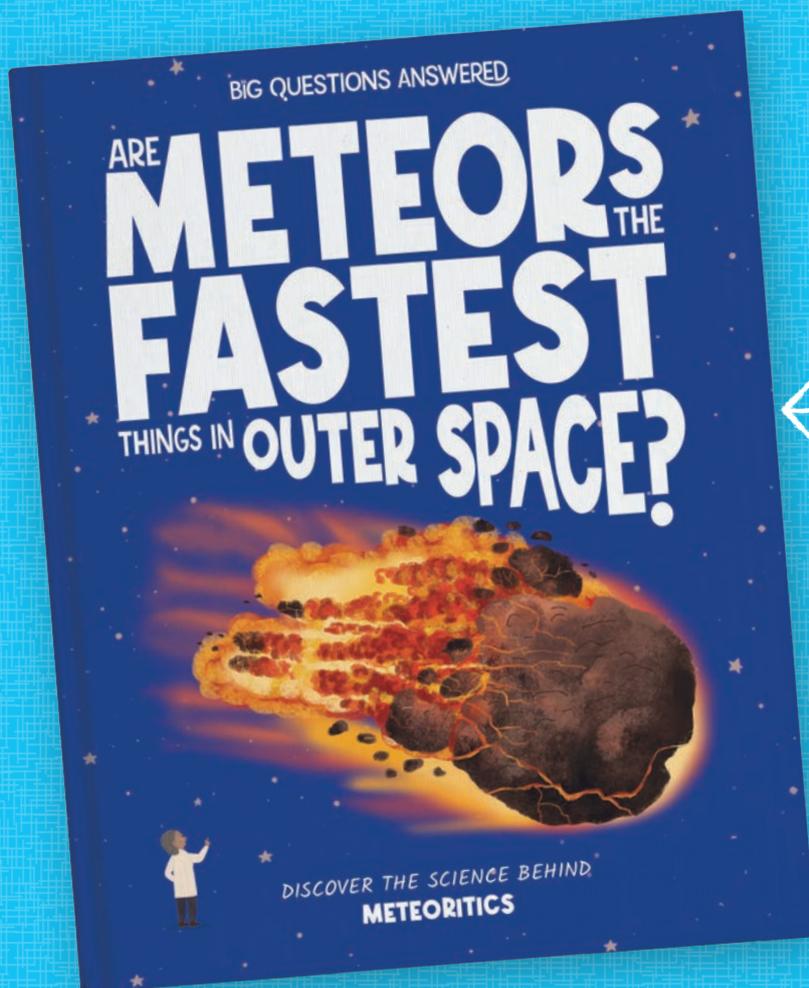


THE BIG QUESTIONS ANSWERED

YOUNG METEORITICISTS'

ACTIVITY PACK



Full of fun and exciting activities to accompany this book!



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Picture Credits:

(t = top, b = bottom, m = middle, l = left, r = right)

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Wikipedia: By Harrison Schmitt / Apollo 17 - <https://tothemoon.im-ldi.com/gallery/Apollo/17/6#AS17-148-22727>, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=171069392> 12BL

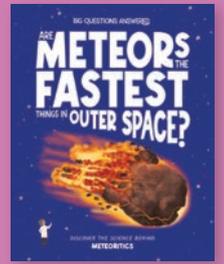
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ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "The 1833 Meteor Shower: Scene 1".

www.thebigquestionsanswered.com



DIARY ENTRY

Imagine you were a scientist observing the meteor shower in 1833! Use the space below to write a diary entry all about what you saw and what it was like to see so many meteors in the sky.

Large lined area for writing a diary entry.



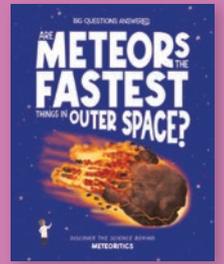
- Feeling stuck? Try some of these...
- **Describe what the meteors looked like.**
Think about their color, size, and brightness.
 - **Describe the place you were when you saw them.**
Where were you? What was around you at the time?
 - **Describe how you would be feeling.**
Would you be excited, nervous, or something else?



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Meteor Showers: Scene 2".

www.thebigquestionsanswered.com



COSMIC WORDS

Meteoriticists love to learn all about space! Can you find and circle the words listed below, in the grid. Words can be found in any direction (including diagonals) and can overlap each other.

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

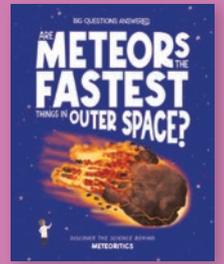
- | | | |
|----------|------------|--------------|
| METEOR | MOON | TELESCOPE |
| COMET | STAR | ROCKET |
| ASTEROID | SATELLITE | GALAXY |
| PLANET | SPACECRAFT | SOLAR SYSTEM |



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "The Asteroid Belt: Scene 3".

www.thebigquestionsanswered.com



SPACE SCRAMBLE

Oh no! The impact of two asteroids colliding has mixed up these words! Test your word-solving skills by trying to unscramble the words. They are all related to space. There is a list of the correct words below to help you.

EUJTPIR

ORASIETD

MSRA

ASTYEOOBVRR

RMDOIETEO

ARGIVTY

IORBT

MARS

GRAVITY

ORBIT

OBSERVATORY

METEOROID

JUPITER

ASTEROID

EXTRA ACTIVITY - WORD WITHIN WORDS

How many words can you find within the words "asteroid belt"?

1. You can only use the letters within the words "asteroid belt".
2. Each of these letters can only be used once: A, S, R, O, I, D, B, L.
3. "Asteroid belt" has two letter E's and two letter T's so you can use them twice each.
4. You can't use any other letters from the alphabet.

EXAMPLE: you can make the word TEAR using the letters in ASTEROID BELT.

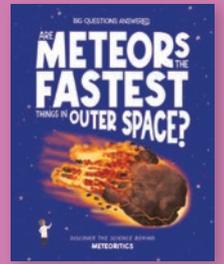
ASTEROID BELT



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "The Pull of Gravity: Scene 4".

www.thebigquestionsanswered.com



DRAW YOUR OWN PLANE

Scientists and engineers are always trying to build faster and faster planes! Imagine you have designed your own plane that can fly quicker than meteors and draw a scene to show it.

A large, empty rectangular area with rounded corners and a thin purple border, intended for drawing a plane and a scene.

Draw your design in here!

Where would your plane fly to? What would it be called?

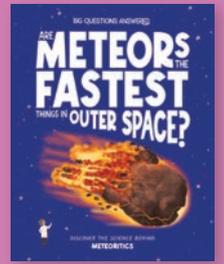




ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Shooting Stars: Scene 5".

www.thebigquestionsanswered.com



SOLAR SYSTEM SECRETS

Can you use the words below to fill in the blanks and uncover some amazing space facts? Each answer can only be used once.

Mercury

apple

atmosphere

moons

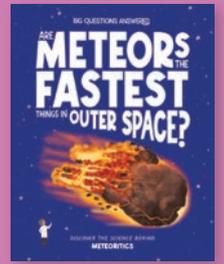
oceans

1. Discoveries by scientists like Isaac Newton changed science forever! Isaac Newton famously discovered gravity after watching an _____ fall from a tree.
2. It can be very hard to find meteorites to study. Because most of Earth's surface is covered by the _____, the majority of meteorites will likely land in the water.
3. _____ is the closest planet to the Sun and is named after the speedy Roman god of communication. That's a very fitting name for the fastest planet of all!
4. _____ are a type of natural satellite. While Earth has only one of these, Saturn has over 250! They are captured by the gravity of the planet that they orbit around.
5. Despite being very small and thin compared to the vastness of outer space, Earth's _____ is very important to all life because it protects us from harmful rays from the Sun!

ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Tracking Meteors: Scene 6".

www.thebigquestionsanswered.com



COMPUTER CODE

You are a meteoriticist working in an observatory when you get a message from another scientist. But the computer has jumbled it up! Can you use the code below to work out what it says?

A	B	C	D	E	F	G	H	I	J	K	L	M

N	O	P	Q	R	S	T	U	V	W	X	Y	Z

<input type="text"/>																	

<input type="text"/>														

<input type="text"/>															

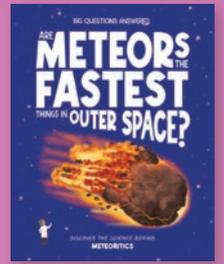
<input type="text"/>																

<input type="text"/>										

ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Studying Meteorites: Scene 7".

www.thebigquestionsanswered.com



SEARCHING FOR METEORITES

Meteoriticists search all around the world for meteorites to study. Use the clues below to work out the different places that these scientists can look and fill in the boxes. The first one has been done for you.

The crossword puzzle grid consists of 10 rows and 10 columns. The first clue (1) is a vertical word starting at row 1, column 7 and ending at row 10, column 7. The second clue (2) is a horizontal word starting at row 2, column 1 and ending at row 2, column 7. The third clue (3) is a vertical word starting at row 3, column 4 and ending at row 5, column 4. The fourth clue (4) is a horizontal word starting at row 4, column 6 and ending at row 4, column 9. The fifth clue (5) is a horizontal word starting at row 5, column 1 and ending at row 5, column 7. The sixth clue (6) is a horizontal word starting at row 6, column 1 and ending at row 6, column 7.

- ~~ANTARCTICA~~
- SAVANNA
- CITY
- MOUNTAIN
- RAINFOREST
- DESERT

ACROSS

2. Mount Everest is an example of this rocky landform.
4. Often filled with very tall buildings, lots of humans can live here.
5. Animals like elephants and lions live here.
6. Covered in trees, this part of Earth gets lots of rain.

DOWN

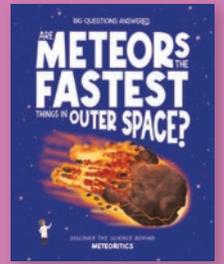
1. This part of Earth is very far south and is freezing cold.
3. A place known for not getting much rain.



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

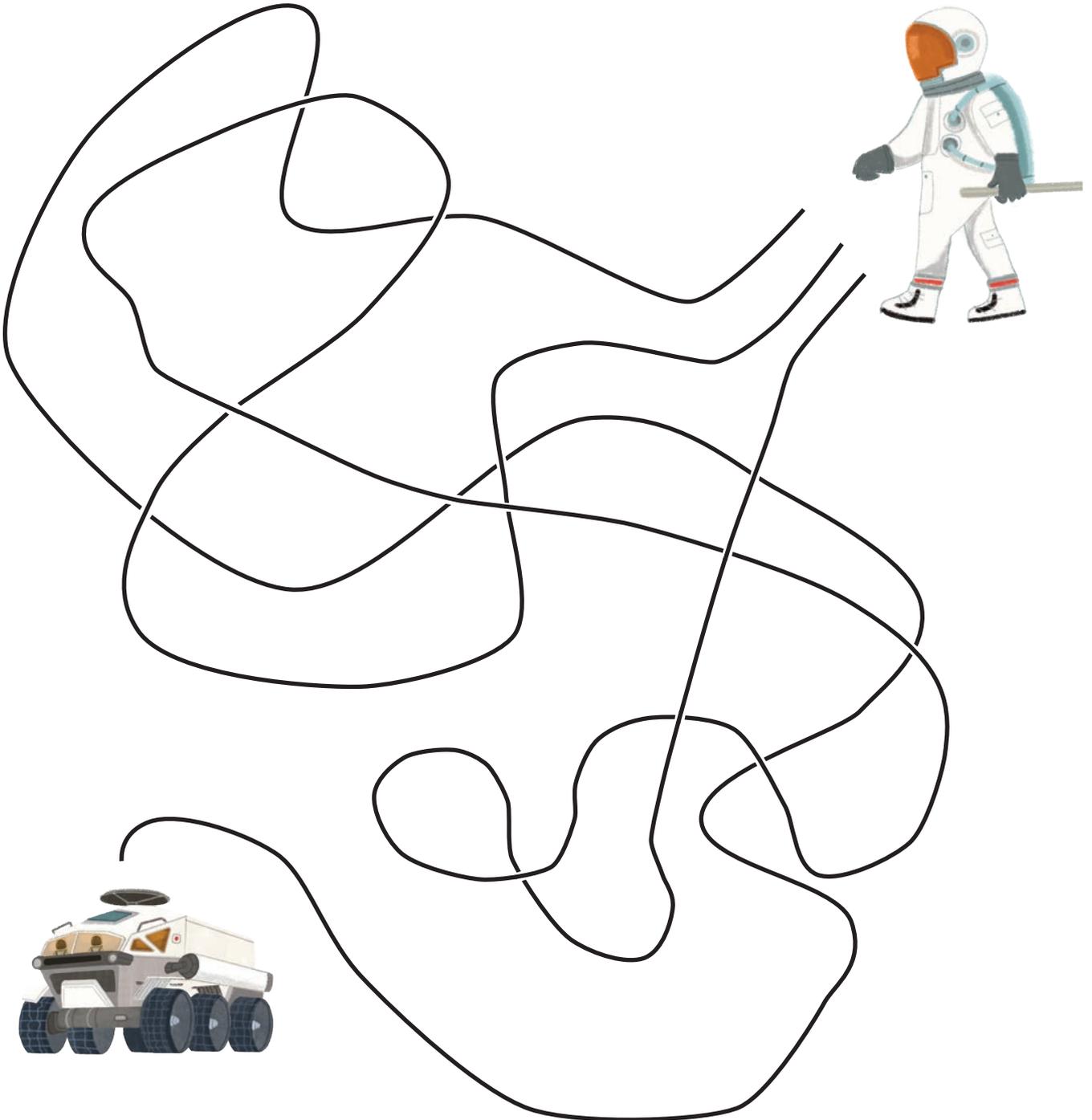
For reference to the Teachers' & Parents' Resources, this goes with "Living on the Moon: Scene 8".

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ROGUE ROVER

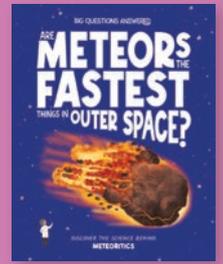
The astronaut has got lost and is trying to return to their rover. Can you help the astronaut find their way back?



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Falling to Earth: Scene 9".

www.thebigquestionsanswered.com



MISCHIEVOUS METEORS

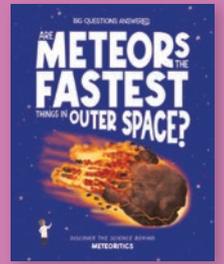
These mischievous meteors are trying to catch us out! Can you spot the 7 differences between the two scenes? Circle them when you spot them.



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Speedy Mercury: Scene 10".

www.thebigquestionsanswered.com



PLANET MIX-UP

Learning about the planets in the solar system can be complicated. Can you match up the photograph and name of each planet with its description? Draw a line to match them up.

Fact:

I am famous for my huge rings, which are made from water ice, rock, and dust.



Fact:

I am the only planet that scientists know has liquid water on its surface.



Fact:

I am the farthest planet from the Sun and am known for being freezing cold.

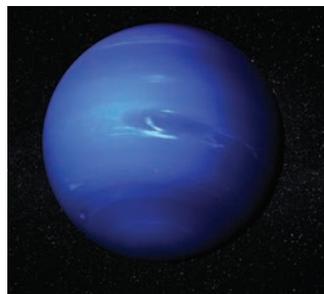


Fact:

I am the brightest planet in the night sky, because my thick clouds reflect a lot of light.



I am...
EARTH



I am...
NEPTUNE



I am...
VENUS



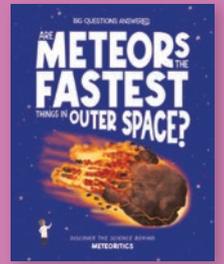
I am...
SATURN



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

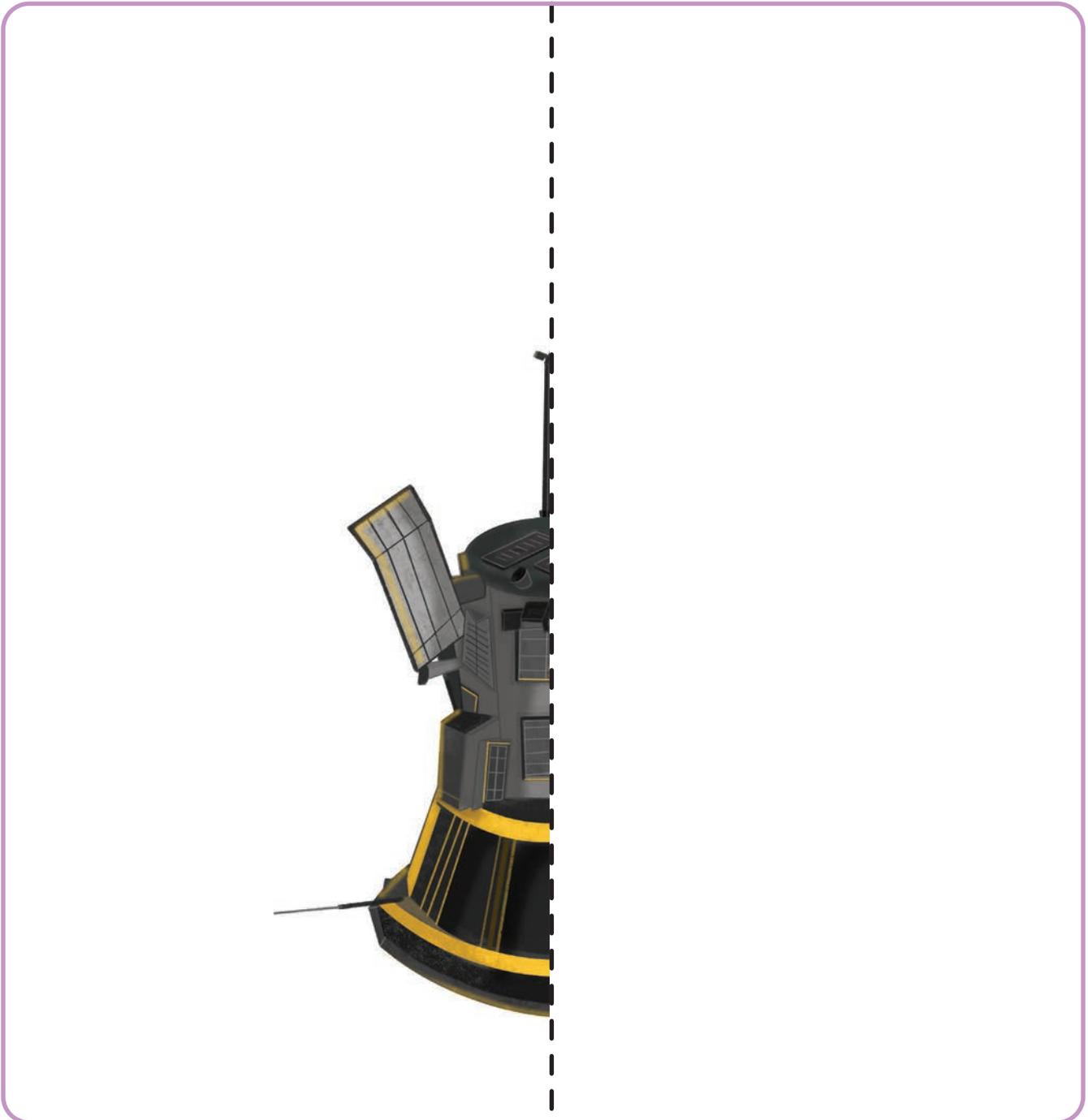
For reference to the Teachers' & Parents' Resources, this goes with "Parker Solar Probe: Scene II".

www.thebigquestionsanswered.com



SPEEDY SPACECRAFT

The Parker Solar Probe was a very complicated spacecraft to design and build! Below is an illustration of it – get creative and complete the drawing of the spacecraft! Finish the picture by coloring it in.

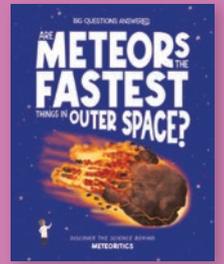




ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "The Speed of Light: Scene 12".

www.thebigquestionsanswered.com



SPOTLIGHT ON SPACE

Can you use what you've learned about meteors and outer space to work out which of the sentences are true and which are false?

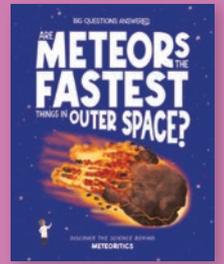
	SENTENCE	TRUE	FALSE
1	A planet's gravity pushes things away from it.		
2	The scientists who study meteoritics are called meteorologists.		
3	Meteors can be pieces of comets as well as asteroids.		
4	Scientists can learn about the solar system's history using meteorites.		
5	There are craters on the Moon created by meteorite and asteroid impacts.		



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Are Meteors the Fastest?: Scene 13".

www.thebigquestionsanswered.com



ZOOMING THROUGH SPACE

Read the questions below and think about your own opinions before filling in your answers.

What do you find most interesting about meteors?

.....
.....
.....

Would you like to watch a meteor shower? Why or why not?

.....
.....
.....

If you were a meteoriticist, what would you most enjoy – going on expeditions to find new meteorites or studying them in the lab?

.....
.....
.....

What would be your big question about meteors?

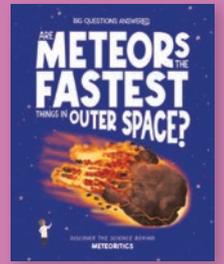
.....
.....
.....



ARE METEORS THE FASTEST THINGS IN OUTER SPACE?

For reference to the Teachers' & Parents' Resources, this goes with "Post-Reading Questions".

www.thebigquestionsanswered.com



WRITE YOUR OWN METEORITICS STORY

Can you write a story of your own about meteoritics, making sure to include the 3 key words below?

METEOR

SPACE

METEORITICIST

A large, light-orange, torn-edge rectangular area containing 15 horizontal lines for writing a story.

MORE FUN METEORITICS ACTIVITIES

COLORING SHEETS & MORE!

The following activities aren't based on any specific scenes in the book. They can be used on their own or alongside the book as extra activities.

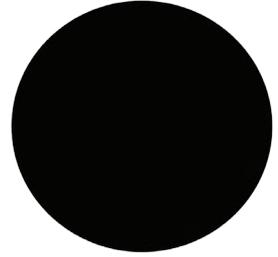
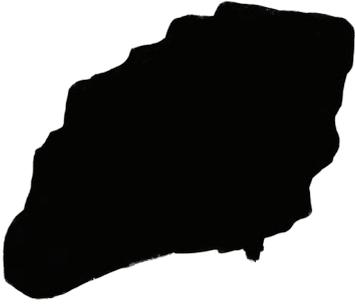
FIND THE SCIENTIST

There are lots of different scientists below. Can you find the meteoriticist?
Circle them when you find them – there's only one!



MATCH THE SHAPE

Can you match each shadow to the correct picture? Draw a line to connect them.



SIMPLE SUMS

Below are 3 objects which represent different numbers.

Work out the sum based on what each object represents and write your answers in the boxes.



= 2



= 5



= 4



+



-



=



+



-



=



+



+



=



+



+



=

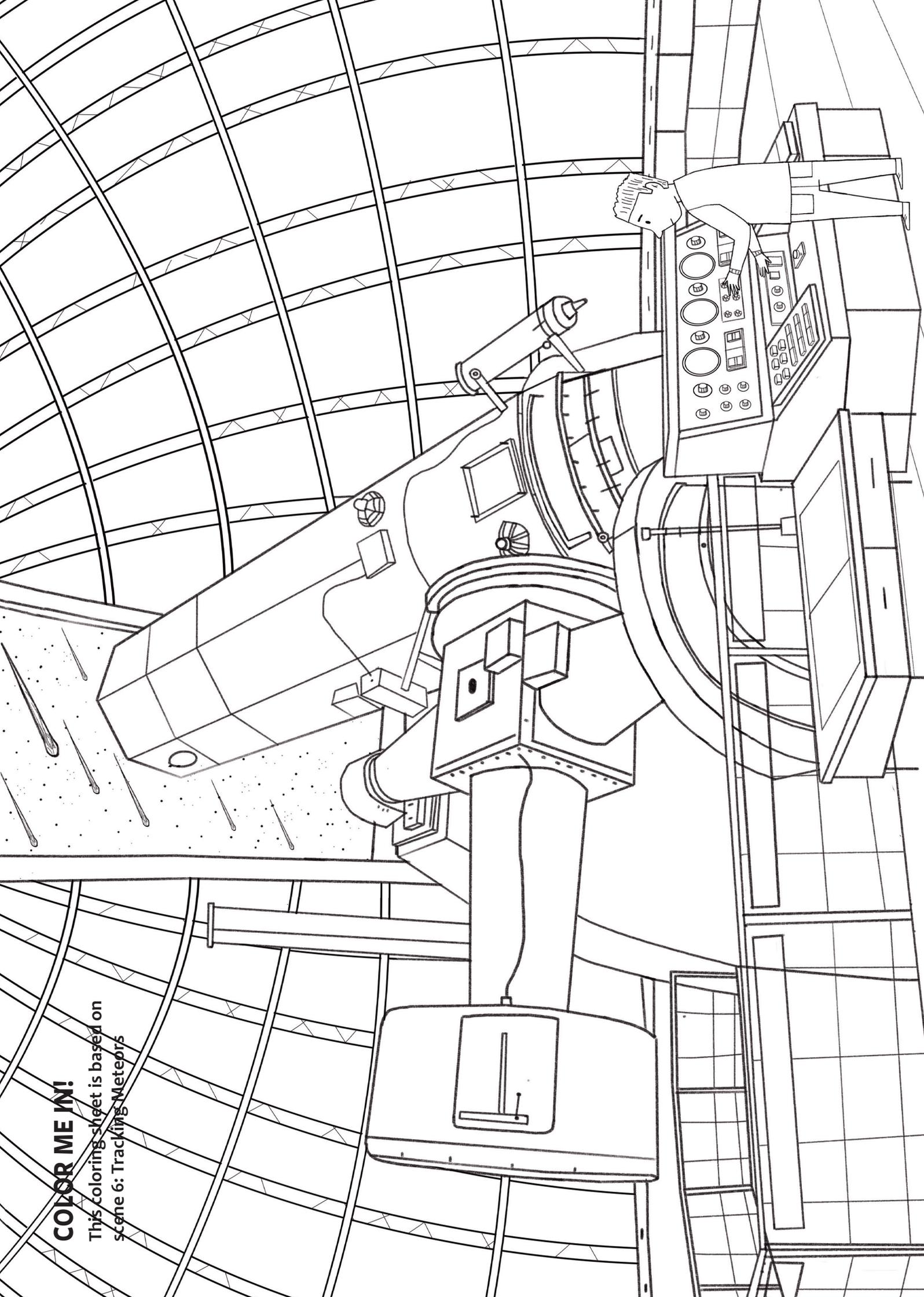


COLOR ME IN!

This coloring sheet is based on scene 1: The 1833 Meteor Shower

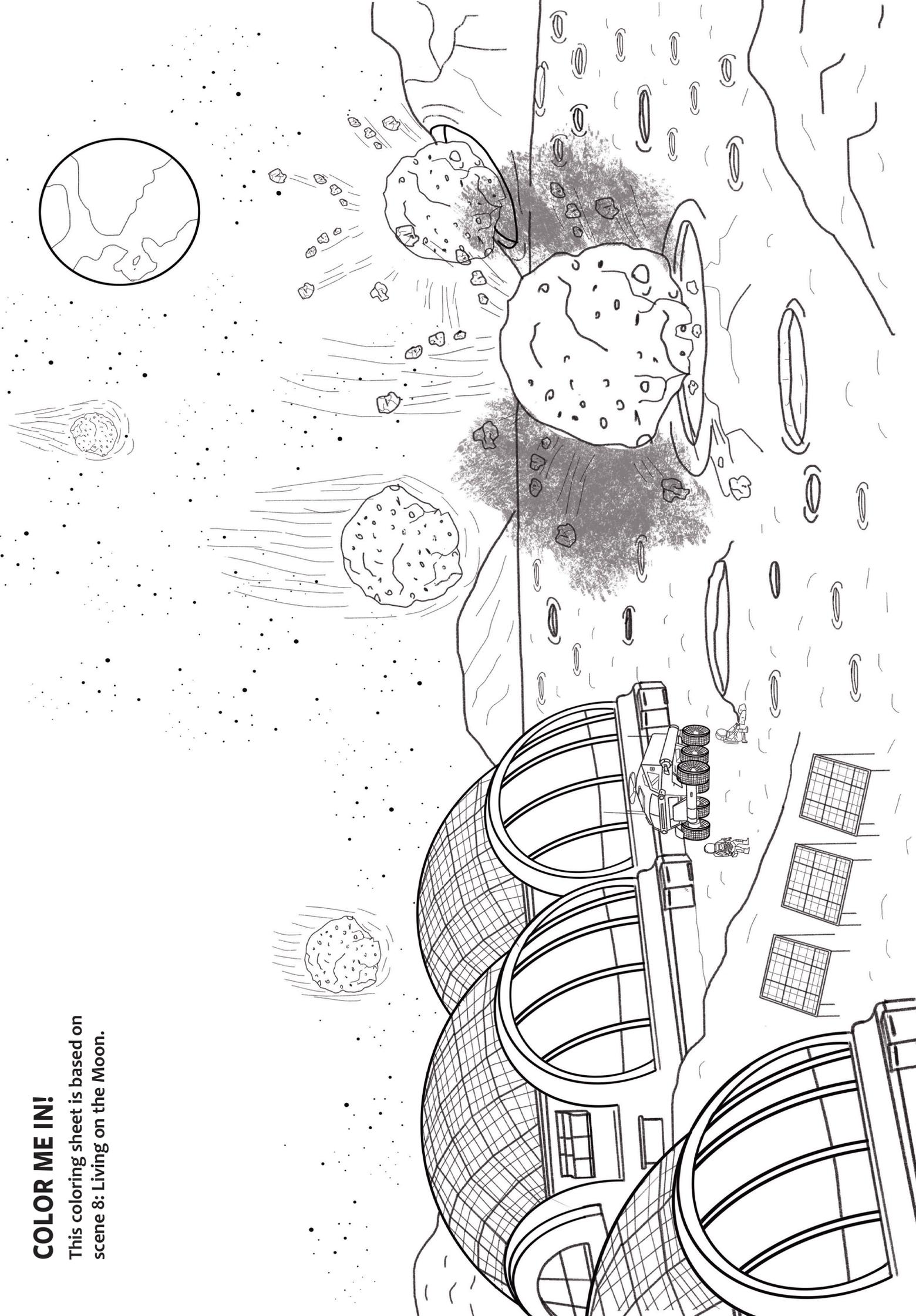
COLOR ME IN!

This coloring sheet is based on
scene 6: Tracking Meteors



COLOR ME IN!

This coloring sheet is based on scene 8: Living on the Moon.



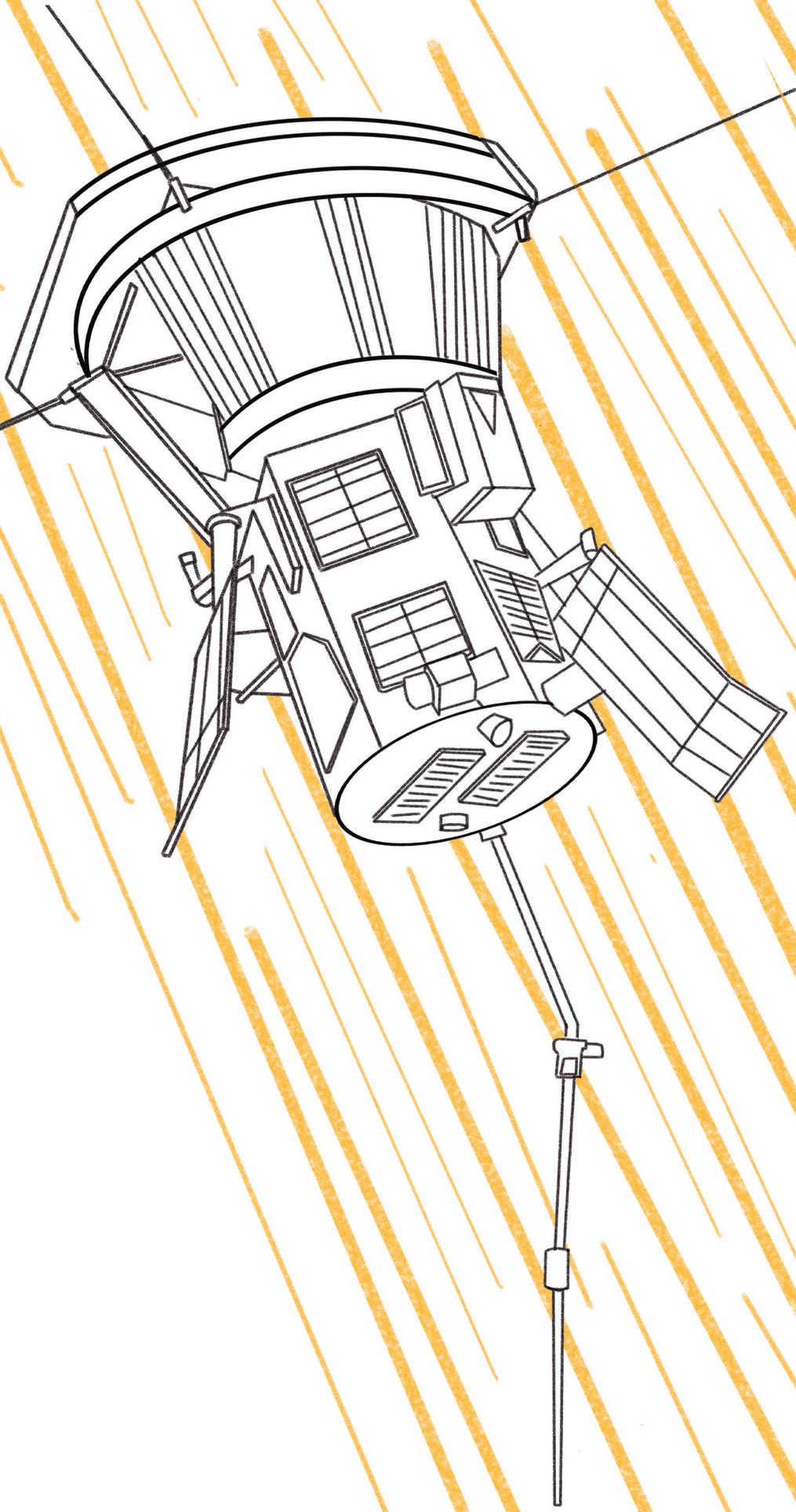
COLOR ME IN!

This coloring sheet is based on scene 10: Speedy Mercury.



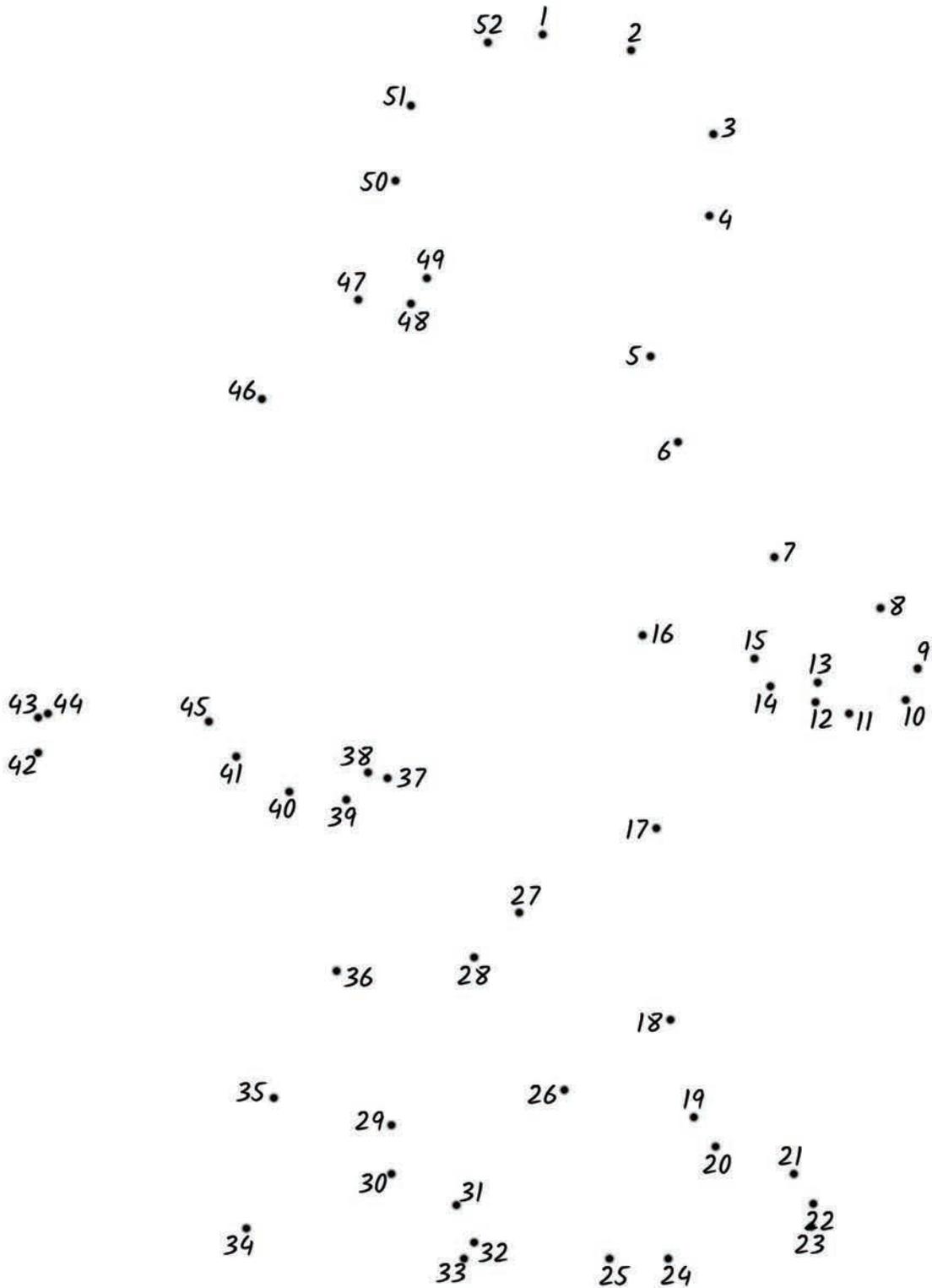
COLOR ME IN!

This coloring sheet is based on scene
11: Parker Solar Probe.



DOT-TO-DOT

Starting from 1, draw a line connecting the numbers to create a picture. Why not colour it in afterwards?



YOUNG METEORITICISTS' ACTIVITY ANSWERS

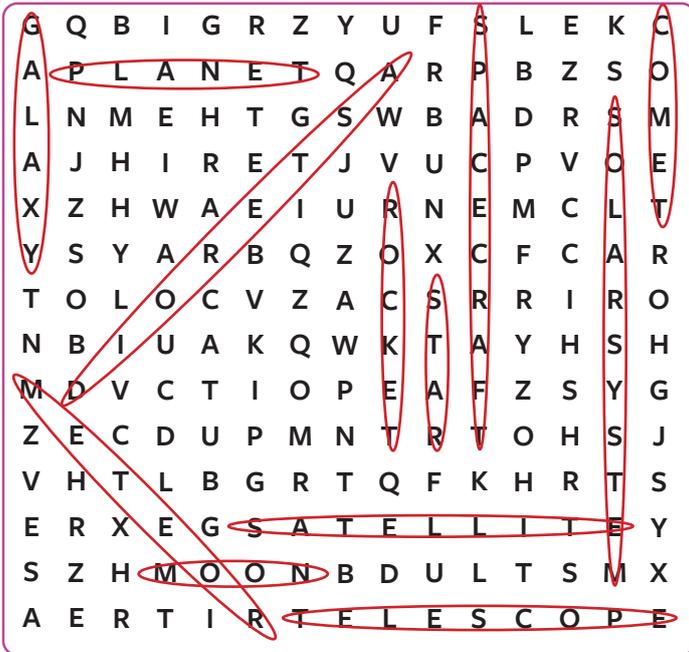
Find the answers to the activities on the following pages.

ACTIVITY ANSWERS

Check your answers against the correct answers below!

COSMIC WORDS ANSWERS

The answers below are for the “word search” activity on page 4.



SPACE SCRAMBLE ANSWERS

The answers below are for the “word scramble” activity on page 5.

EIJTPIR _____ **JUPITER**
ORASIETD _____ **ASTEROID**
MSRA _____ **MARS**
ASTYEOOBVRR _____ **OBSERVATORY**
RMDOIETEO _____ **METEOROID**
ARGIVTY _____ **GRAVITY**
IROBT _____ **ORBIT**

SOLAR SYSTEM SECRETS ANSWERS

The answers below are for the “fill in the blanks” activity on page 7.

- Discoveries by scientists like Isaac Newton changed science forever! Isaac Newton famously discovered gravity after watching an apple fall from a tree.
- It can be very hard to find meteorites to study. Because most of Earth’s surface is covered by the ocean, the majority of meteorites will likely land in the water.
- Mercury is the closest planet to the Sun and is named after the speedy Roman god of communication. That’s a very fitting name for the fastest planet of all!
- Moons are a type of natural satellite. While Earth has only one of these, Saturn has over 250! They are captured by the gravity of the planet that they orbit around.
- Despite being very small and thin compared to the vastness of outer space, Earth’s atmosphere is very important to all life because it protects us from harmful rays from the Sun!

COMPUTER CODE ANSWERS

The answers below are for the “decoding challenge” activity on page 8.

T H E R E W I L L B E A M E T E O R

S H O W E R T O N I G H T . G E T

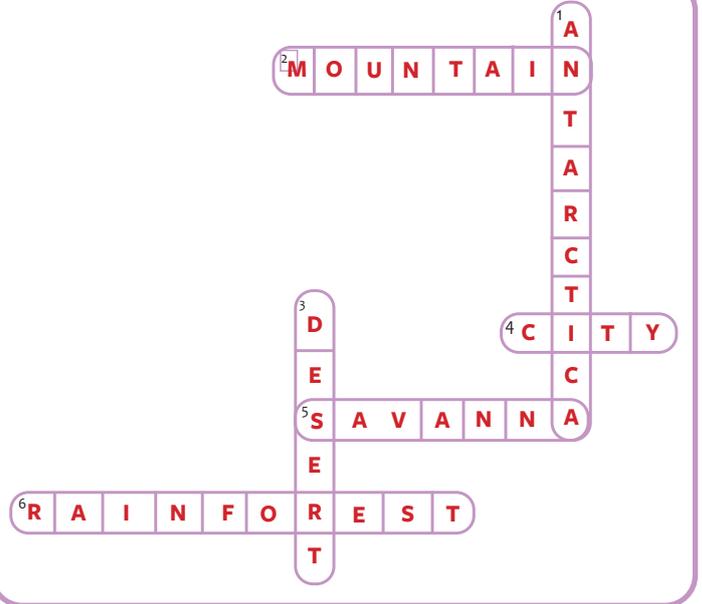
Y O U R T E L E S C O P E A N D

S E E H O W M A N Y M E T E O R S

Y O U C A N S P O T !

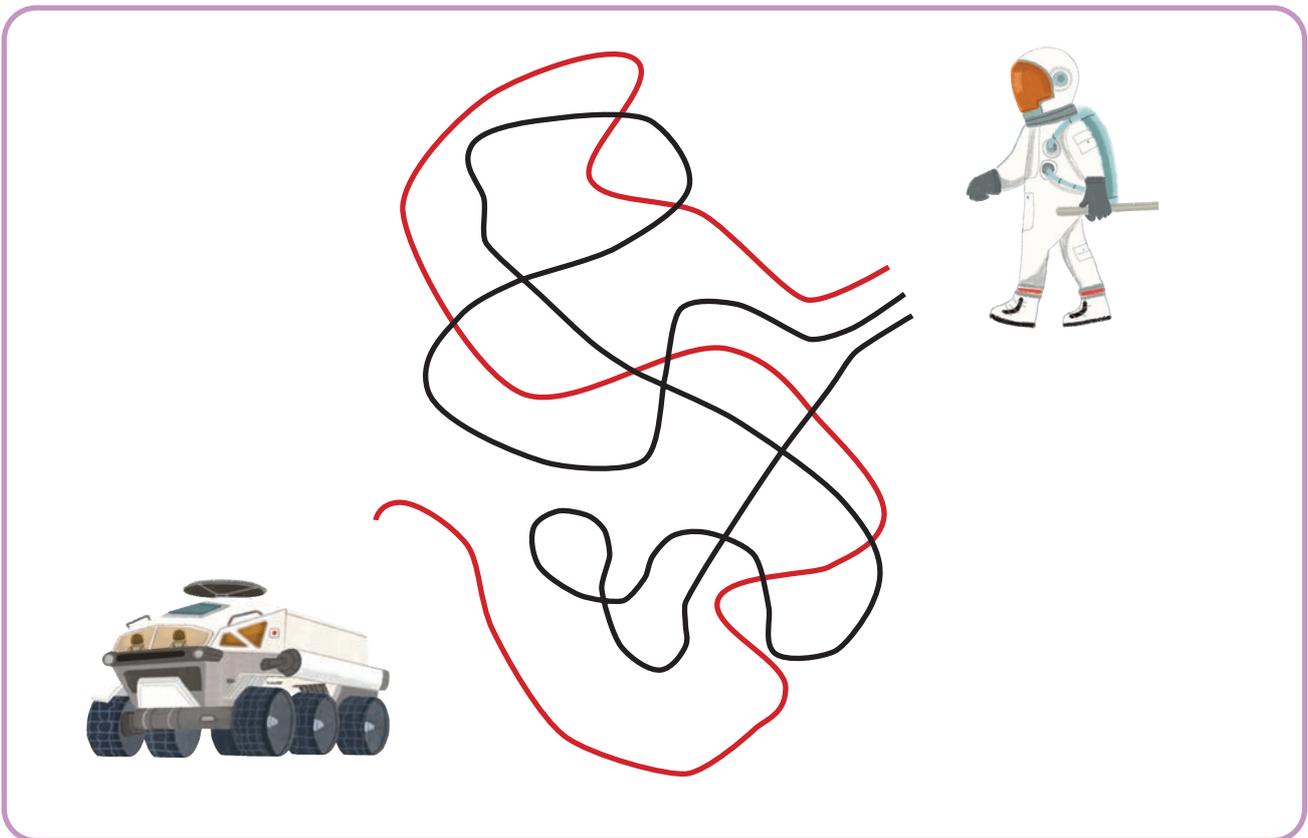
SEARCHING FOR METEORITES ANSWERS

The answers below are for the “crossword” activity on page 9.



ROGUE ROVER ANSWERS

The answers below are for the “line maze” activity on page 10.



MISCHIEVOUS METEORS ANSWERS

The answers below are for the “spot the difference” activity on page 11.



PLANET MIX-UP ANSWERS

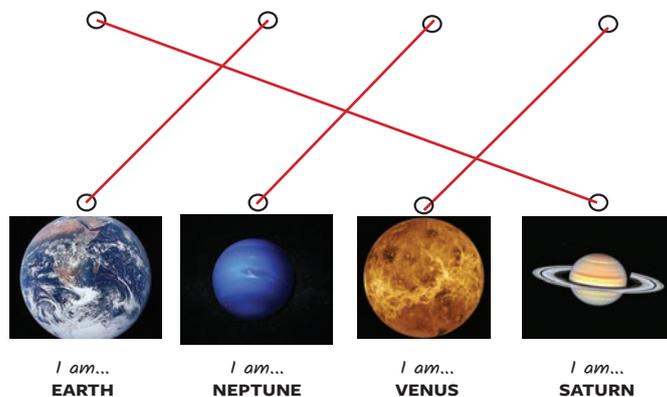
The answers below are for the “match up” activity on page 12.

Fact:
I am famous for my huge rings, which are made from water ice, rock, and dust.

Fact:
I am the only planet that scientists know has liquid water on its surface.

Fact:
I am the farthest planet from the Sun and am known for being freezing cold.

Fact:
I am the brightest planet in the night sky, because my thick clouds reflect a lot of light.



SPOTLIGHT ON SPACE ANSWERS

The answers below are for the “true or false” activity on page 14.

	SENTENCE	TRUE	FALSE
1	A planet’s gravity pushes things away from it.		FALSE
2	The scientists who study meteoritics are called meteorologists.		FALSE
3	Meteors can be pieces of comets as well as asteroids.	TRUE	
4	Scientists can learn about the solar system’s history using meteorites.	TRUE	
5	There are craters on the Moon created by meteorite and asteroid impacts.	TRUE	
6	Mars is the fastest planet in the solar system.		FALSE

EXTRA ACTIVITY ANSWERS

Check your answers against the correct answers below!

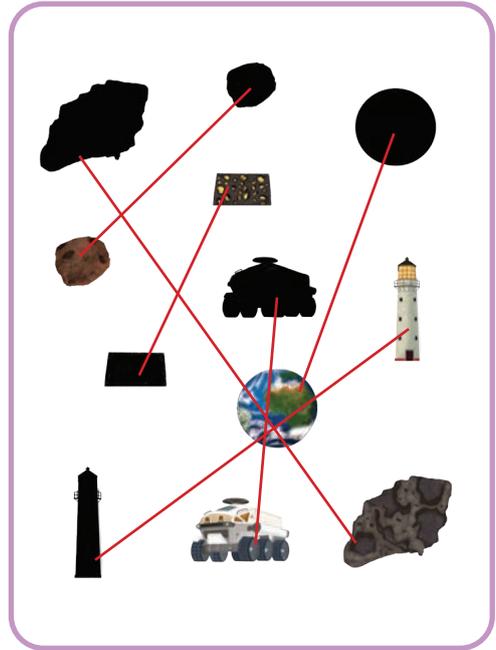
FIND THE SCIENTIST

The answers below are for the activity on page 18.



MATCH THE SHAPE

The answers below are for the activity on page 19.



SIMPLE SUMS

The answers below are for the activity on page 20.

$$\begin{array}{l}
 \text{Scientist} + \text{Scientist} - \text{Rover} = \boxed{0} \\
 \text{Satellite} + \text{Rover} - \text{Scientist} = \boxed{7} \\
 \text{Rover} + \text{Scientist} + \text{Rover} = \boxed{10} \\
 \text{Satellite} + \text{Rover} - \text{Satellite} = \boxed{14}
 \end{array}$$