

Let's Go to Space: Learn About STEM with AIA

Aerospace & Innovation Academy

The AIA's mission is to provide real-world, experiential STEM opportunities for motivated middle-high school students.

Join us virtually and eventually face-to-face in Tequesta for an after-school experience that is OUT OF THIS WORLD!

For more info, check out FB: Go2Space



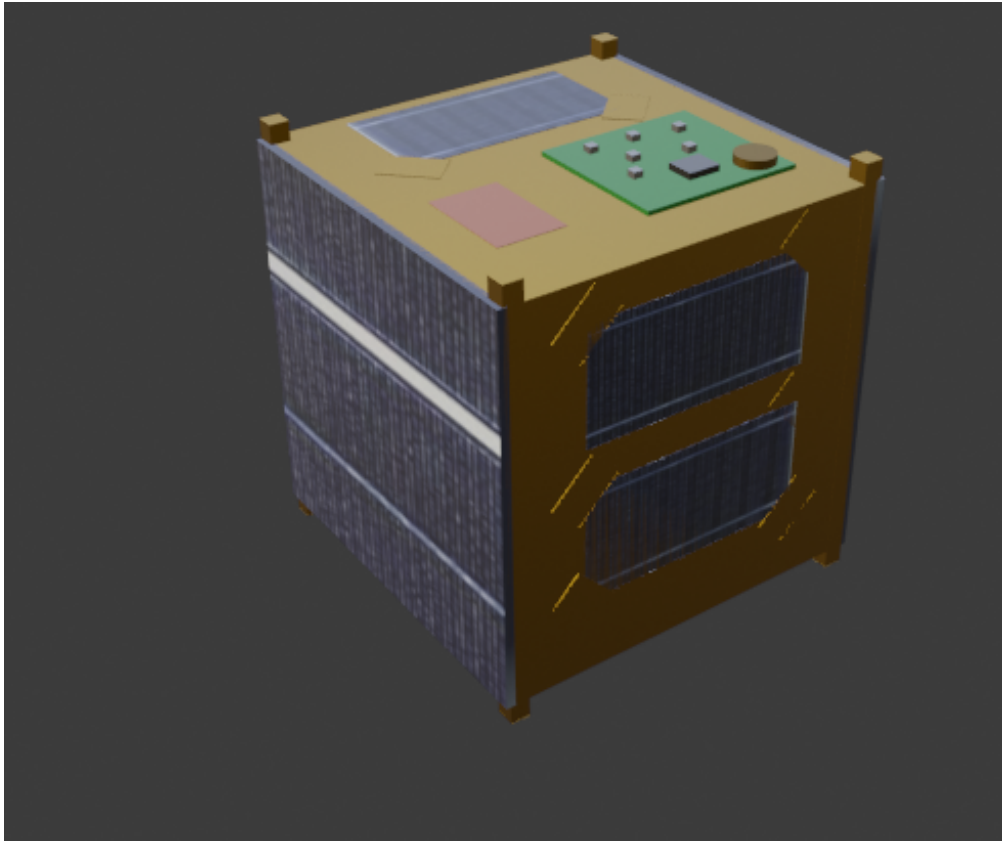
What is a CubeSat?

A CubeSat is a miniaturized satellite used for space research. A CubeSat is typically 10cm by 10cm by 10cm. Despite its small size, it can accomplish incredible technical, biological, communications, and remote-sensing missions.

How Does It Work?

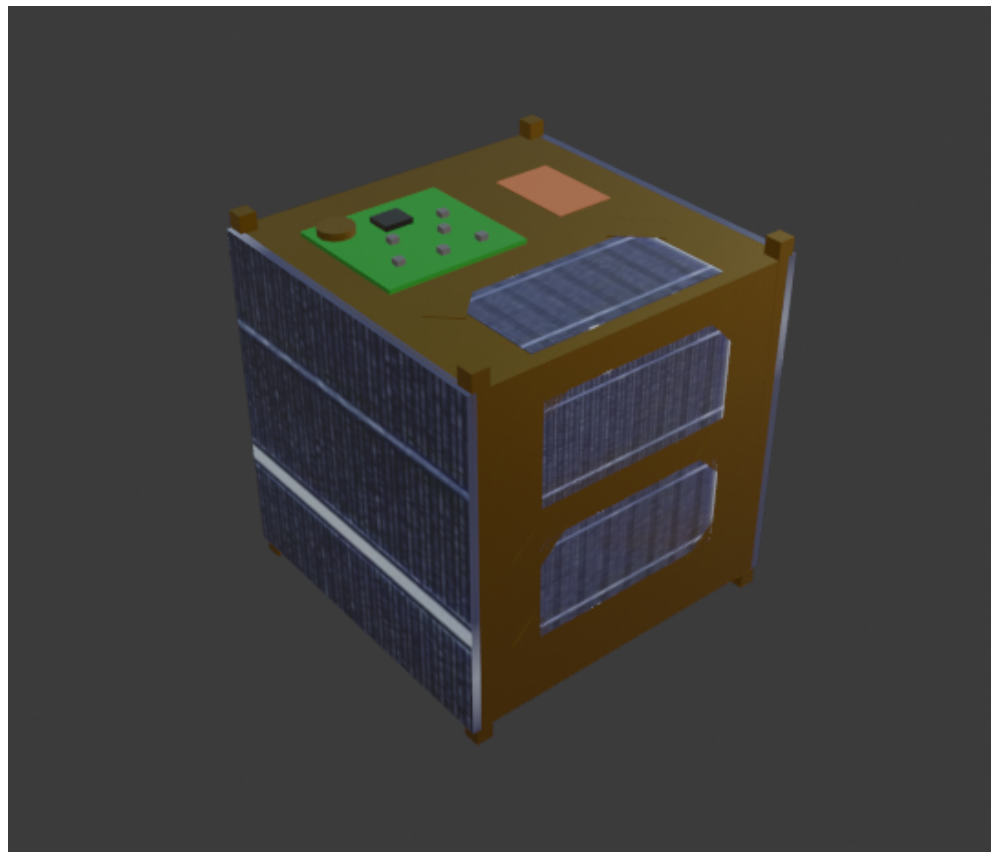
CubeSats, just like other satellites, must cool by radiating heat either into space or into the Earth's surface. Specifically, the CubeSat's design minimizes risk to the rest of the launch vehicles and payload. The payload is where data is sent. Over the launcher, the payload takes away the amount of work that would previously be required for connecting to another satellite.

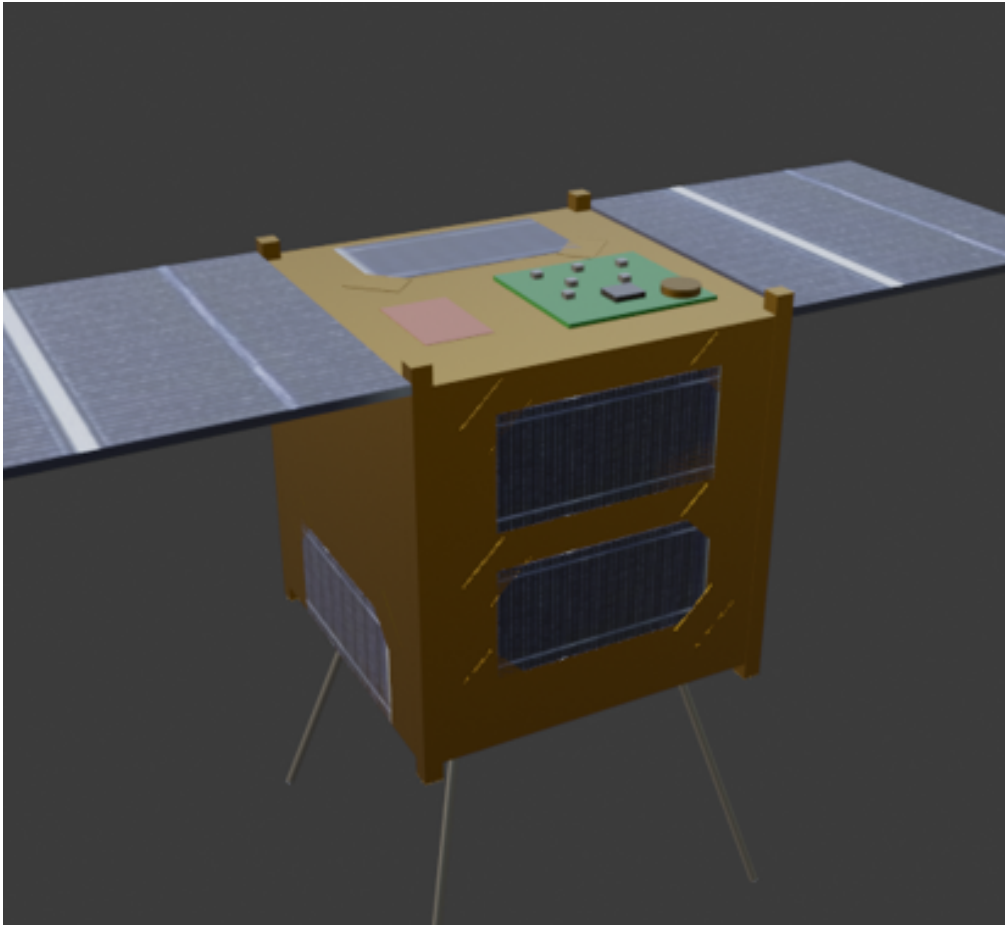
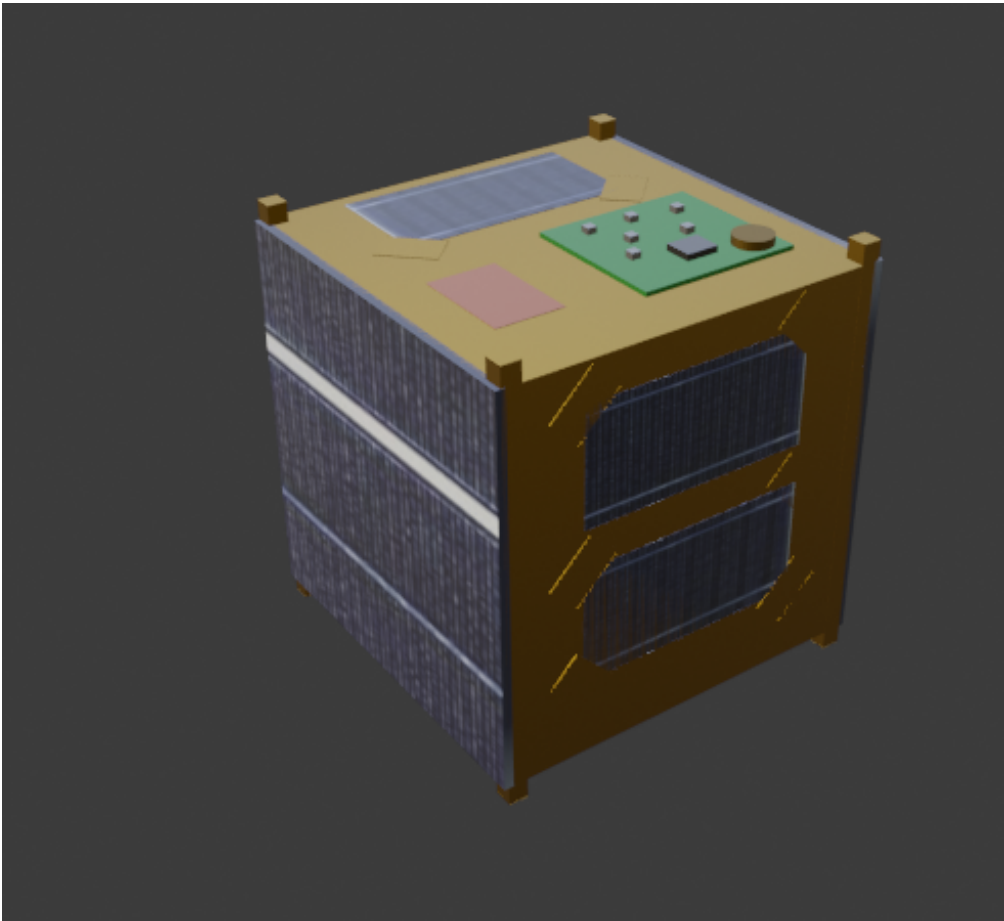
CubeSats may seem complex, but students all over the globe build, design, launch, and fly them, and you can too!

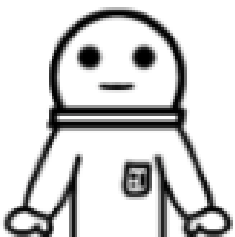
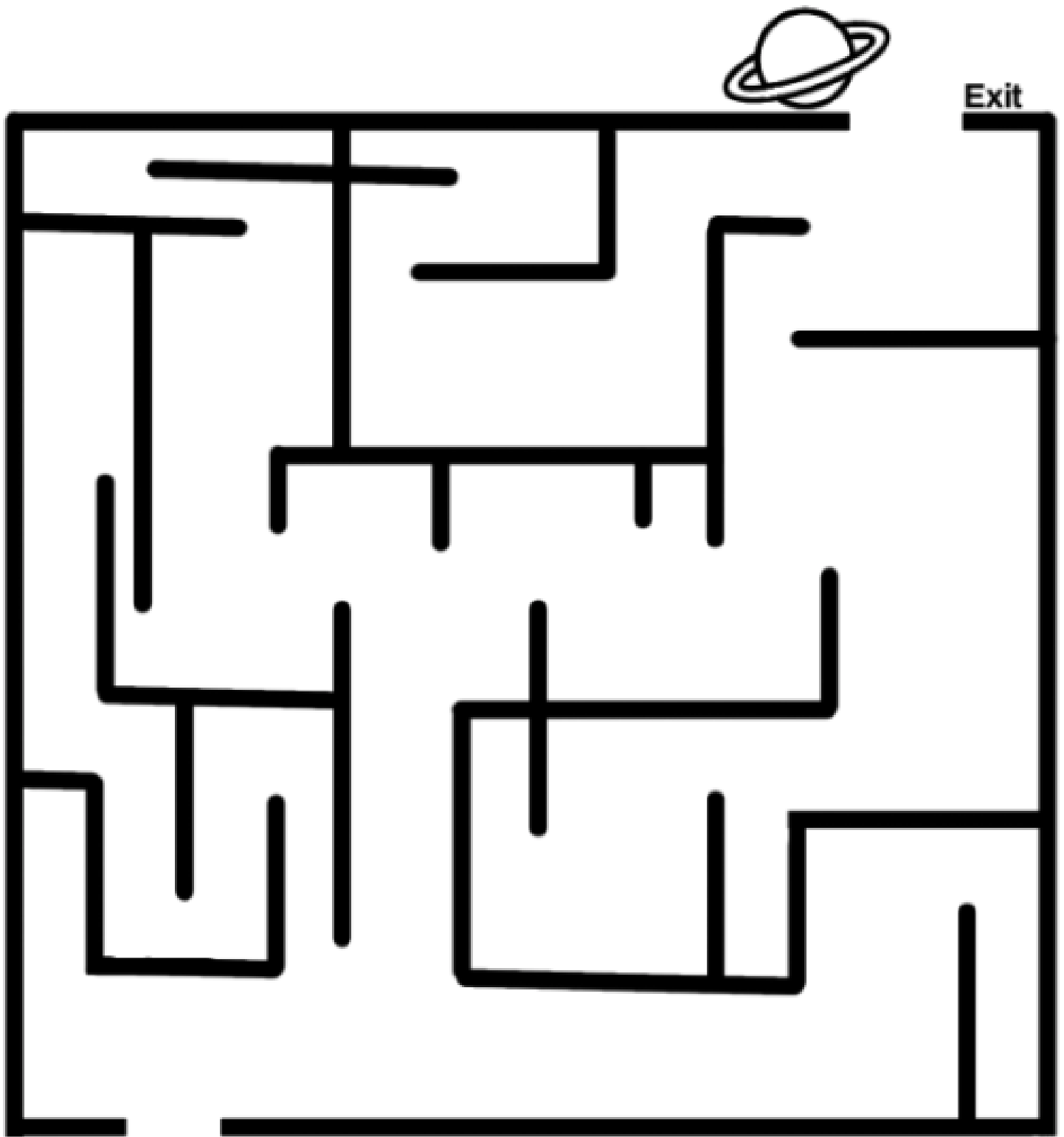


Images:

Digital renderings of a CubeSat created by Jesse Burdette and Colin Quinn.



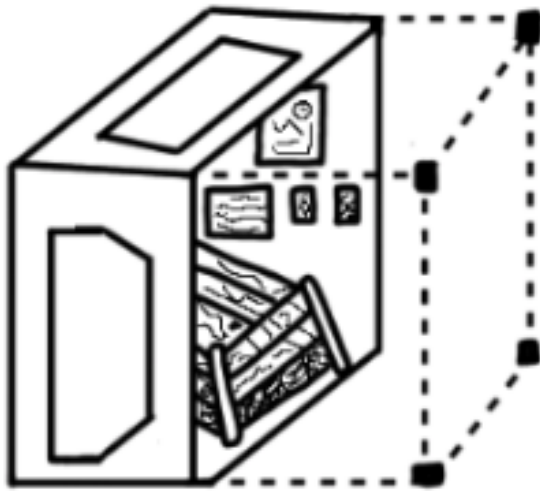




Enter

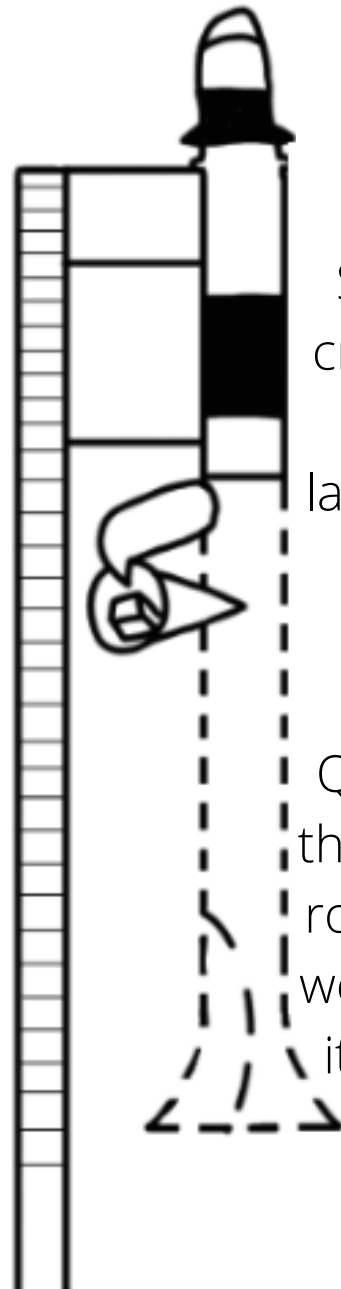
Help the astronaut get
to space!

CubeSat



Oh no! Half of our CubeSat is missing! Can you draw the other half before the inside of our CubeSat falls out?

Rocket



Not again!
Our Cube-Sat's space craft is about to be launched, but half of our rocket is missing!

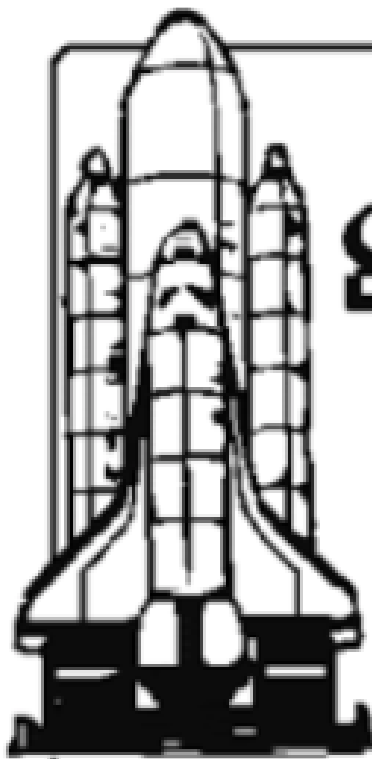
Quickly draw the rest of our rocket so that we can launch it into space

SPACEY WORD SEARCH

Hunt for the words shown on the list below, then circle them as you find them!

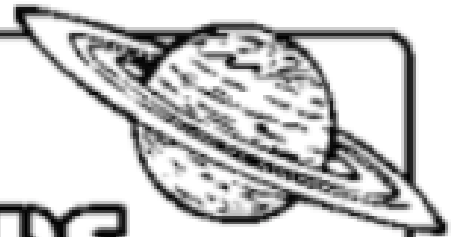
E	P	O	C	S	E	L	E	T	J	P	M	R	T	M
Q	L	S	M	E	R	C	U	R	Y	O	F	E	F	O
P	S	S	A	E	B	E	N	Y	O	C	S	T	A	P
N	P	E	E	T	G	W	M	N	B	M	T	I	R	K
J	N	E	P	T	U	N	E	X	C	S	A	P	C	E
V	E	N	U	S	X	R	L	I	K	R	R	U	E	T
R	Z	O	W	R	U	X	N	D	C	A	D	J	C	U
J	M	A	R	S	P	N	Q	D	O	T	U	P	A	H
Z	X	S	Q	B	R	K	O	V	T	S	S	H	P	U
M	D	I	U	H	I	M	T	U	V	B	T	S	S	S
W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

Mercury
Venus
Jupiter
Saturn
Uranus
Neptune
telescope
stars
moon
sun
orbit
planet
stardust
meteor
comets
asteroids
spacecraft



Space Scramblers

Unscramble the words



ARTS



SINIOMS



LUSHTET



STAPLEN



MORETE



TRIBO



TOCKER



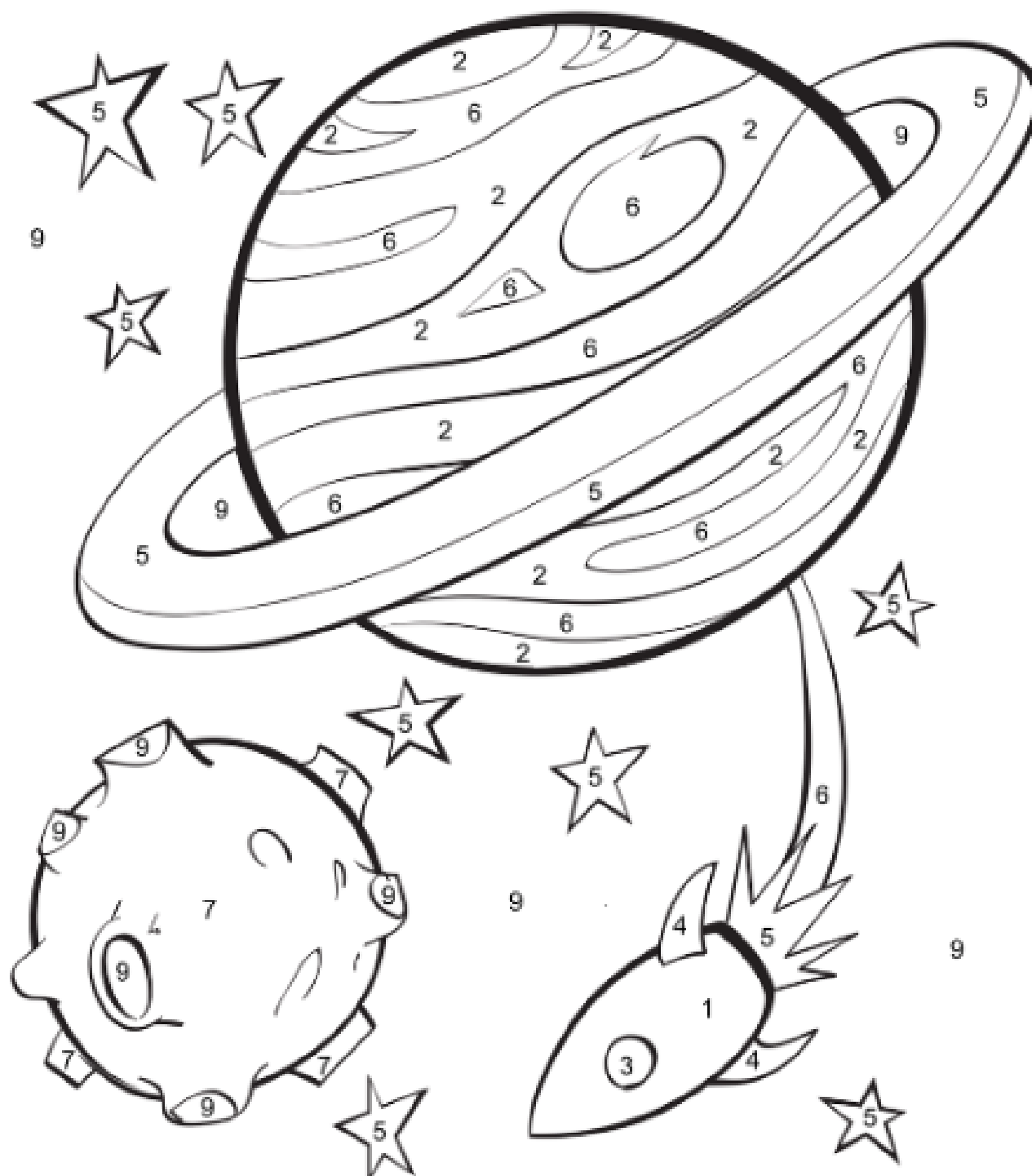
HUCLAN



Image Credits: NASA

Color by Number!

- | | |
|-----------|-----------|
| 1. Blue | 5. Yellow |
| 2. Brown | 6. Orange |
| 3. Purple | 7. Grey |
| 4. Red | 9. Black |



Blast off for some fun!

Using just the letters in the word below, can you make at least 12 new words? RULES: You may only use a letter as many times as it is shown in the key word. Each word must be at least 4 letters long. GOOD LUCK!

ASTEROID

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

STEM!

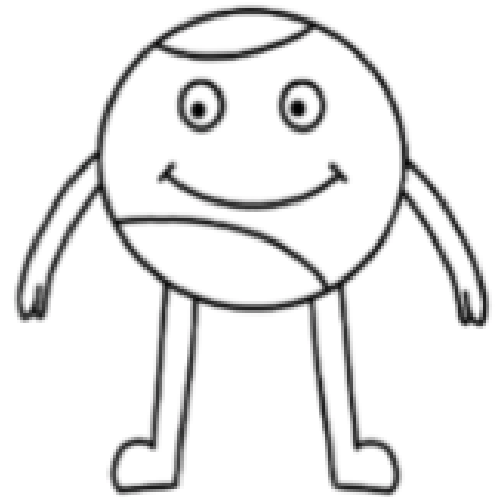


Hi there!

I am known as the Red Planet, well, because I'm red! I'm the planet between Earth and Jupiter, so I am very close to you, down on Earth! The temperature on my planet is very cold!



Now what is STEM? STEM
stands for:

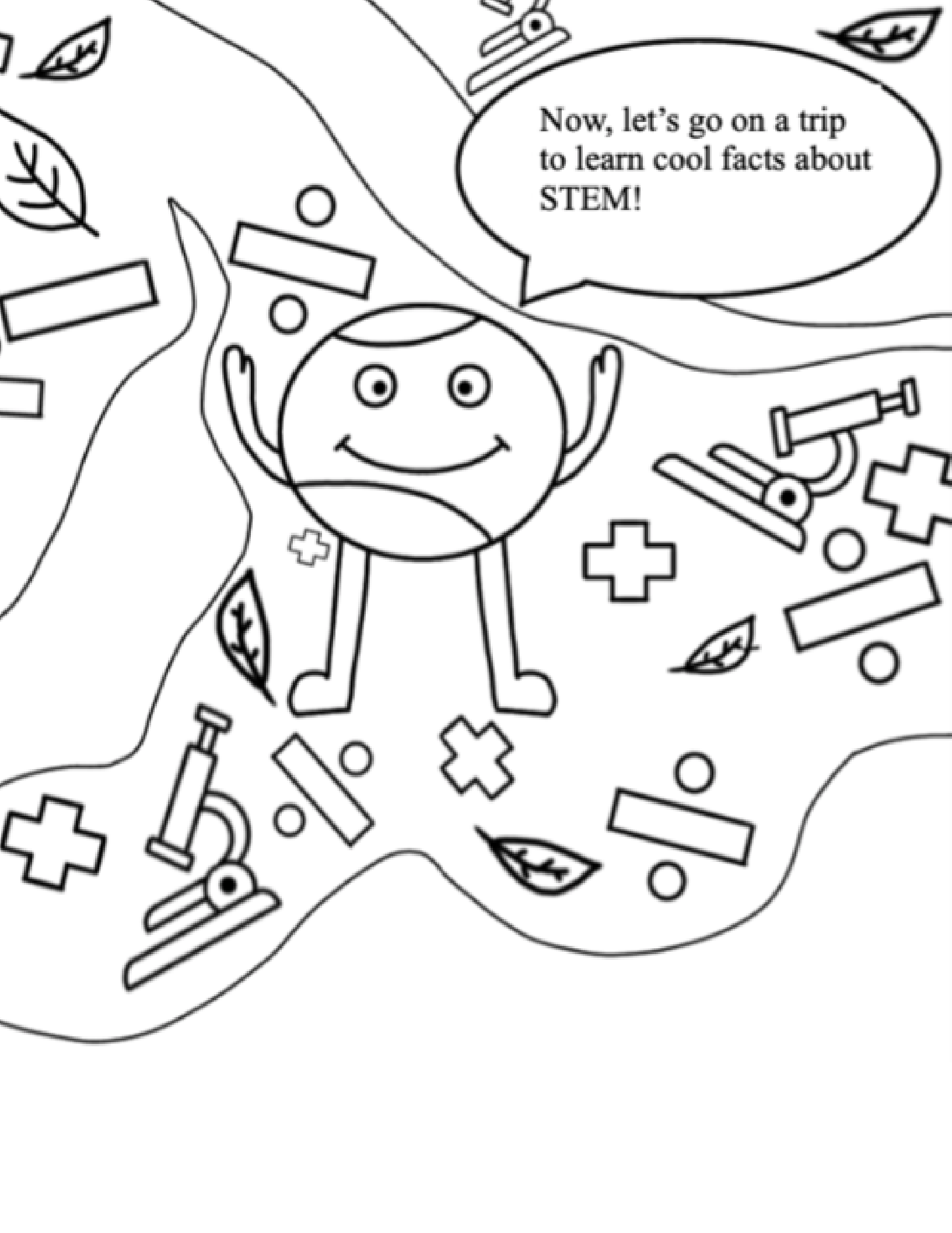


Science

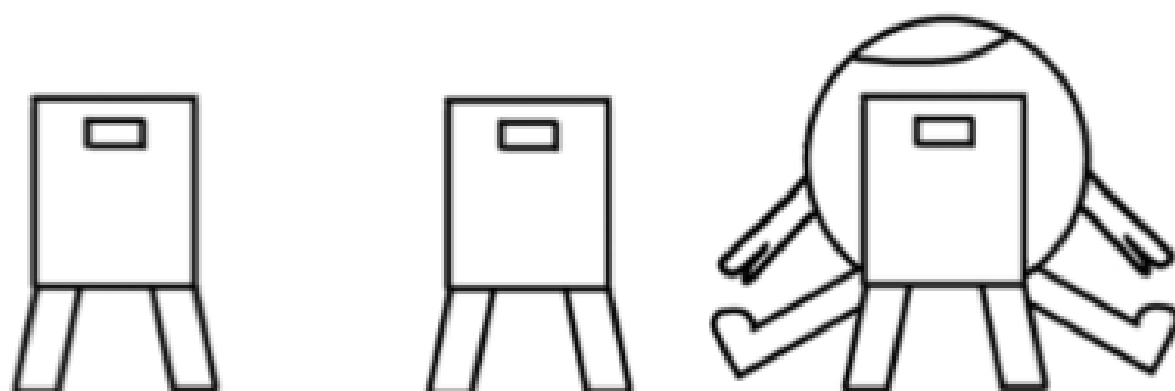
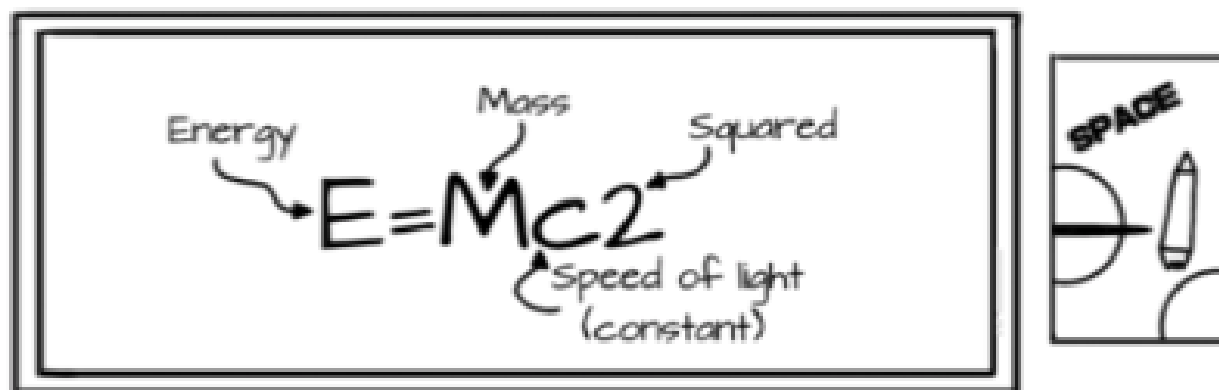
Technology

Engineering

Mathematics

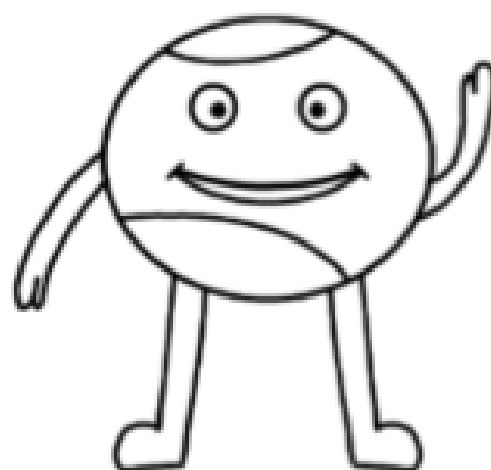


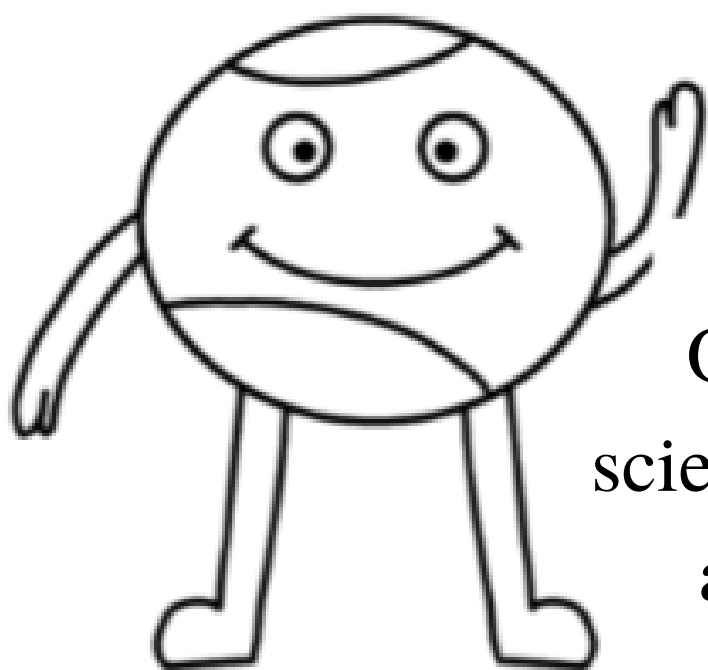
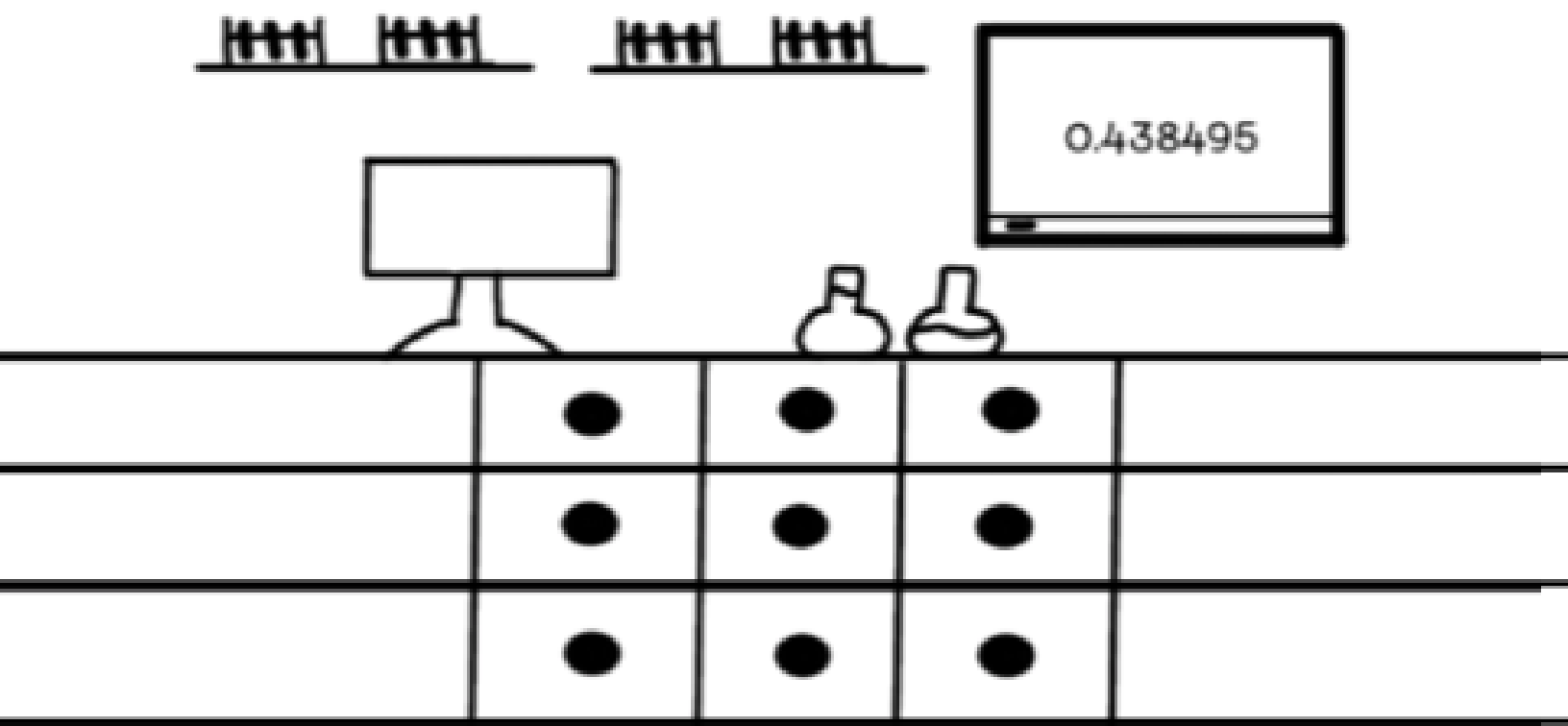
Now, let's go on a trip
to learn cool facts about
STEM!



First I'm going to take you to a classroom, where they are learning all about space!

Space is all around you! When you grow up you can even go to space!

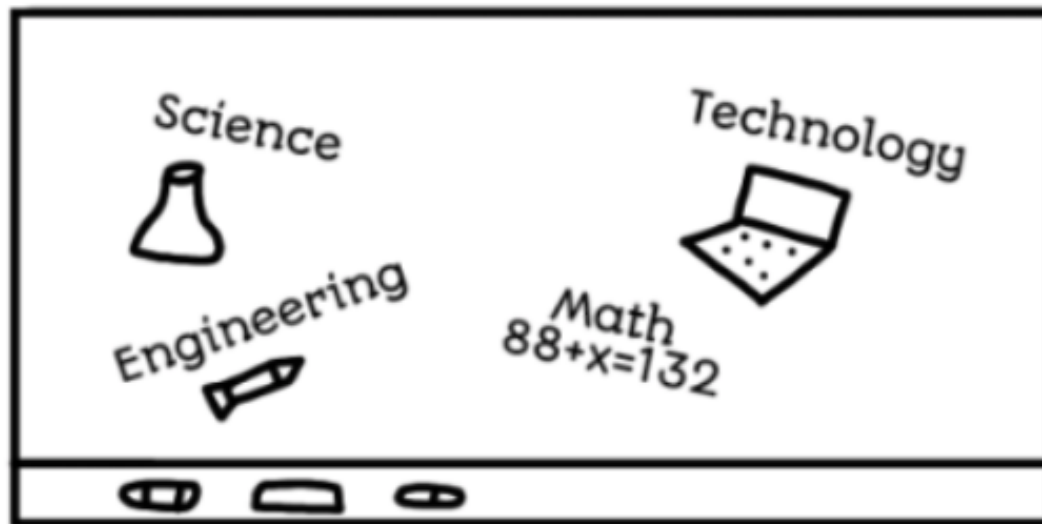




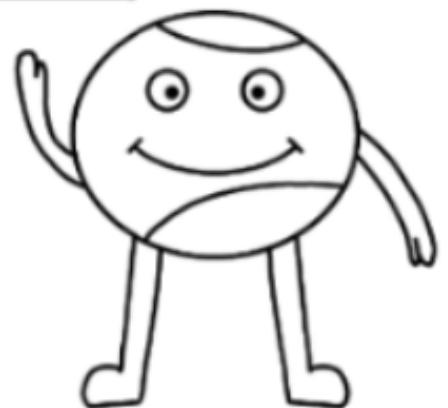
Or you could become a
scientist and experiment with
all types of chemicals!

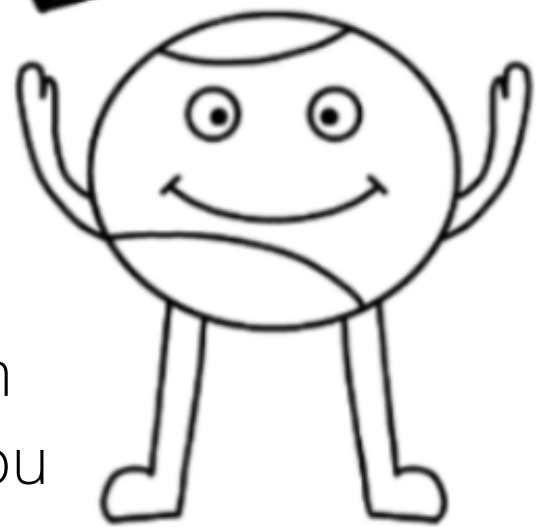
You could be an
astronaut and fly into
space





Let's learn about a few
different kinds of STEM
careers

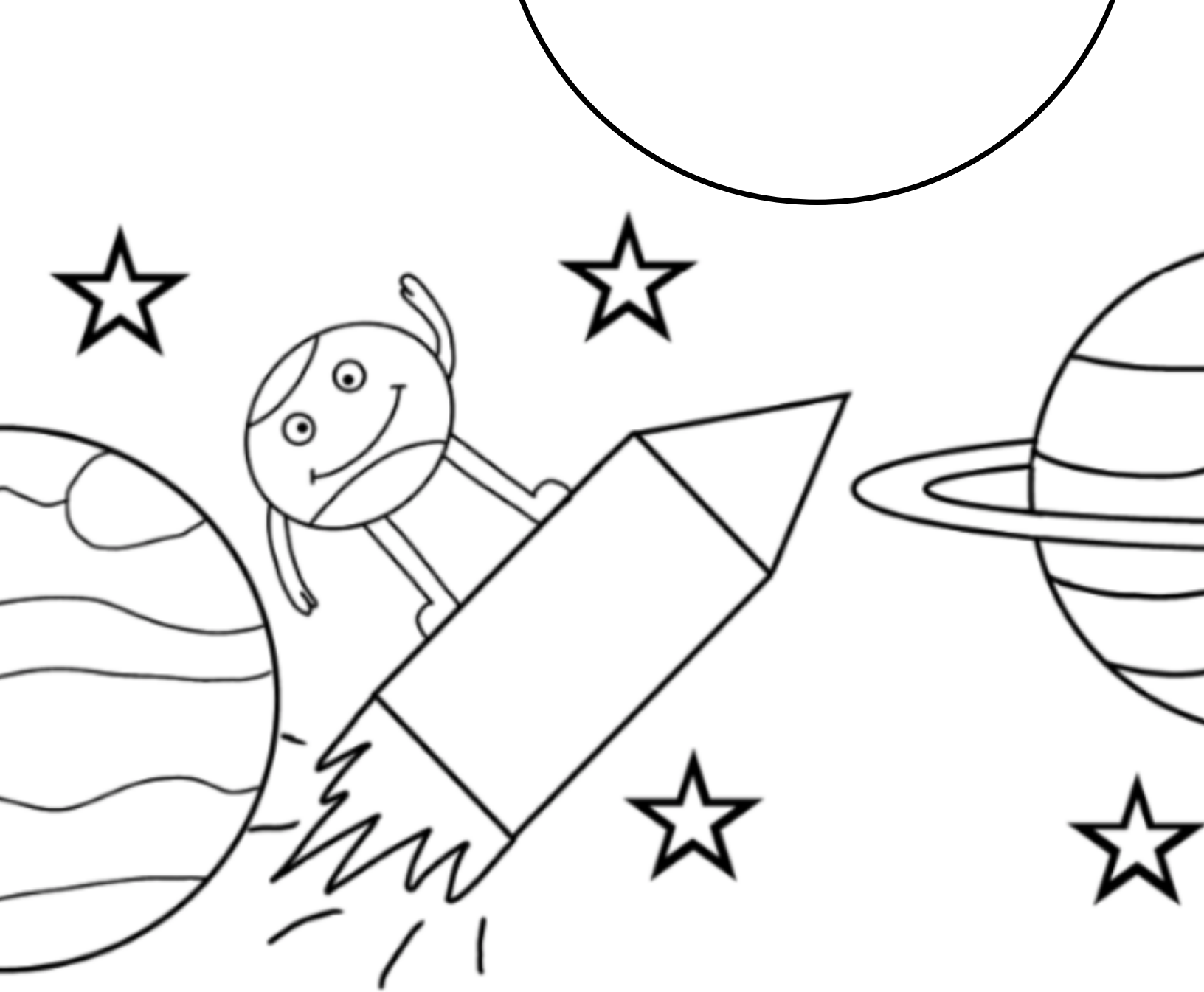




One example of a different type of STEM is working with plants. If this interests you, you could be a botanist or someone who works with plants.



Another type of STEM is working with animals of all sizes! You could be a zoologist or a person who works with animals if this interests you!



Another fun and interesting part of STEM is space! In space you can learn about the planets and discover new things in space, which is very fun!

Another career is to be an aerospace engineer or even an astronaut where you will get to learn about space daily.

I am the smallest planet.
Mercury



I am super warm.
Venus



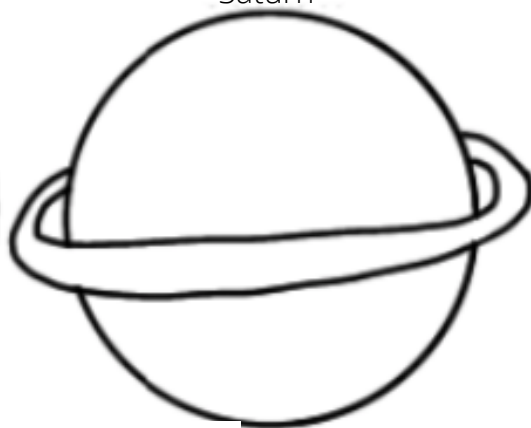
I am the only planet on our
solar system that has people
Earth



I am the biggest planet
Jupiter



I am one of the planet that has
rings
Saturn



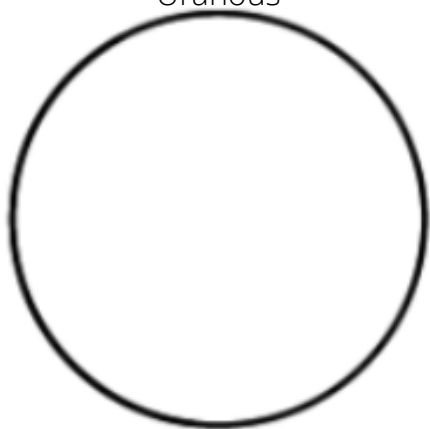
I am four times bigger
than Earth
Uranous

I am very cold
Neptune



**This is the order of
the solar system!**

Isn't that cool?



Important Things to Know

Newton's laws:

First Law: an object will not change its motion unless a force act on it.

Second Law: the force on an object is equal to its mass times its acceleration.

Third Law: when two objects interact, they apply forces to each other of equal magnitude and opposite direction.

$V = IR$. (Voltage = current and resistance)

Satellite: A satellite is a machine that orbits a planet or star.

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For more information on joining AIA:

SIGN UP for SUMMER SPACE
SESSIONS

and the next SPACE Club after school
in Fall.

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