



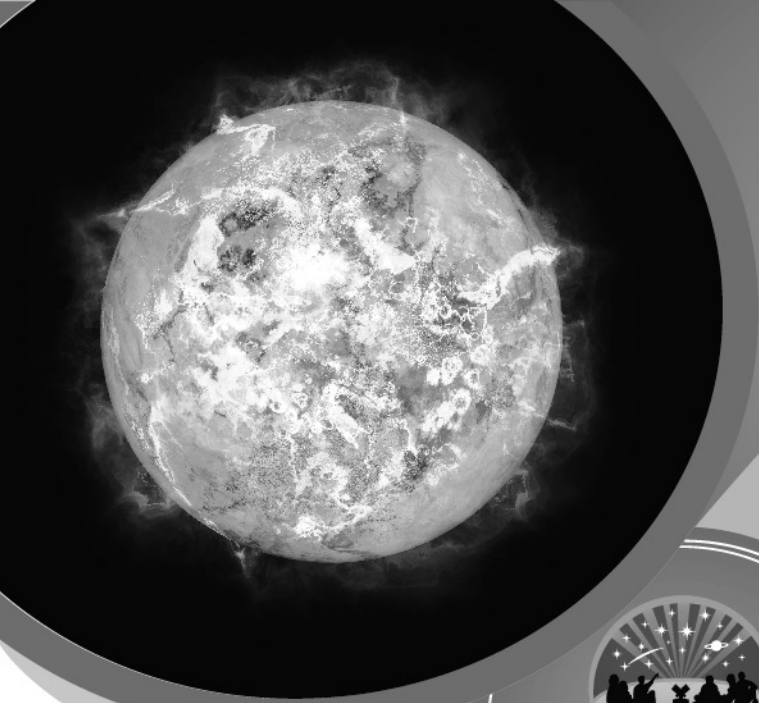
# THE STORY — DOME —

## STUDENT ACTIVITY PACKET

When students are having fun, science can become more interesting and memorable for them. The team at The Story Dome encourages you to use this packet as an extra learning tool. Some activities are intended for younger students and other activities are for older students. The Student Activity Packet is intended to be used along side The Story Dome's live program.

Don't Forget to Look UP!

[www.thestorydome.com](http://www.thestorydome.com)



**THE STORY  
DOME**

"A star is a big ball of plasma that is formed from a cloud of dust and gas."

## HOW IS A STAR BORN?

Stars begin their life out in giant clouds of dust called nebulae. Gravity forces the dust to gather together. As dust bunches up, gravity gets stronger and it begins to get hot and becomes a protostar. Once the center becomes hot enough, nuclear fusion will start and a young star is born.

## ACTIVITY

# LOOK UP

### What You Will Need

- ★ Night Sky phone app for students (e.g.: Star Walk, Sky Safari, Stellarium, Google Sky)

### Things To Do

- ★ Locate cardinal points
- ★ Locate the Little or Big Dipper
- ★ Find a planet \*if possible\*

What are the cardinal points?

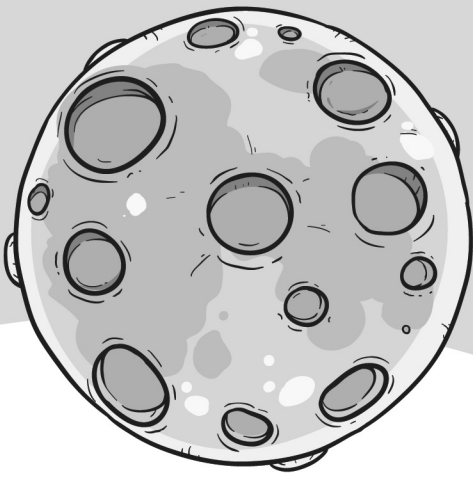
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Did you find either the Little or Big Dipper?

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What planet were you able to find?

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# LUNAR CRATERS

## SPACE EXPERIMENT

Craters on the Moon are caused by asteroids and meteorites colliding with the lunar surface. The Moon's surface is covered with thousands of craters. Using some simple items found in your kitchen, you will make your own lunar craters.

### MATERIALS NEEDED

- \* A large pan or box lid
- \* Enough flour to fill the pan about 2 inches
- \* A cup of powered cocoa
- \* A shifter
- \* A large trash bag to place under your experiment
- \* Several small rocks, small bouncy balls, or marbles

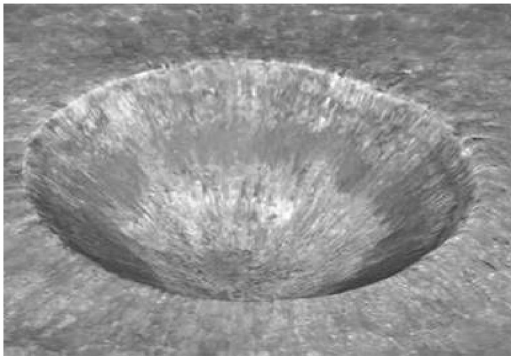
### PROCEDURE

1. Fill pan with about 2 inches of flour
2. Using a shifter, sprinkle the cocoa over the flour. (Just enough to cover the flour.)
3. Using your small rocks, small bouncy bearings, and marbles; drop them one at a time onto your Lunar Surface.

(Gently remove the objects from the lunar surface.)

\*\* Try dropping some of different heights\*\*

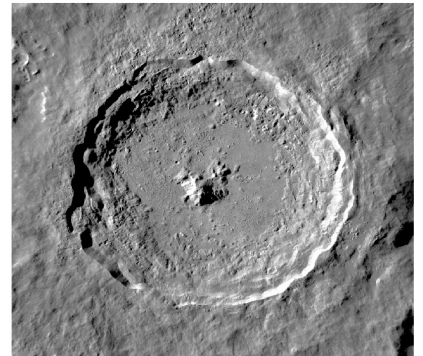
### Simple Impact Crater



A **SIMPLE** impact crater has bowl-shaped depressions, mostly with smooth walls.

A **COMPLEX** impact crater has a single or multiple peaks in the middle of the crater.

### Complex Impact Crater

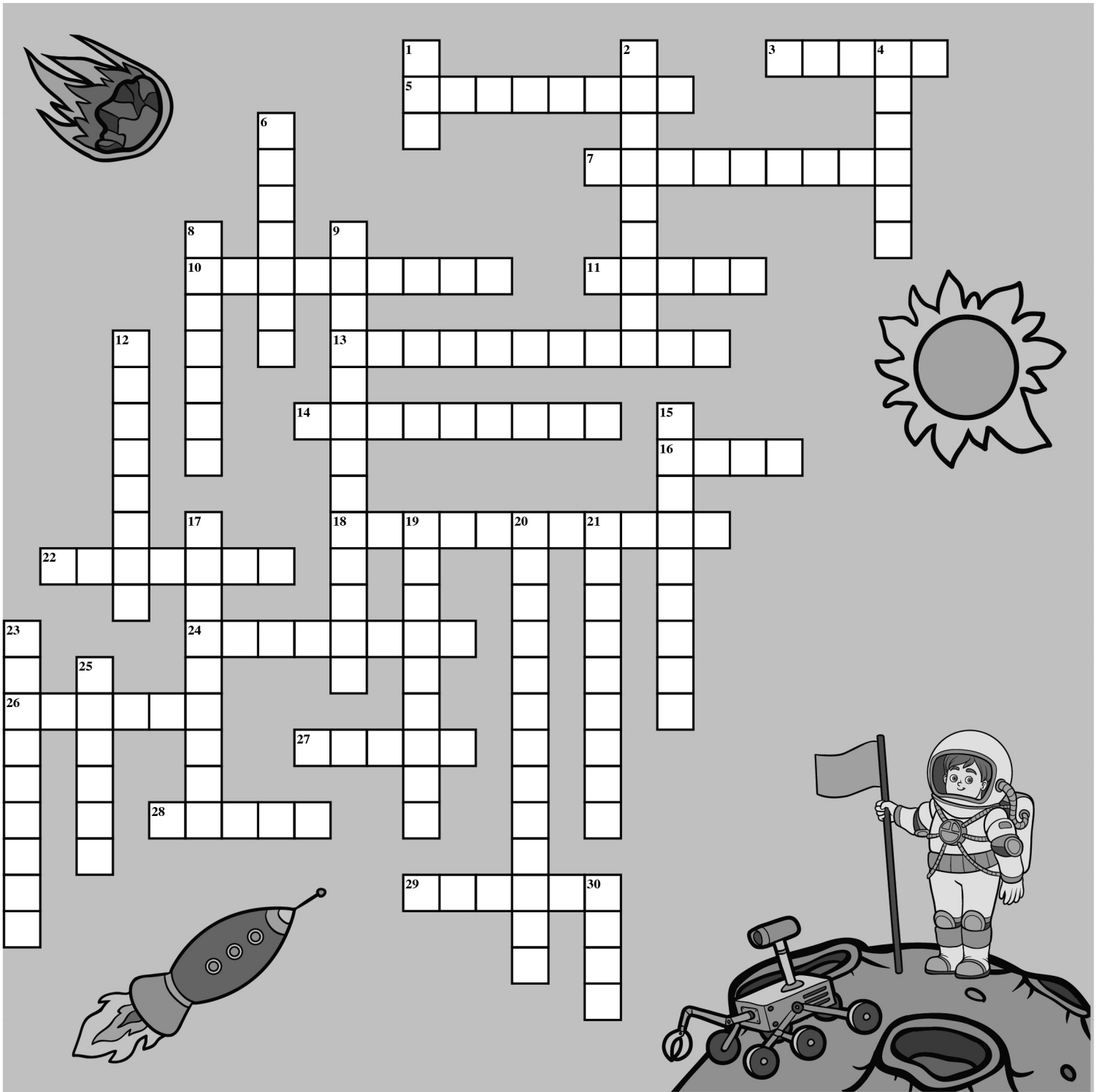


What did you observe?

Were the craters all the same shape?

How did the craters differ when you dropped the objects from different heights?

Do any of the craters look like those on the moon?



## Across

- 3 A celestial body made of ice and rock
- 5 Everything that exists
- 7 Constellation in Northern Sky
- 10 The study of stars and how they affect people
- 11 Our home
- 13 The Sun and planets
- 14 A meteor that reaches the ground
- 16 A huge sphere of super hot gas.
- 18 A person who studies the stars

- 22 The force that pulls a body
- 24 A star is made of this
- 26 A system of large number of stars
- 27 Largest constellation in the sky
- 28 The path a celestial object around a star
- 29 A star is made of this

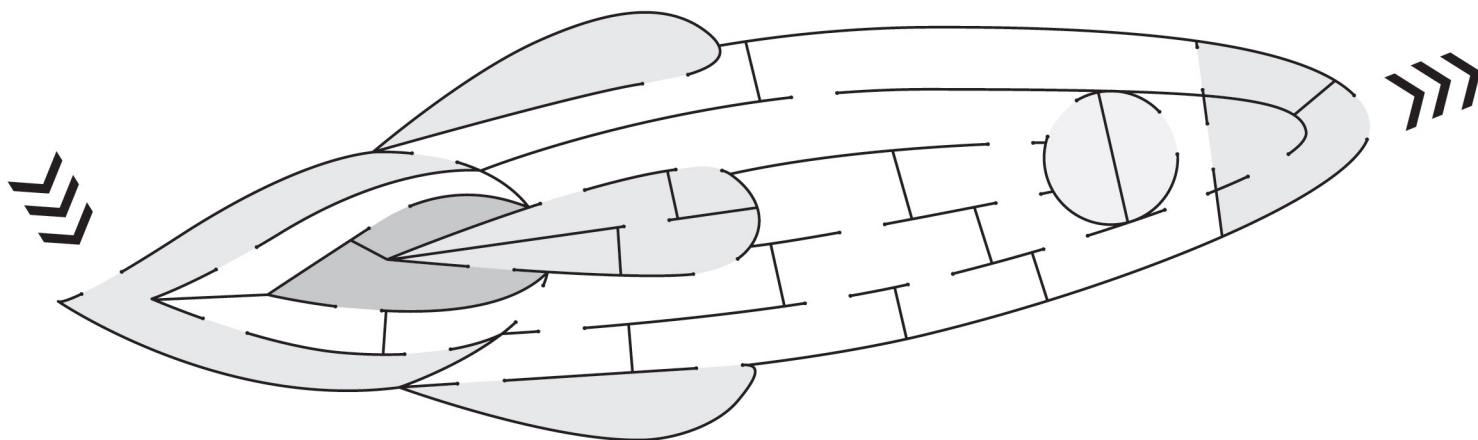
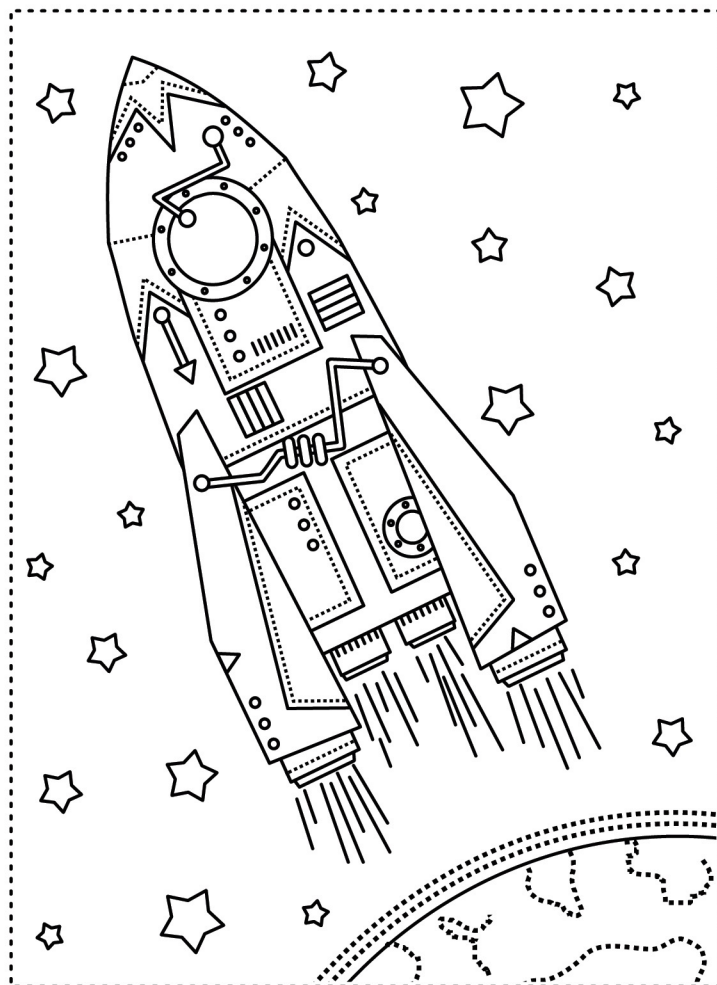
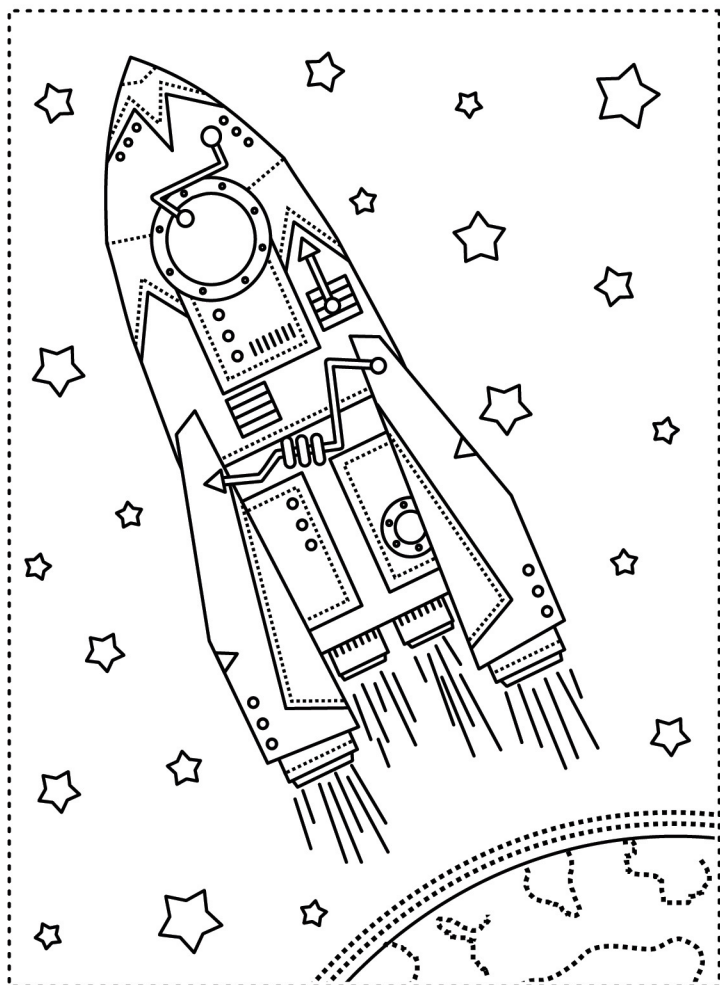
## Down

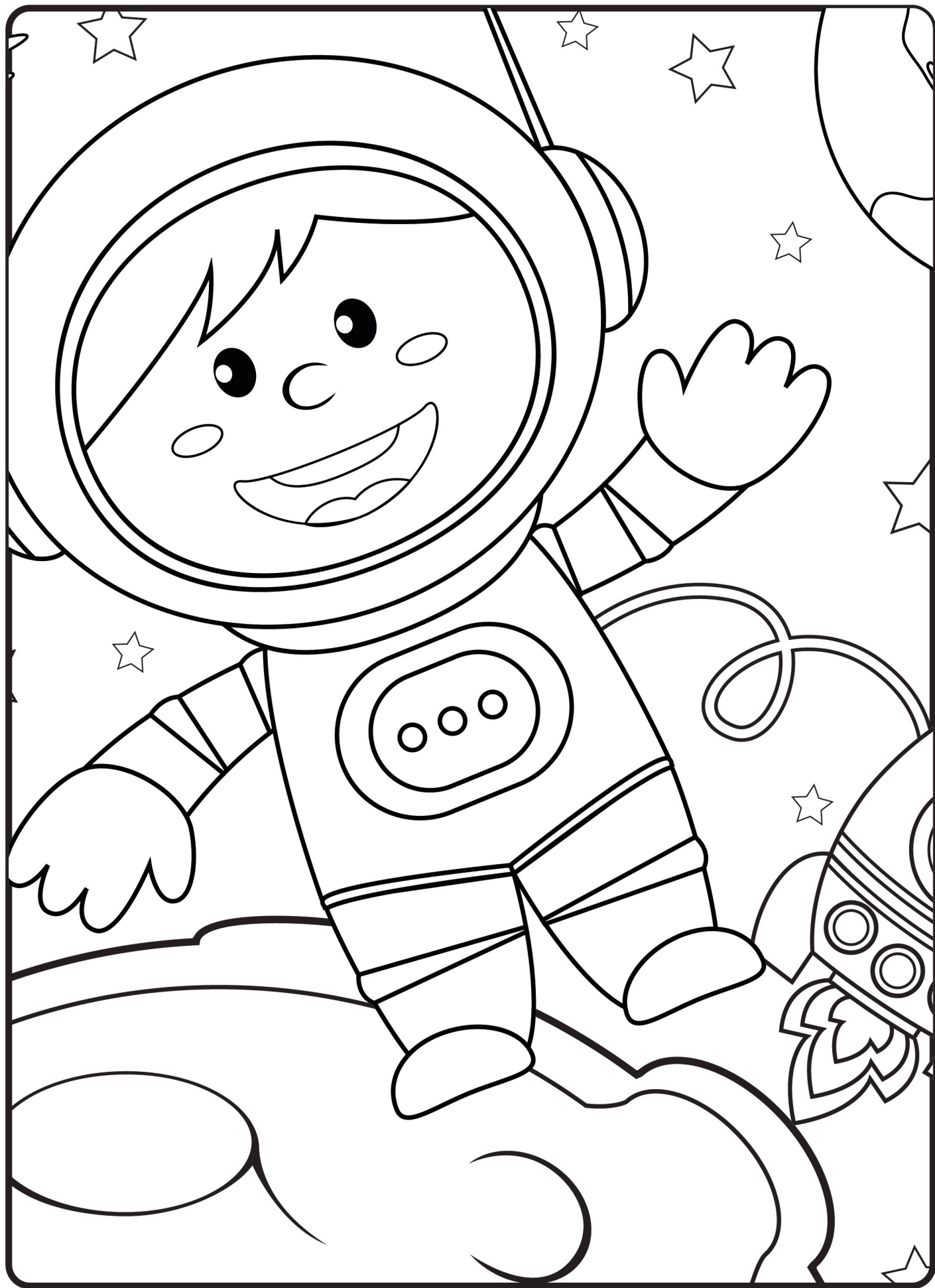
- 1 Main star in our solar system
- 2 A space traveler
- 4 The Sun emits three different kinds of this

## Down

- |    |                                              |    |                                               |
|----|----------------------------------------------|----|-----------------------------------------------|
| 6  | Galileo found this planet had 4 moons        | 19 | Instrument used to view stars                 |
| 8  | Italian scientist who studied the stars      | 20 | Process of two or more atoms joining together |
| 9  | Group of stars to form a pattern             | 21 | A small rocky object that orbits the Sun      |
| 12 | A huge collection of stars in a spiral shape | 23 | This is apart of Ursa Major                   |
| 15 | The study of the universe                    | 25 | A large celestial object                      |
| 17 | A measure of length that light travels       | 30 | It comes up at night                          |
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**Find the ten differences between the two pictures.**

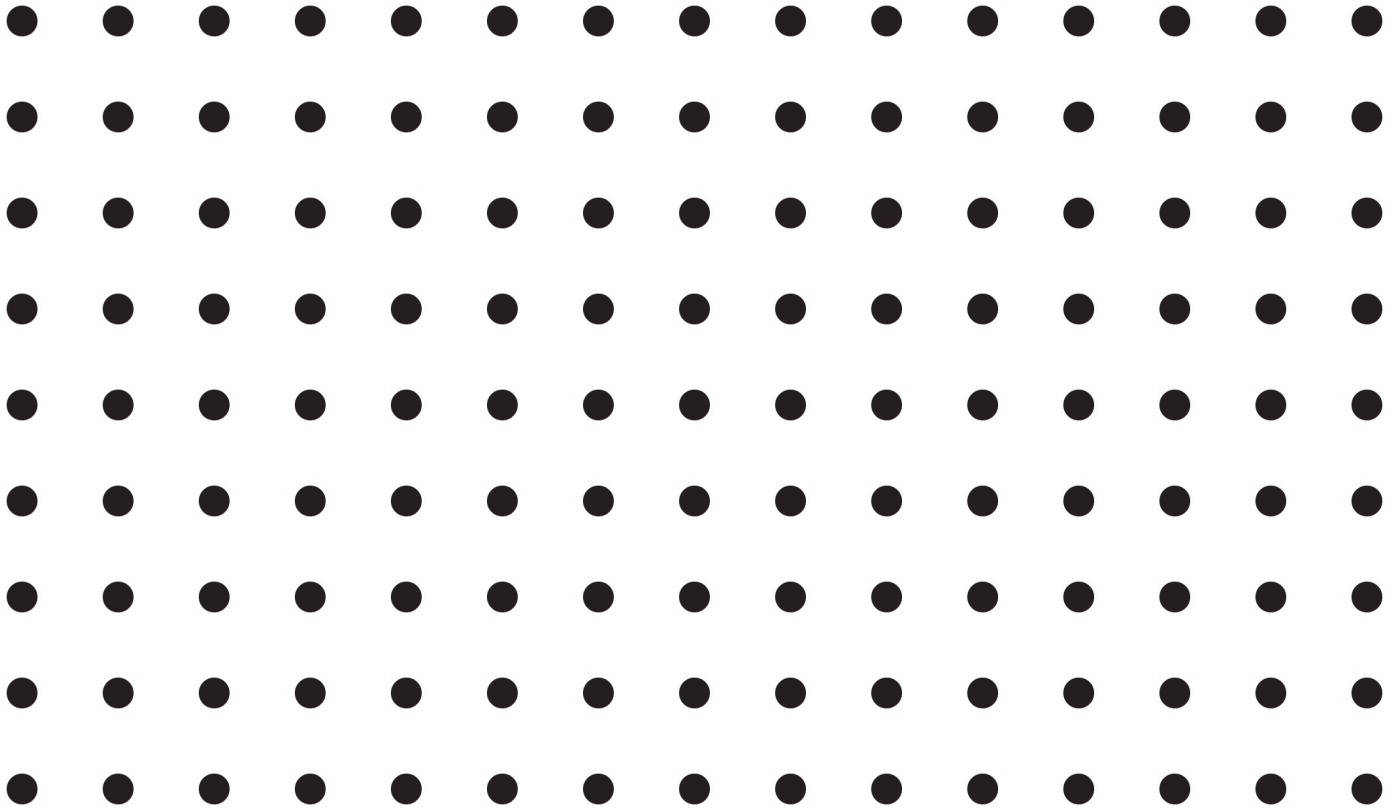






# CONSTELLATION MAKER

Create your own constellation.



Write a short story about your constellation.

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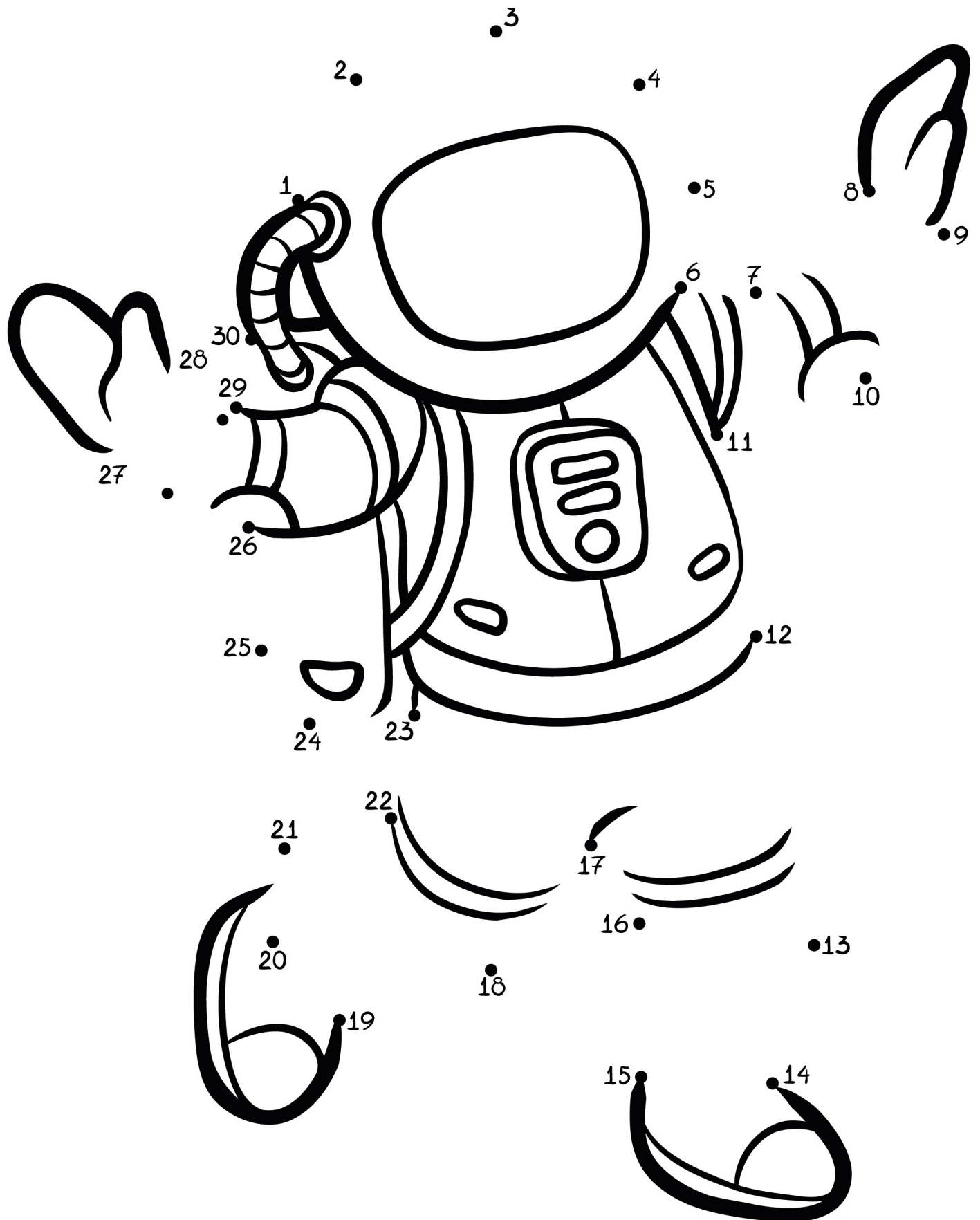
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# CONNECT THE DOTS





# TEST YOUR KNOWLEDGE

1. Stars are first formed from clouds of \_\_\_\_\_ and \_\_\_\_\_.
2. The word "constellation" comes from the Latin term for \_\_\_\_\_.
3. You are an \_\_\_\_\_ if you study celestial objects.
4. In 1610 Galileo discovered Jupiter had \_\_\_\_\_ moons.
5. A star is made of \_\_\_\_\_ and \_\_\_\_\_.
6. The sun's gravity is \_\_\_\_\_ times stronger than earth's gravity.
7. The \_\_\_\_\_ is a disc shaped spiral galaxy.
8. The Milky Way is so named because of it's \_\_\_\_\_ apperance.
9. It takes \_\_\_\_\_ minutes for the sun's light to reach earth.
10. Scientists believe about \_\_\_\_\_ stars are born every single year.
11. \_\_\_\_\_ is the largest constellation in the sky.
12. The \_\_\_\_\_ is apart of the Ursa Major constellation.
13. A Meteroid becomes a \_\_\_\_\_ when it reaches ground.
14. \_\_\_\_\_ is the branch of science that studies the stars.
15. You can see about \_\_\_\_\_ stars on a clear night.



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