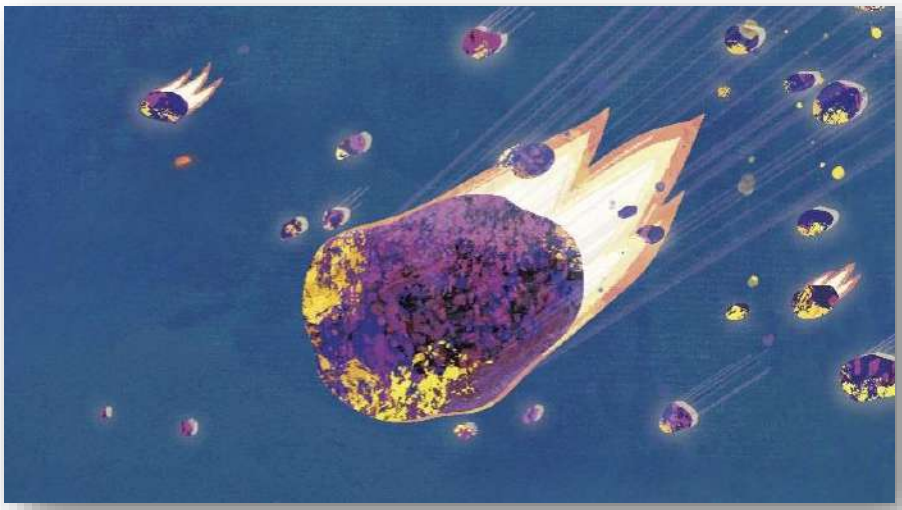
This teacher guide to ***UP, UP HIGH: The Secret Poetry of Earth's Atmosphere*** is designed for educators, librarians, and parents to help children learn beyond the book itself.

The guide provides dozens of curriculum standards in Common Core ELA and Math, and Next Generation Science Standards that align with the narrative. It also proposes various curriculum-based activities for students K-5.

The text of the narrative itself is layered. Younger students can focus on the main text while older students can also read the sidebars and detailed backmatter to have a more in depth understanding of the Earth's atmosphere and its various layers..

In addition to the educational components, this guide cultivates valuable skills such as:

- Critical thinking
- Creative problem solving
- Memory and research skills
- Literacy: ELA texts and poetry
- Collaboration
- Analytical and cognitive skills
- Imagination



Before you read

Before each student reads the book (or gets it read to them), have a discussion with them about the Earth's atmosphere. Ask them to imagine looking up, up, high, what would they see? Does it get colder or warmer the higher up you go? Where does space officially begin? Would humans be here if our planet didn't have an atmosphere?

About the Book

Author: Lydia Lukidis
Illustrator: Katie Rewse
Publisher: Published by Capstone Editions, a Capstone imprint
Copyright: 2025

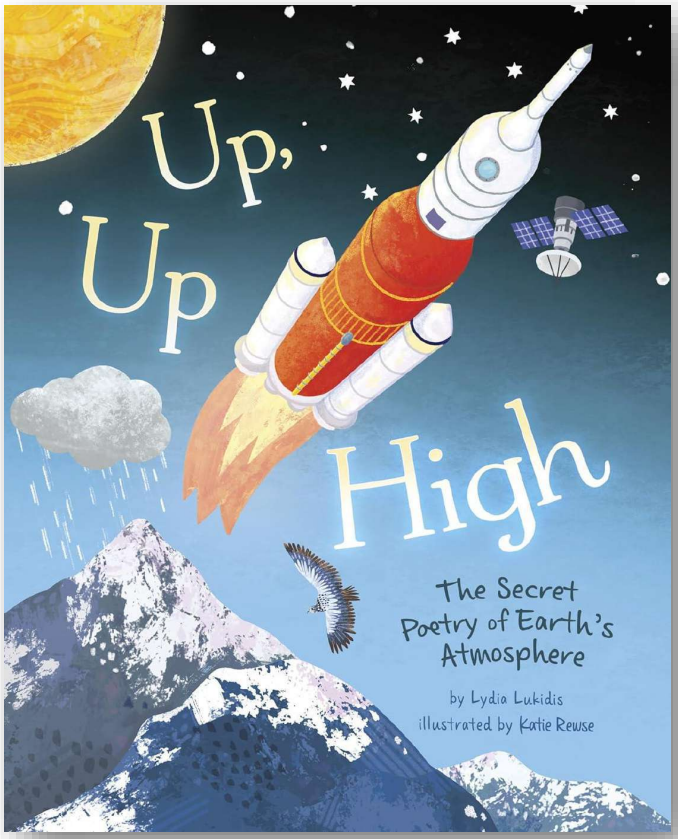
ISBN-10: 1630793043
ISBN-13: 978-1630793043

Reading age: grades 3-5
Reading Level and Interest Level: grades 3-5
Lexile: 860L

Text type: expository nonfiction
Page dimensions: 8" x 10"
Page count: 40

Thematic connections:

- Earth sciences / STEM / science
- Weather
- Technology
- Engineering
- Mathematics
- Space travel
- Environmental Conservation & Protection
- Inventions



Synopsis

Look up--into the blue and beyond. What do you see? The sky--our atmosphere--may seem empty or invisible. But is it? Using spare, lyrical language, author Lydia Lukidis (Deep, Deep Down: The Secret Underwater Poetry of the Mariana Trench) takes readers on an imagined journey up, up high to discover the surprising and wondrous things flying, floating, and happening between the treetops and the stars in this STEM-based picture book.

Reviews

“UP, UP HIGH is a fabulous companion picture book to DEEP, DEEP, DOWN, Lukidis' book about the deep ocean. This new lyrical nonfiction book takes the reader on a journey through the many layers of Earth's atmosphere. From familiar items like mountaintops and satellites to unexpected, unfamiliar phenomena, such as Transient Luminous Events, we witness so many things in the atmosphere. Even though our atmosphere looks like vast emptiness from the ground, we get vivid descriptions of what we're soaring by in our journey.
Highly recommended for all classrooms and for curious readers!”
-Laura Salas, award winning author

“Wonder and awe mix with the joy of poetry while introducing young readers to all sorts of facts about the Earth's atmosphere and beyond. This book holds more than one aspect, which makes it enjoyable to dive into. First, it's written in lyrical form and flows very well as it takes the reader on a trip up into the sky...reaching higher and higher with every two-page spread. This holds short phrases and verses just right for even shorter attention spans. The text grabs with a sense of adventure, curiosity, and inspiration as it leads the reader through the various levels of the atmosphere. It's just right for younger readers as a read-aloud and also works for beginning readers to pick up on their own.”
-Tonja Drecker, book reviewer

“As a space lover, weather enthusiast, I was really surprised by the quality of this book. It's not just poetry, it's not just a simple illustrated book. It's a real journey. We travel through the pages, up and up and up, exploring that world and what is beyond. It's a good resource about earth, atmosphere, space and what is going on up there. There is a lot of data: numbers, vocabulary, clear explanations, information about sky and atmosphere phenomena, about the weather, about human made experiments, creations and important events in human History. Up, Up High, is a really nice piece for children and, also, for grownups. You can read it in multiple different ways, there are three layers: the illustrations for the eyes, the scientific and historical facts explained for the curious learners, and the poetry for the art of the words and story lovers.”
-Bookmeaway, book reviewer

“This book feels like two in one. One is lyric and a fantastic bedtime read aloud, taking us into an outer space adventure as we leave Earth, and cross the atmosphere to reach the stars. Well, we don’t go that far, only 7000 miles which is well beyond the Earth's atmosphere. Then, there’s the other book within, the one full of data and numbers and facts. This part of the book will, undoubtedly, be of more interest for older children. Curious children will enjoy learning about the Atmosphere’s layers, space jumping, meteors and the space station. So, this book is one that

Reviews

may grow with its readers, first showing the beauty of Earth's atmosphere, then teaching them about all the amazing things this gaseous bubble surrounding the Earth does for us."
-Francisca, book reviewer

"A great pairing with her book Deep, Deep Down!"
-Lynne Marie, award winning author & editor

"I thought that this book was fantastic! It has some lovely wording to tell the story and the facts added to the different pages were great. I loved that you get to learn as you read more of the book and as the story progresses. The illustrations are great and help bring the book to life. I liked the addition to the pages which shows where you would be in the atmosphere too. All great and subtle ways of learning too. It is 5 stars from me for this one - very highly recommended!"
-Donna Maguire- book reviewer

"Author Lydia Lukidis invites readers to don a spacesuit and join her on a rocket ship through the atmosphere and around the earth. Along the journey, readers see all that is happening in outer space--from astronauts working with the international space station to satellites collecting information for use on earth. Children and adults will also have the chance to take a more in-depth look at some of the scientific elements, thanks to carefully placed sidebar blurbs. These are a perfect way to make the book scalable for any age. Illustrations with heart and great perspective pair well with the lyrical text. Back matter, replete with further reading options, a glossary, and the like, allows for the continuation of learning that Lukidis' book will inspire. A great ride!"
-Karen Greenwald, author

"Lydia Lukidis has written another winner! This book is one I wish I had when I was teaching or even back when I was in school. Her choice of putting the reader into the action is brilliant. Lukidis asks a question and invites the reader "To find out, squeeze into a space suit. Strap yourself into a space craft." Children will feel connected to the story and relish the feeling of being on an adventure. The book is filled with interesting and important sidebars which enhance the informative lyrical text. Katie Rewse's beautiful illustrations pair perfectly with Lukidis's text. I highly recommend this book for all classrooms and all inquisitive little scientists. "
-Ellen Leventhal, author

"The illustrations in this book were beautiful! While my 5-year-old was younger than the target audience, he was totally captivated by the story. I also as a parent loved all of the little boxes of information on each page. We were blow away learning about the space jumper!
A fantastic book for a little space explorer!"
-Mallory- book reviewer

About the Author

Lydia Lukidis is an award-winning author of 50+ trade and educational books for children. Her titles include *UP, UP HIGH: The Secret Poetry of Earth's Atmosphere* (Capstone, 2025), *DANCING THROUGH SPACE: Dr. Mae Jemison Soars to New Heights* (Albert Whitman, 2024), and *DEEP, DEEP, DOWN: The Secret Underwater Poetry of the Mariana Trench* (Capstone, 2023) which was a Crystal Kite winner for the Canada and North America division, Forest of Reading Silver Birch Express Honor, a Cybils Award nominee, and winner of the Dogwood Readers Award. A science enthusiast from a young age, Lydia now incorporates her studies in science and her everlasting curiosity into her books.

Another passion of hers is fostering a love for children's literacy through the writing workshops she regularly offers in elementary schools across Quebec with the Culture in the Schools program. Lydia is represented by literary agent Miranda Paul from the Erin Murphy Literary Agency.

About the Illustrator

Katie Rewse is an illustrator based in Cornwall, England. She studied for both her BA and MA in illustration at the Arts University Bournemouth and, since graduating in 2017, has specialized in children's book illustration. In 2020, Katie was shortlisted in the AOI World Illustration Awards, and in 2021, the nonfiction title Climate Action, which Katie illustrated, was longlisted for the Blue Peter Book Awards and was a

Waterstone's Children's Book of the Month. Climate Action also won a Green Earth Book Award in 2022.

Katie is particularly interested in how illustration can be used to inspire positive change and she finds inspiration in the outdoors, travel, and adventure.

Curriculum Standards

Aligned for Grades K-5 in Common Core ELA and Math, and Next Generation Science Standards

Kindergarten:

CCSS
ELA: RI.K.1; W.K.2; SL.K.1, SL.K.2, SL.K.3
Math: K.MD.1; K.G.1;MP.4
NGSS: K-ESS2-2; K-ESS3-2; K-PS2-1; K-2-ETS1-1; K-2-ETS1-2

1st Grade

CCSS
ELA: RI.1.1; RI.1.2; RI.1.3; RI.1.4; RI.1.5; W.1.2; SL.1.1, SL.1.2, SL.1.3
Math: 1.MD.1, 1.G.2; MP.4
NGSS: 1-ESS1-1; K-2-ETS1-1; K-2-ETS1-2

2nd Grade

CCSS
ELA: W.2.2; SL.2.1, SL.2.2; SL.2.3; RI.2.1; RI.2.4; RI.2.5, RI.2.6
Math: 2.MD.4; 2.G.1; MP.4
NGSS: 2-PS1-2; K-2-ETS1-1; K-2-ETS1-2

3rd Grade

CCSS
ELA RI.3.1; RI.3.2; RI.3.3; RI.3.4; RI.3.5; W.3.2; SL.3.1
Math 3.NBT.1, 3.NBT.2; MP.4
NGSS 3-PS2-1; 3-PS2-2; 3-LS4.3; 3-ESS2-1

4th Grade

CCSS
ELA RI.4.1, RI.4.2, RI.4.3, RI.4.4; W.4.7; W.4.8; W.4.9; SL.4.1
Math 4.NBT.4; MP.4
NGSS 4-ESS3-1

Curriculum Standards

5th grade

CCSS
ELA RI.5.2; RI.5.4; W.5.1; W.5.8; W.5.9; SL.5.1
Math MP.4

NGSS 5-LS1-1; 5-ESS2-1, 5-ESS2-2, 5-ESS301

Standard-Based Activities

[These may be adapted to different grade levels as well.]

Kindergarten Science

Students who demonstrate understanding can:

K-2-ETS1-2
Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem

K-PS2-1.
Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Activity: Read, Discuss, Build
In the book Up, Up High, a spacecraft travels up and comes back down. Make a rocket from modeling dough or recycled materials and throw it in the air. How does a parachute change the way it lands? (Parachute ideas: grocery store plastic bag, paper napkin, washcloth…)

First Grade English Language Arts

CCSS.ELA-Literacy.RI.1.2
Identify the main topic and retell key details of a text.

Activity: Read, Discuss, Write
The main idea of a text is something that the author and illustrator focus on throughout the whole book. Use or make a graphic organizer to write the main idea of Up, Up High. Key details are smaller, important parts of the book. Add key details to your organizer. Jump into the atmosphere for every detail you find!

Standard-Based Activities

Second Grade Math

Measure and estimate lengths in standard units.

Activity: Read, Build, Experiment
In the book Up, Up High, a spacecraft travels from earth to space. Make your own paper spacecraft. With a partner, launch your spacecrafts from the same starting point over the ground. Measure how far they travel, using standard units and record the data.

Third Grade Science

3-LS4-3.
Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

Example activity:
Based on what you read in *Up, Up High,* what do humans need to be able to travel to higher levels of the atmosphere? How do you adapt to different weather? What would you need to bring to live in the International Space Station? Write and illustrate your answer.
Sentence starters: In the troposphere, humans travel in ____ and need… (Repeat with stratosphere, etc.)

Fourth Grade Writing

CCSS.ELA-Literacy.W.4.7
Conduct short research projects that build knowledge through investigation of different aspects of a topic.

Standard-Based Activities

Research project
In Up, Up High, you can see satellites in the exosphere. Who uses satellites on earth, and what is their purpose? Write a paragraph explanation.

Fifth Grade Science

Students who demonstrate understanding can:

5-ESS2-1.
Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS3-1.
Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Research project
Based on what you read in *Up, Up High*, why is it important to protect our atmosphere? How does the weather and climate in our atmosphere affect life on earth? Research more about how the atmosphere gives us oxygen and keeps us at a safe temperature. Make a diagram or diorama showing the layers of the atmosphere. Research how humans' activities affect what goes into the atmosphere.

ELA Activities

Here's a list of other activities that connect with ELA, each one suitable for various age groups.

Vocabulary Comprehension

Students may not be familiar with the words in the glossary. Ask them to read the definitions below and create a new sentence using each word.

Air pressure (AIR PRESH-ur)
The force exerted by the weight of the molecules that make up air; usually, the lower the air pressure, the stronger the storm.
New sentence: _____
_____
_____

Altitude (AL-ti-tood)
The height of something above sea level or Earth's surface.
New sentence: _____
_____
_____

Atmosphere (AT-muhss-feer)
The layer of gases that surrounds a planet.
New sentence: _____
_____
_____

Gravity (GRAV-uh-tee)
A force that pulls objects with mass together; gravity pulls objects down toward the center of Earth.
New sentence: _____
_____
_____

Orbit (OR-bit)
The path as object follows as it goes around the sun or a planet.
New sentence: _____
_____
_____

Prism (PRIH-sum)
A glass or transparent object with flat surfaces that refracts and separates white light into a spectrum of colors.
New sentence: _____
_____
_____

Solar radiation (SOH-lur ray-dee-AY-shuhn)
The sunlight and energy that comes from the sun.
New sentence: _____
_____
_____

ELA Activities

Comprehension Questions

Ask the students to use the main text as well as the text in the sidebars to answer the following questions.

1. What vehicle do you use to travel through all the layers of the Earth's atmosphere?
   _____
   _____
2. What is the name of the atmospheric layer closest to Earth?
   _____
   _____
3. What happens to air pressure and oxygen levels as you go higher into the troposphere?
   _____
   _____
   _____
4. What is altitude?
   _____
   _____
5. Where does most of the weather occur?
   _____
   _____
6. What do weather balloons do?
   _____
   _____
7. Compare how high skydivers can jump as opposed to how high Alan Eustace jumped from space.
   _____
   _____

ELA Activities

8. What does TLE stand for?

9. What's the difference between meteoroids, meteors, and meteorites?

10. What does the sun emit that causes the Aurora Borealis and Aurora Australis?

11. What is the mission of the International Space Station (ISS)?

12. How many astronauts have been aboard the International Space Station since 2024?

13. Who was the very first astronaut?

14. Can satellites be used for GPS mapping?

15. What does the Earth's atmosphere do for us?

16. How many layers are there in the Earth's atmosphere?

ELA Activities

Figurative language applies words or phrases in a non-literal way. Writers often use figurative language to add depth and creativity to their writing. It's also a great way to show rather than tell your message.

Here are some quick poetry lessons for students that feature figurative language. Ask students to read the definitions below and check out the examples from UP, UP HIGH. Students can make up a new way to use these poetic devices.

☞ **Onomatopoeia:** When you use a word that makes a sound close to the action it refers to.

And then . . .
PLOOF!
The parachutes
pop open.

SPLASH!
The spacecraft
plops into the sea.

Student example: _____
_____
_____

☞ **Alliteration:** When you repeat the first letter or sound of several words near one another.

The spacecraft shakes
as it slices through
a slew of storm clouds.

Student example: _____
_____
_____

☞ **Simile:** When you compare two unlikely things, usually using the words "like," "as," or "than."

Thunder roars like a lion,
and lightning flashes.

For a split second,
strange red lights
called sprites
glimmer,
like ghostly jellyfish.

Student example: _____
_____
_____

☞ **Personification:** When you give human characteristics to something nonhuman.

Example:
Soon the entire window
begins to glow
as an aurora
dances across the horizon.

Student example: _____
_____
_____

Literacy Game

ELA Vocabulary Memory Match Game

- Common Core State Standards:
- CCSS.ELA-LITERACY.L.3.4
- CCSS.ELA-LITERACY.L.4.4
- CCSS.ELA-LITERACY.L.5.4
- CCSS.ELA-LITERACY.L.6.4

What You'll Need:

- white paper
- scissors
- pencils
- access to a printer
- laminating supplies (optional)

Instructions:

- Make photocopies of the vocabulary and definition cards on the following pages
- Cut the vocabulary and definition cards on the dotted lines (laminate them if you would like to make them sturdier)
- Ask the students to face all cards down at first
- Ask them to choose a partner and then take turns flipping the cards to find a match between a word and its definition
- If a student draws two of the same type of card, they may redraw
- The partner with the most matches at the end wins!

CARDS

PRINT & CUT APART THESE VOCABULARY CARDS

Air pressure
(AIR PRESH-ur)

Orbit
(OR-bit)

Altitude
(AL-ti-tood)

Solar radiation
(SOH-lur ray-dee-AY-shuhn)

Gravity
(GRAV-uh-tee)

Atmosphere
(AT-muhss-feer)

Prism
(PRIH-sum)

PRINT & CUT APART THESE DEFINITION CARDS

A force that pulls objects with mass together; gravity pulls objects down toward the center of Earth

The layer of gases that surrounds a planet

The height of something above sea level or Earth's surface

The force exerted by the weight of the molecules that make up air

The path as object follows as it goes around the sun or a planet

A glass or transparent object with flat surfaces that refracts and separates white light into a spectrum of colors.

The sunlight and energy that comes from the sun.

Q & A with an Expert

What made you decide to do this daring stunt?
I spent a great deal of time studying all the previous record attempts, and I thought I had an idea that would be safer, less expensive, and easier to engineer. We built an amazing team to bring a simple idea to life, and we proved that it was safe, by running exhaustive tests. It was not a "stunt", but a research program, aimed at improving every aspect of the system – life support systems, balloons, launch systems, aeromedical systems, heating/cooling system, parachute systems, etc.

What safety measures did you take?
Every system was heavily tested and redundant. If one system failed, there was another that would take its place. For example, if my main parachute failed, there was a reserve parachute that I could switch to. If one oxygen system failed, there was another that would take over.

What did it feel like when you were falling through Earth's atmosphere?
Surreal. In the beginning, there is no sensation of falling. There is no noise, only weightlessness. It took 51 seconds of freefall before I stopped accelerating and started slowing down. It was the first time I heard any noise, other than the sound of my own breathing.

How did your body react to going faster than the speed of sound?
here is no way to sense that you are going over the speed of sound. Before and after passing through the speed of sound felt exactly the same. I had to look at a graph of speed verses time on the ground to know the exact moment that I broke the speed of sound, and the moment that I achieved my top speed.

Were you afraid?
No. I was prepared, and very focused. I was relaxed, knowing that we had tested the systems dozens of times, and I had the best team on earth helping me.

What did you see in the atmosphere, if anything, as you fell to Earth?
I was above 99.9% of the earth's atmosphere. I could see the curvature of the earth, the darkness of space. The atmosphere was a thin band, well below me. I was above it all!

Did the atmosphere change "color" as you descended?
Absolutely. It started off a light blue and slowly got darker and darker as I got higher and higher. I was surprised that the atmosphere had thin bands of lighter and darker colors, rather than just getting gradually darker.

Do you have a fascination with space?
Always. My dad was an aerospace engineer, and we drove to see most of the Apollo launches. We watched the moon landing, and the first walk on the moon. I was 13 years old.

Were you a daredevil when you were younger?
I was never a daredevil, but I was persistent. I would try something 100 times before I finally could do it. It looked "easy", but only because I practised over and over.

What advice do you have for children interested in STEM?
Stick with it. There is a to learn at the beginning, that doesn't seem that useful, but once you have the basics mastered, you can appreciate the way the world works, and how to build things that solve real problems for real people. The world needs great engineers, great scientists, great researchers. The world is full of problems, from energy, the environment, medicine, geology, cosmology, chemistry, physics, etc. You can solve those problems, if you have the right training.

Click here to watch the amazing video!
https://www.youtube.com/watch?v=0WmaZhpd3hI

Q & A with an Expert

When did you first dream of going to space? Did you imagine being an astronaut as a young girl?
I watched the coverage of the space program when I was growing up. I was very interested in math and science. I didn't think about being an astronaut because women were not included in that group then.

How long did it take to train as an astronaut before being ready for flight?
A new astronaut class trains for a couple of years just to learn more about orbits, systems of the spacecraft or station, and for spacewalks and robotic operations. For shuttle missions we trained about a year for specific payloads for that mission, or for the activities, such as when shuttle crewmembers were helping to construct the International Space Station.

When did you visit the International Space Station and what was your mission?
I visited the International Space Station on my last mission – STS-108 in 2001. We brought up three new crewmembers for the space station and brought three back home. We carried a logistics module with supplies, science, new hardware in the shuttle cargo bay which we attached (temporarily) to the station using our shuttle robotic arm. All the items were unloaded and then the module was reloaded with items that were no longer needed onboard the ISS. Our robotic arm was used to return the module to the shuttle. We also conducted a spacewalk while docked.

What does blasting off to space feel like?
There is a lot of vibration, power, it's also noisy but our helmets and communication caps block a lot of that out. The g's built up to while the shuttle accelerated with the two solid rocket boosters and three main engines. After about two minutes the SRBs were depleted and separated, and the acceleration dropped very noticeably. Powered ascent continued with the 3 main engines burning for another 6.5 minutes with the acceleration slowing building up again. The max g-force was around 3. When the main engines cut-off, the shuttle was then falling through gravity, and we became weightless.

Did you ever fear for your safety?
I was always aware of the risks. There were no anomalies or failures on any of my missions that were threatened our safety.

What does it feel like with no gravity?
Of course, it is always strange and fun to float. At first it is easy to push off with too much force to cross a space so our brains sort of figure that out and motion becomes more natural. We float because the spacecraft, the humans, and everything else has been accelerated to an orbital velocity of 28,000 km/hr (17,500 mph) so we are going too fast to fall directly to Earth, but instead keep going around. Most of the crew cannot resist playing around a bit with food and liquids to see what happens – but must clean up all messes!

What does Earth's atmosphere look like from space?
We can't see the air when looking straight down, but when there is a sunrise or sunset (happens every orbit, so about 16 per day in low Earth orbit) the atmosphere is illuminated by the Sun in such a way that the wavelengths for difference colors of light are bent differently – like a sunrise or sunset here on Earth, but layers are visible. The entire atmosphere looks pretty thin, creating the correct impression our environment is fragile and we need to take care of our planet.

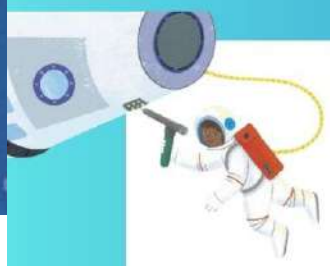
Do you have any advice for children who dream of becoming astronauts?
It's good to have a dream. Keep reading about the program and look at the backgrounds of the astronauts, but also the other people who work in so many important roles that enable spaceflight. Study science and math. Picking a career that interests you is most important. If your education and experience match what NASA is looking for in astronauts – then apply! In the future I am sure there will be more opportunities to fly with private space ventures as well.

EARTH ATMOSPHERE

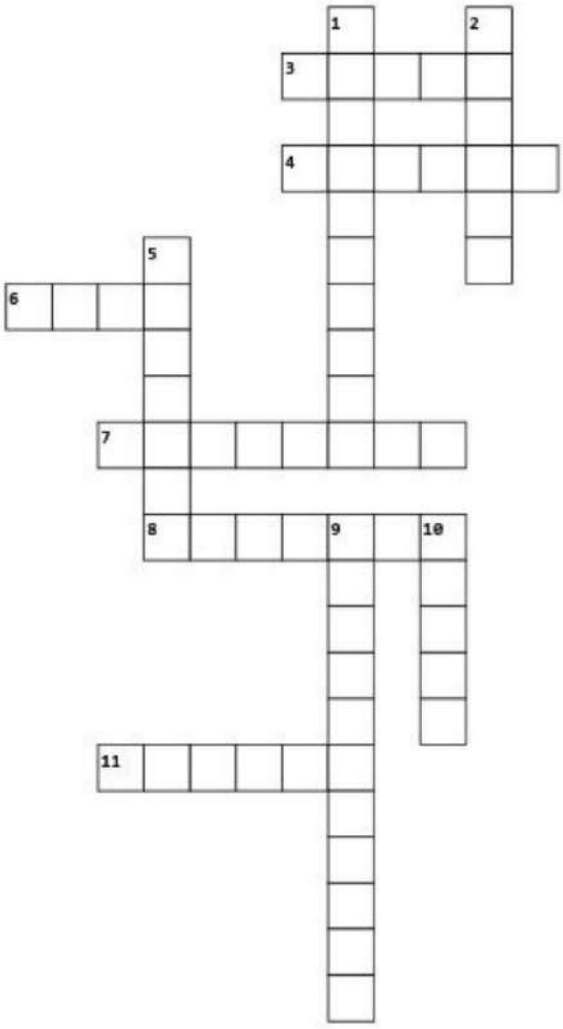
Word Search

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

atmosphere
satellite
gravity
aurora
storm
spacecraft
astronaut
sprite
plane
mountains
weather
meteor
earth



CROSSWORD PUZZLE



Across

3. The International Space Station orbits the _____

4. Once in orbit, crews see a sunrise or sunset every _____ minutes

6. The number of atmospheric layers

7. lights Another name for the Aurora Borealis?

8. The lights in the sky are called this

11. Earth is protected by a system of magnetic _____

Down

1. What is the battery-powered radio hangs below the weather balloon?

2. Satellites often snap _____

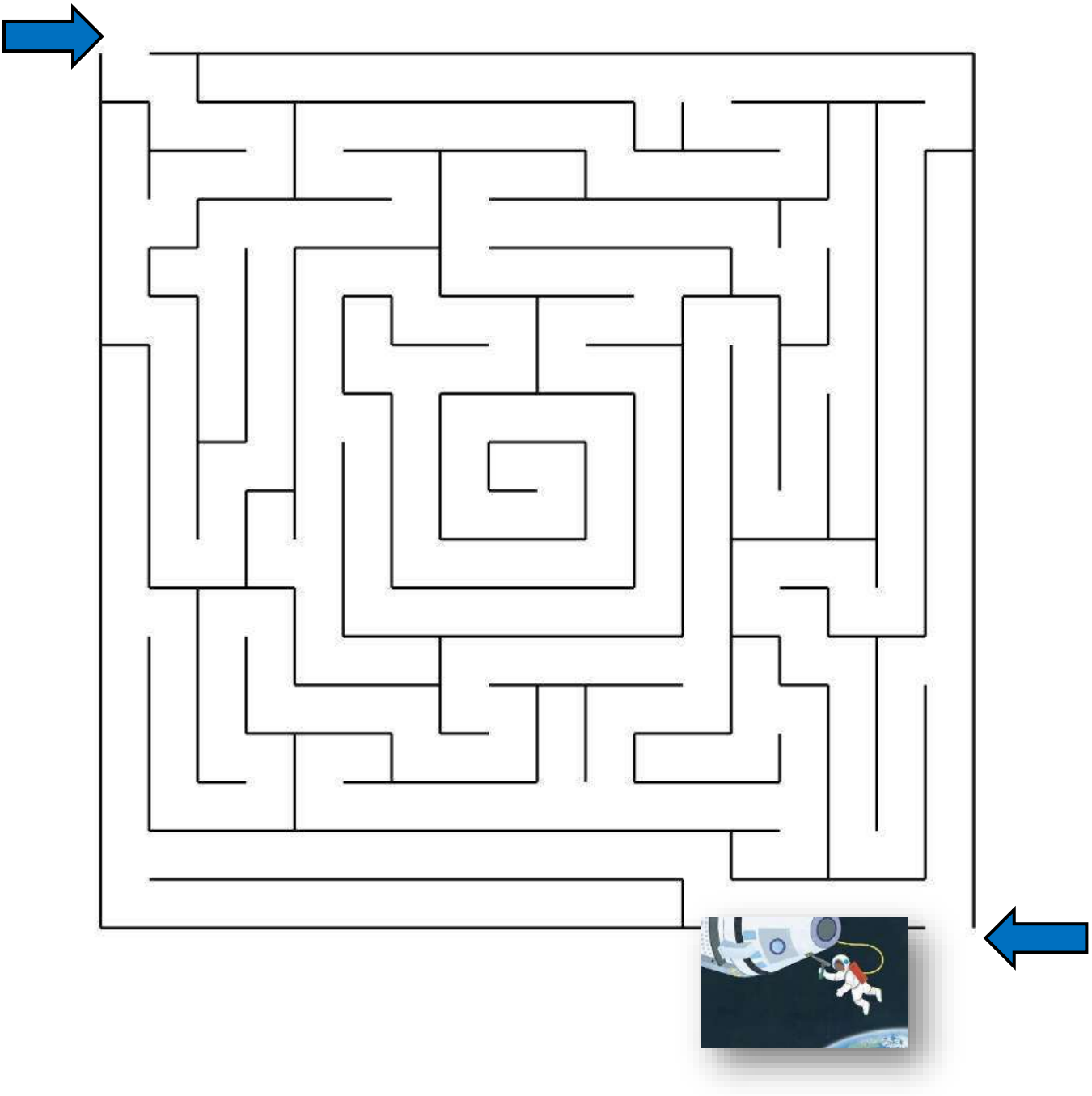
5. What we see as shooting stars are actually these rocks

9. What is the most chaotic atmospheric layer?

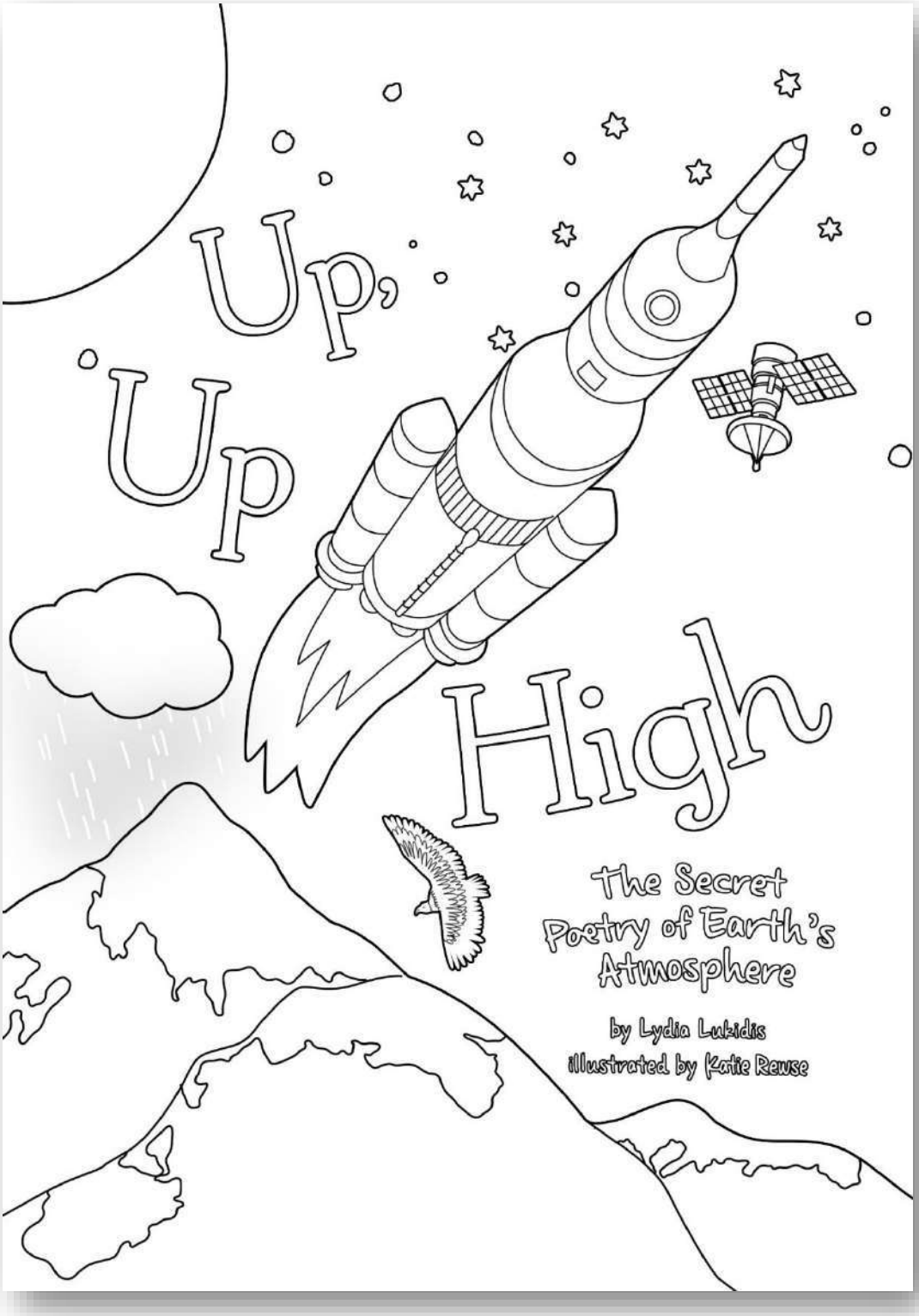
10. Alan Eustace jumped from space and

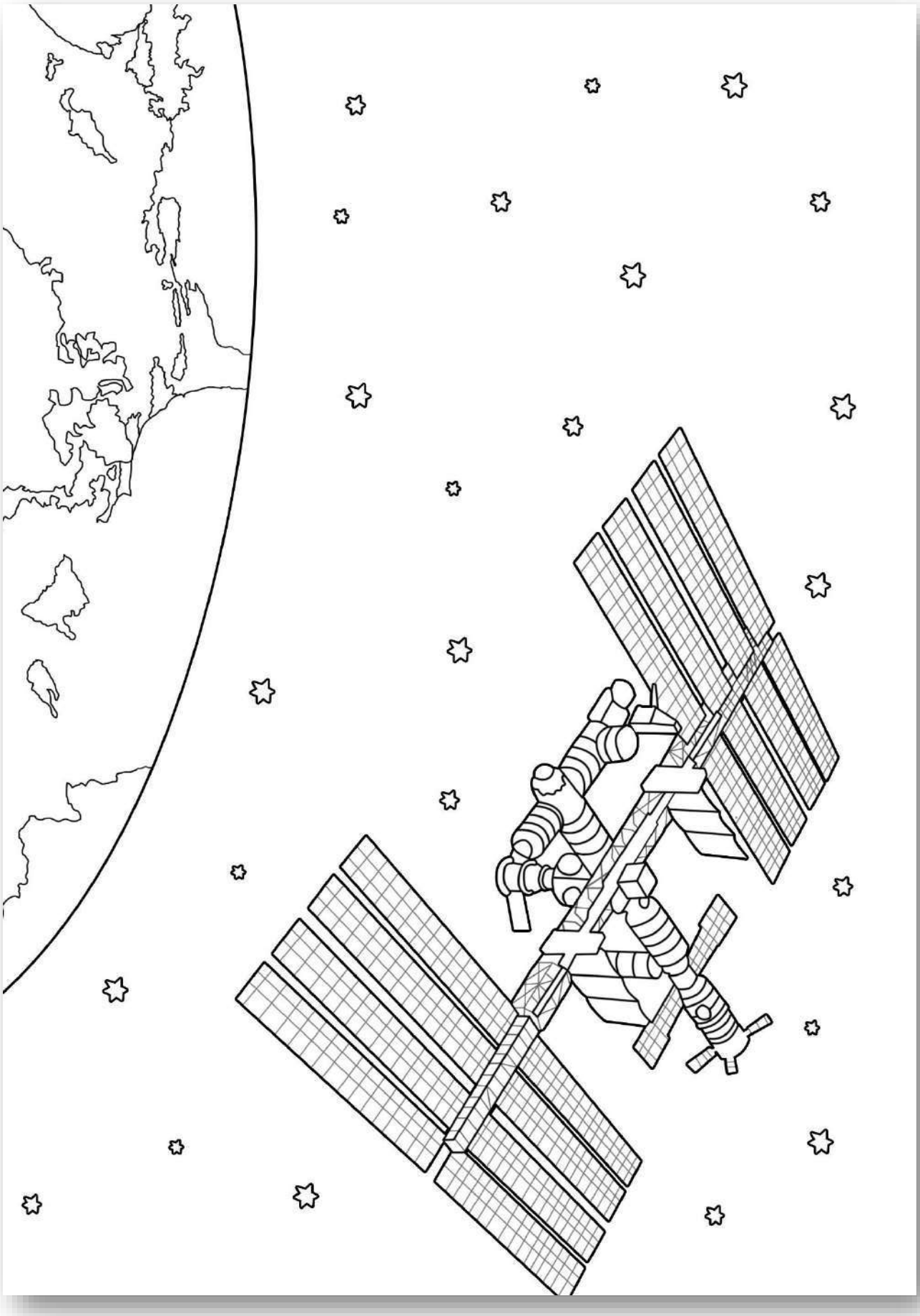
Maze

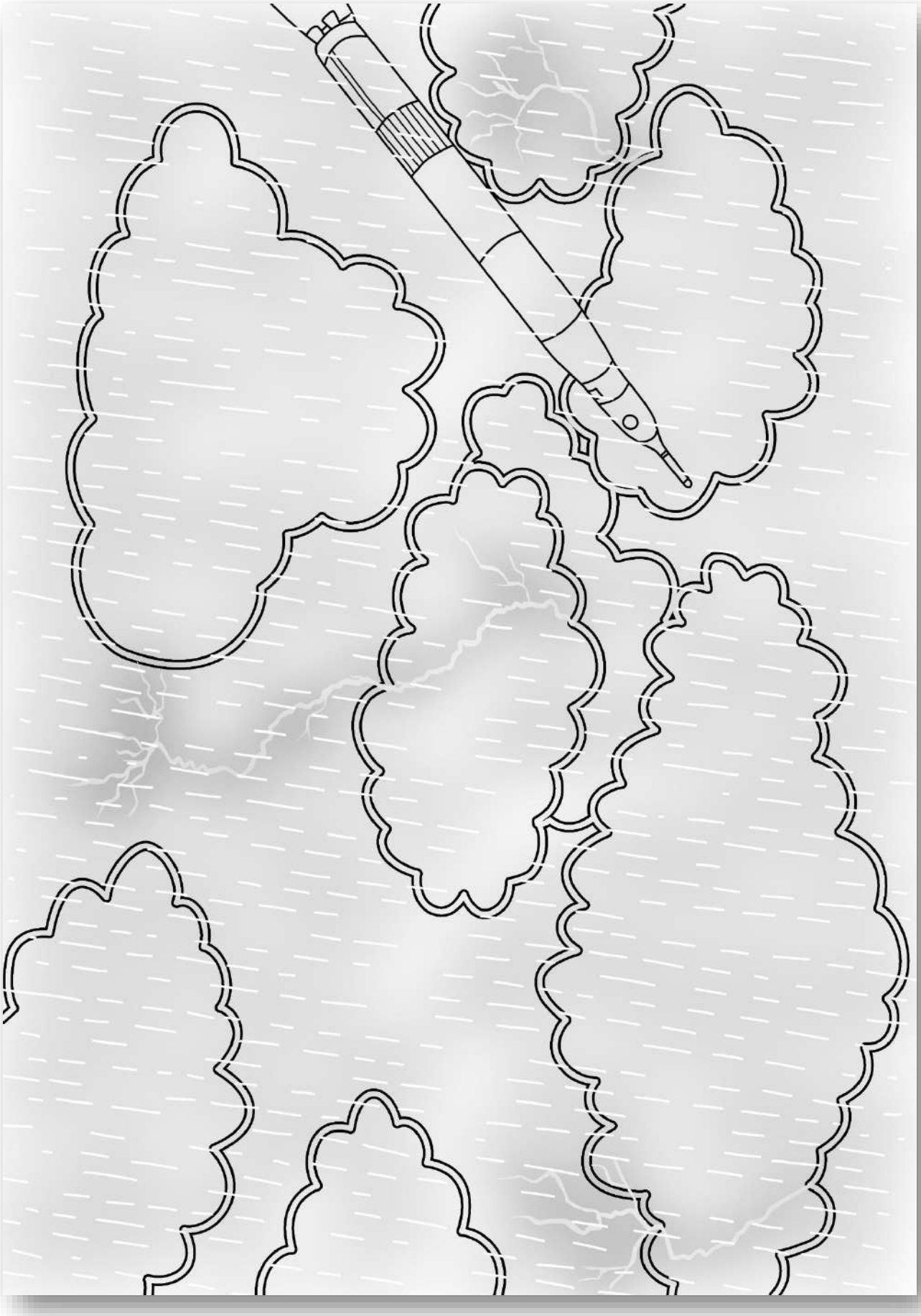
Try to get to the astronaut!



Coloring Sheets





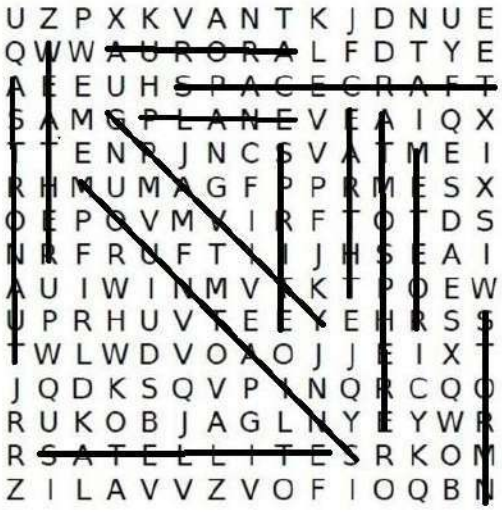


Answer Key

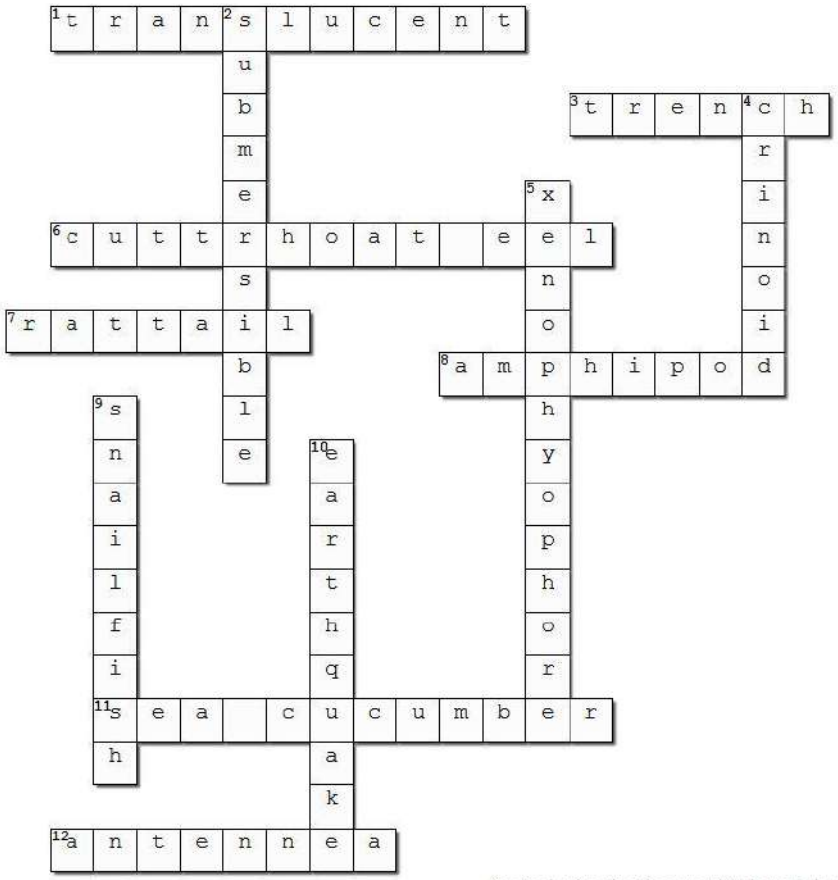
Comprehension Questions

1. a spacecraft
2. the troposphere
3. they drop
4. altitude is the height if an object above sea level
5. in the troposphere
6. weather balloons help predict the weather
7. most skydivers jump from about 10,000 feet but Alan jumped from 26 mils (42 km) above Earth's surface
8. Transient Luminous Events
9. Meteoroids are lumps of rock or iron from space. When they enter Earth’s atmosphere, we call them meteors. But some bigger meteors don’t completely burn up in the atmosphere. They make it all the way to our planet. We call these meteorites.
10. solar wind
11. to conduct experiments and collect data to help advance the fields of medicine, technology, and science
12. 280 astronauts from 23 different countries
13. Russian astronaut Yuri Gagarin became the first human to ever journey to space
14. yes
15. It not only protects us from harmful rays but also gives us life.
16. 5 layers

Word Search

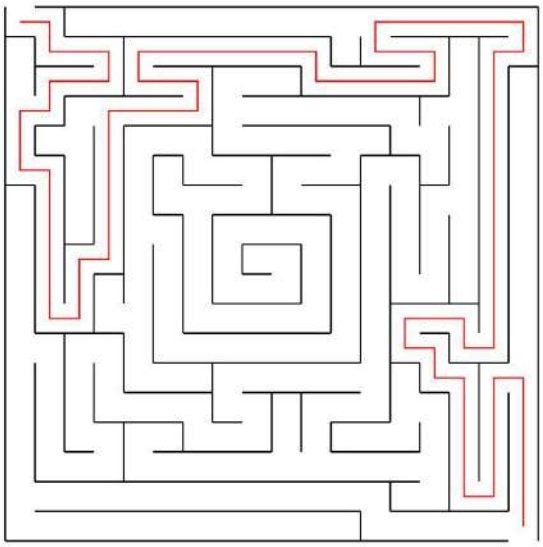


Crossword Puzzle



Created using the Crossword Maker on TheTeachersCorner.net

Maze



For more information about the author:

http://www.lydialukidis.com/

For more information about the illustrator:

https://www.katierewse.com/

For more information about Capstone:

https://www.capstonepub.com/

LYDIA LUKIDIS

capstone®