Space Illustrated

A Science Magazine For Kids

In This Issue...

- *Supreme Planets*
- *Amazing Stars*
- *Earth's View*
- *What's Up, Moon?*
- *Deep Space*

- Plus, Fun Pages At The End Of Each Section!

Written and Illustrated By The 2009-2010 3rd Grade Astronomers at the Genesee Community Charter School in Rochester, New York

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About This Magazine

This magazine is the final product our class created at the end of a 3-month Learning Expedition called *What's Up?* During our expedition students made observations and developed theories as they wrote in sky journals, and as they explored our solar system and patterns like day and night. They also asked lots of questions. These questions led to topics of research for each student, and third graders also created a sketch to complement their article for this magazine. The writing traits of *ideas* and *organization* guided mini-lessons as students planned and wrote their article, and also as they met with teachers during multiple conferencing sessions.

We want to thank several people in particular who helped with this expedition. Dr. Joel Kastner from the Rochester Institute of Technology came to our classroom with an infrared camera, and also gave us a tour of the observatory at RIT. Dr. Adam Frank from the University of Rochester came and spoke to our class, as well Dr. David Kleinman who talked about light and the human eye. We also want to thank the Rochester Museum & Science Center for their sky shows, and for opening up the Strasenberg Planetarium for our Exhibition Night. Finally, thanks to NASA and the Hubble Telescope for the beautiful background images.

To learn about The Genesee Community Charter School visit www.gccschool.org, and for information about Expeditionary Learning visit www.elschools.org.

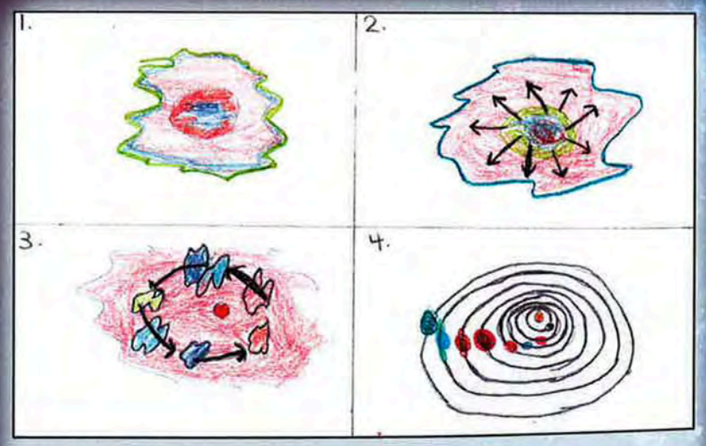
Jean Hurst, Spero Michailidis, & Elizabeth Andrew

Supreme Planets

Birth Of Our Solar System

By Mikayla G.

Scientists have a theory about how the solar system formed. They think a big cloud of gas (a nebula) with helium grew tighter and tighter because of gravity (an invisible force). The big cloud started spinning faster and faster and as it grew tighter and tighter...BOOM!!!! The sun formed. In the explosion material shot out and started circling the new sun. The material that was circling the sun formed into little clumps and then bigger clumps because of gravity. After about one billion years the planets formed from the clumps. If it wasn't for the explosion our solar wouldn't be here. It all started with one nebula.



This sketch may look like four simple steps, but it took more time than you can imagine.

Planets, Planets... Who Named You?

By Zayla T.

The Ancient Romans are the people who named the planets. They lived long ago and they believed in many different gods. They named the planets after their gods.

The inner planets (the ones closer to the sun) are Mercury, Venus, Earth, and Mars. Mercury is named after the messenger of the gods. Messengers are fast and so is Mercury because it is so close to the sun. Venus is named after the goddess of love because Venus is so beautiful. The clouds that cover it reflect light from the sun making it look beautiful. Earth is the only planet not named after a Roman god. It came from the ancient English and German word for ground. Mars is named for the god of war because Mars is red and angry looking.

The outer planets (the ones that are farther from the sun) are Jupiter, Saturn, Uranus, and Neptune. Jupiter is named after the king of the gods and Saturn is named after Jupiter's father. The planet Uranus is named for Father Sky. Neptune is named after the sea god. I think it is because it is blue like the sea. Pluto is a dwarf planet. It is named after the Greek god of the underworld.

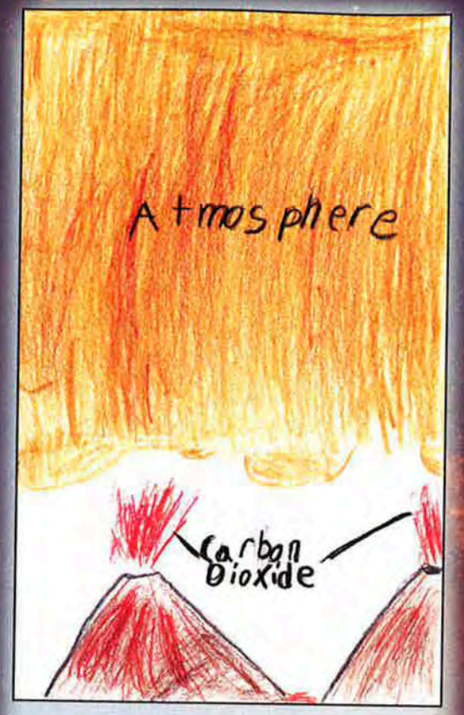
Now you know who named the planets!

Neptune, the sea god. The pretty blue planet.

How Venus Got Its Atmosphere

By Jack K.

Earth's atmosphere is made of water vapor, oxygen, and other gases. How do you think Venus got its atmosphere? Well no one knows for sure how Venus got its atmosphere but astronomers do have a theory. Their theory is Venus has thousands of volcanoes. The volcanoes produce carbon dioxide. They think that's how carbon dioxide got in Venus' atmosphere. Don't you think that's a pretty good theory? Venus's atmosphere is famous for trapping heat. How it works is the sun's energy goes through its atmosphere but it can't come out. That's called the greenhouse effect. That's why Venus is the hottest planet. Earth's atmosphere also traps heat. Earth would be too cold for us if Earth did not have the greenhouse effect, but Earth is not as hot as Venus because Venus is closer to the sun. Venus' atmosphere is a very interesting subject.

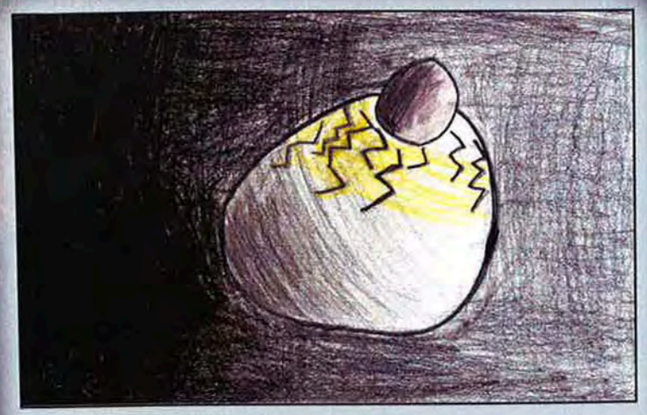


You can see volcanoes shooting carbon dioxide into Venus' atmosphere.

The Planet Rules

By Jade H.

Have you ever wondered what makes a planet a planet? I did and I really had no idea. I found out some really interesting things about this question. Astronomers have been arguing about this for a long time. They decided that to be a planet it has to follow three rules. The first rule is that it has to orbit the sun. That means that it has to go in a certain path around the sun. The second rule is planets have to be round or nearly round because its gravity has pulled it into that shape. The third and most important rule is that it has to clear its neighborhood. It has to be big enough and have enough gravity to knock things out of its way. It's kind of like a bully.



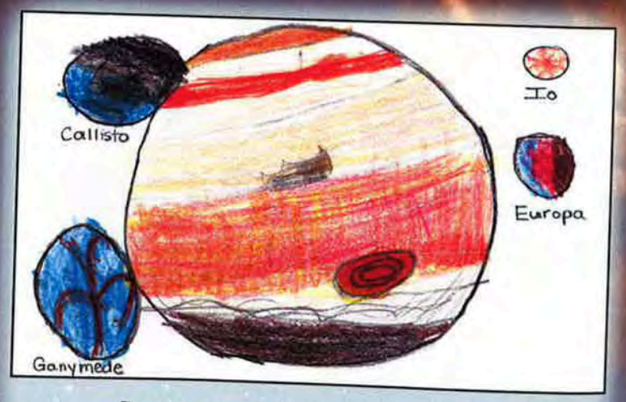
This planet is clearing its neighborhood.

Jupiter: Our Largest Planet With The Most Moons

By Myanna S.

Have you ever wondered how many moons Jupiter has? Well, Jupiter is the largest planet in our solar system. Because Jupiter is so big it has a lot of gravity. Jupiter's gravity pulls many objects from the asteroid belt towards it. Many of these objects become Jupiter's moons. Scientists have looked at Jupiter and found 63 moons so far.

Scientists have learned the most about four moons named Io, Europa, Ganymede, and Callisto. Io has many volcanoes on its surface. Scientists think that is why Io is an orange moon. A frozen ocean has been found on Europa. Scientists think it's very possible there could be life under the ice. The largest moon in our solar system is called Ganymede. It is made of rocks and ice. Craters have been spotted by scientists on the surface of Ganymede. Jupiter's second largest moon is called Callisto. It is covered with an icy surface. Underneath its surface, scientists think there is a salty ocean. Scientists are interested in Jupiter's many moons.

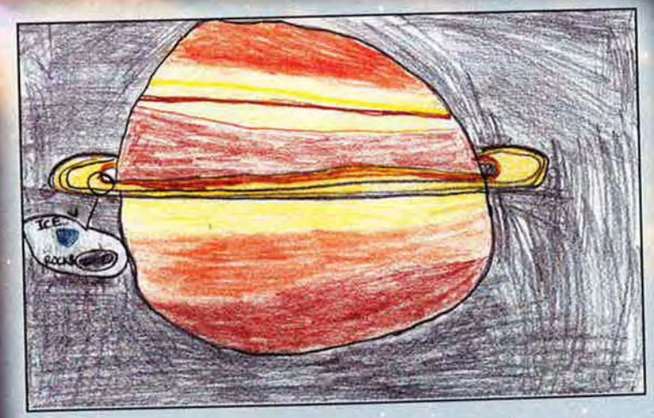


Jupiter and four of its moons.

Why Does Saturn Have Rings?

By Isaiah M.

Have you ever wondered what Saturn's rings are made out of? I used to think that Saturn's rings were made out of a rainbow but now I know that they are made out of something else. Saturn is the sixth planet in our solar system. It is the second biggest planet and one of two planets with rings. Scientists know that Saturn has thousands of rings. Saturn rings are made out of ice crystals and rocks. Some of the pieces of rock and ice are as big as a person's house. Saturn's rings do not stay still they orbit the planet. This means that Saturn's rings spin like a hula-hoop. Gravity is the force that holds Saturn's rings around the planet. This is the same force that keeps the earth orbiting around the sun. Without gravity Saturn wouldn't have any rings.



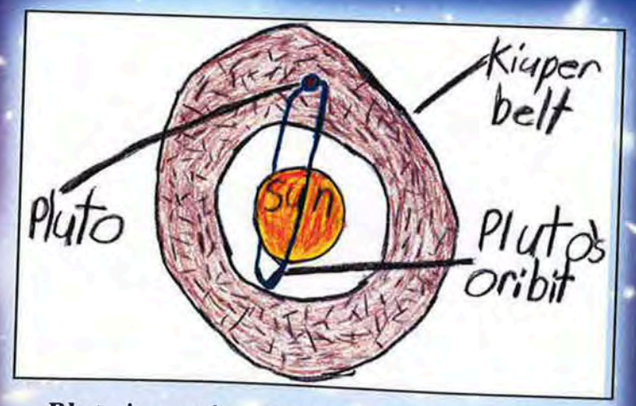
Saturn's rings are made of ice and rocks.

Pluto Was Up For Debate

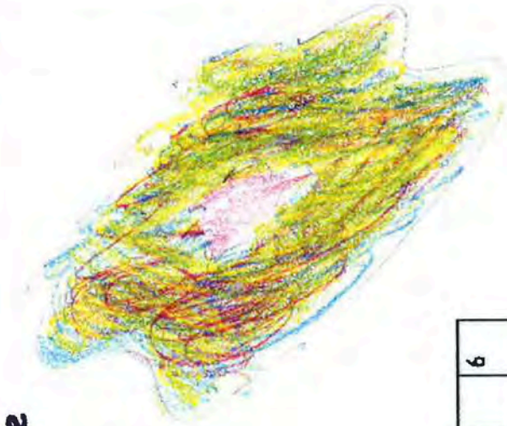
By Ellie A.

Have you ever wondered if Pluto is a planet? I used to think that Pluto was a planet but I was mistaken. Pluto is a dwarf planet because it does not fit the planet qualifications. There are three qualifications for a planet to be a planet. The first qualification is that a planet must orbit the sun. The second qualification is that a planet needs to be rounded or nearly rounded because its own gravity has pulled it into that shape. The third qualification is that a planet must be big enough to clear its orbit. If you are wondering what clear its orbit means, it means to push or pull objects out of its orbit. Pluto follows qualifications numbers one and two but not number three. It does not have enough gravity to push or pull objects out of its orbit.

However, Pluto follows all three of the dwarf planet rules. The first rule is that a dwarf planet must orbit the sun. The second rule is that a dwarf planet needs to be rounded. The third rule is that a dwarf planet cannot be a moon or satellite of any other planet (a satellite is any object that orbits around a planet). Scientists have decided that Pluto is not a planet but a dwarf planet. The debate was settled.

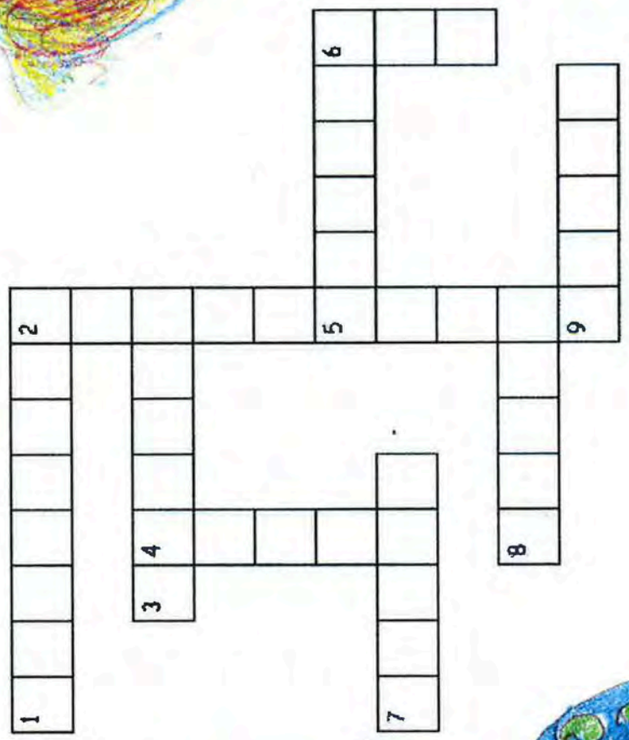


Pluto is passing through the Kuiper Belt.



Solar System Crossword Puzzle

Created by Mikayla



ACROSS

1 The solar system formed _____ of years ago.
3 Our solar system began as a _____.
5 _____ are small icy bodies that pass the sun and give off gas and dust.
7 There are _____ planets in our solar system.
8 Pluto is a _____ planet.
9 The Earth is the _____ rock from the sun.

DOWN

2 _____ take people into space.
4 We live on planet _____.
6 The _____ is the center of our solar system.

mom and dad do you know that venus is the goud of love Mars is a war panct. uranS is namd after father sky. after

NeptunE is namd after the sea god. Jupiter is namd after a King Satun is Jupiter father. Earth stand for ground.

By Zayla

Replicate a volcano on Venus

By Jack

Venus has thousands of volcanoes. Scientists think that the volcanoes have to do with how Venus got its atmosphere. Venus' atmosphere is very thick, so thick you can't photograph through it. But scientists have sent probes and used radar to learn about it.

You will need:

Baking soda

Vinegar

Film canister or small cup (not high)

Cookie tray

Red food coloring

Warm water

Dish soap

Directions:

1. Put film canister or small cup on cookie tray.
2. Fill the cup one third with warm water.
3. Add one third of baking soda.
4. Add a little dish soap.
5. Add a few drops of red food coloring.
6. Be prepared for a small explosion.
7. Pour one third of vinegar into cup or film canister.
8. Watch it explode!!

WHAT MAKES A PLANET A PLANET? WORD SEARCH

Created by Jade

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

PLANETS
SUN
VENUS
MARS
NEIGHBORHOOD
JUPITER
NEPTUNE
EARTH
GRAVITY
PATH
ORBIT
MERCURY
PLUTO
SPHERE
DWARF PLANET
SATURN
URANUS
CIRCLE
ROUND

Jupiter moons

By Myanna

1

"Hi my name is Jupiter. I'm the biggest planet in the Solar System!"

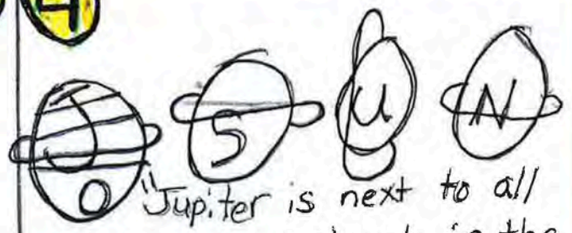
2

"I have 63 moons. They are all attracted to me because of my strong gravity."

3

Where do my friends come from you might ask? They come from the asteroid belt. This belt is located between Mars and myself."

4



"Jupiter is next to all of the bigger planets in the Solar System!"

5

"My big red spot is 300 years old. You can see my big red spot better with a magnifying glass!"

6

"Did you know that 1,000 Earths can fit inside me? I had fun with you. Come back and learn more about me!"

The Adventures of Sponge Bob Squarepants

CrEated By Isaiah

Dwarf Planet Search

By Ellie

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

Word Bank (words do not have a space between them):

Sedna (dwarf planet beyond Pluto)
Double Planet
Pluto
Plutoid
Dwarf Planet
Makemake (dwarf planet beyond Pluto)
Frozen
Eris (dwarf planet beyond Pluto)
Ceres (dwarf planet in the Asteroid Belt)
Charon (Pluto's Moon)
Kuiper Belt (belt of objects beyond Neptune)
Haumea (dwarf planet beyond Pluto)
Dysnomia (Eris's moon)
Ice

Amazing Stars

The Motion Of The Sun

By Claire S.

On a nice summer day I was looking up at the sun and I wondered if it moved. Most people think the sun doesn't move. The eight planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune go around the sun. It seems like the sun doesn't move because its in the middle of all the planets. But it does move. The solar system goes around the middle of the Milky Way galaxy. It takes 230 million years to go around it once and it goes 138 miles per second. But that's not all! The Milky Way galaxy goes around a super cluster, which is a big cluster of other galaxies. So really the sun doesn't stay still at all. It's moving constantly, very fast.

The solar system moves around the Milky Way galaxy and the Milky Way galaxy goes around the super cluster.

A Cluster Of Importance

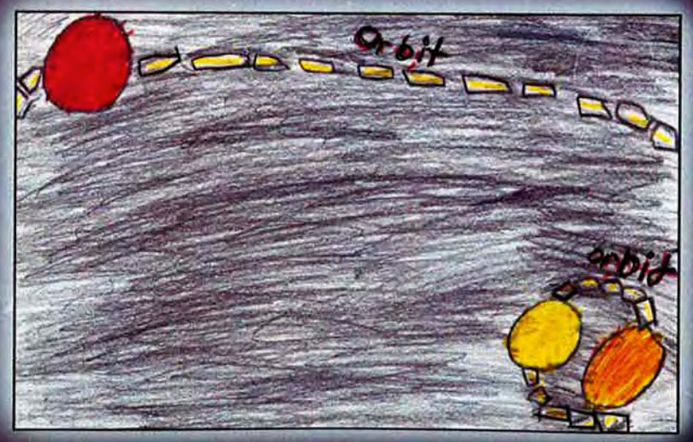
By Spencer K.

A lot of people don't know what Alpha Centauri is. It is not a star or a galaxy. It is a star cluster. The star cluster Alpha Centauri has three stars in it. The first star is Proxima Centauri. It is red because it is and older red dwarf star. The second star is Alpha Centauri. It is orangeish yellow. Finally, Beta Centauri. It is yellow. Of the three, Proxima Centauri is the closest star to the sun.

Close might be a few feet away, but not in this case! The Alpha Centauri cluster is 272,000 A.U.s from the sun. A.U. stands for Astronomical Units. One A.U. equals 92.9 million miles. Here's a math problem to help you out with the distance: What's 93,000,000 X 272,000? If you answered 25 trillion you're right! Alpha Centauri and Beta Centauri orbit around each other. Proxima Centauri has a huge orbit around them. Scientists think it takes 2 million years for Proxima Centauri to complete one orbit. This all happens in their home sweet star cluster.

How to See Alpha Centauri

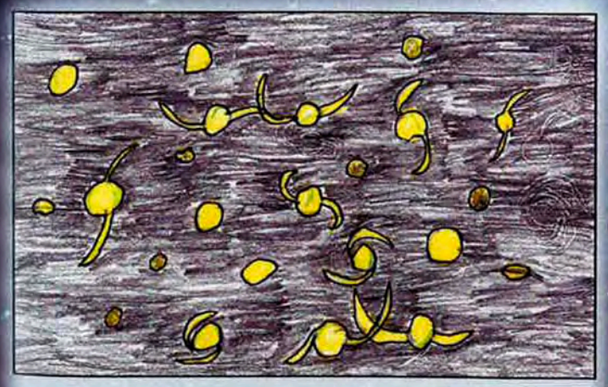
1. Make sure you are somewhere in the Southern hemisphere.
2. Wait for a clear night to view Alpha Centauri.
3. Alpha Centauri is in the Centaurus constellation so make sure you look there.
4. Find the head, legs, and arms of the Centaurus constellation. If you didn't know, a Centaur is half horse, half man.
5. Find the Centaur's forelegs.
6. Find the foreleg that's the most far away from the head.
7. Alpha Centauri is visible at the hoof of the farthest leg.



This picture shows that Proxima Centauri is farther from Alpha Centauri and Beta Centauri. It also shows how big Proxima Centauri's orbit is.

Other Solar Systems?!?!

By Noah F.



There can be more planets out there.

When you are looking up into the night sky do you wonder if there are other solar systems out there? If you do, this is a good article for you.

Well the answer is yes. Three hundred other solar systems have been identified (found)! Astronomers (people that study space) found them by looking for wobbling stars. That usually means that something is being pulled by their gravity causing them to wobble. It is usually a planet. We call them exoplanets because they are out of our solar system. The most recent discovery was back in October. Astronomers discovered thirty-five other planets. They used a very important new device called HARPS (High Accuracy Radial Velocity Planet Searcher) that is installed in a telescope in Chile. It measures the movement of light and can measure even the smallest pulls on stars. That means we can find more wobbling stars than we ever could before!

But not every star has a solar system. Currently scientists think that if you look up into the night sky and you count ten stars probably one of them has a planet around it! That opinion could change as new planets are discovered.

If you would like more information about the recent discovery I talked about, go to cnn.com. The exact address is www.cnn.com/2009/tech/science/10/19/space.new.planets/index.html

How Big Stars Get

By Adriana C.

Did you ever look outside at night and wonder how big stars can get? Stars can be all different sizes. Some can be the size of Mars's orbit. Some are much smaller. You could fit 1,000,000 Earths into our sun. But our sun is not that big compared to most stars!

Stars change size as they get older. After around 10 billion years they start to run out of fuel. Soon after awhile they collapse and get hotter and hotter. It doesn't necessarily pop but it balloons out like a piece of popcorn. They get bigger then they're called a red giant.

After that some stars go from big to small and big to small. They're called variable stars because they keep changing size. After a star balloons out it starts to cool down and it collapses. It shrinks down to the size of a small planet like maybe Mercury or Mars. Now it is called a white dwarf. It then turns black and becomes even cooler. That's when the star dies and is called a black dwarf.

When some really, really big stars collapse they make giant explosions called supernovas. The strong, dense pull of gravity that happens can create a black hole that sucks in everything around it. This is very rare. It happens maybe every couple hundred years.

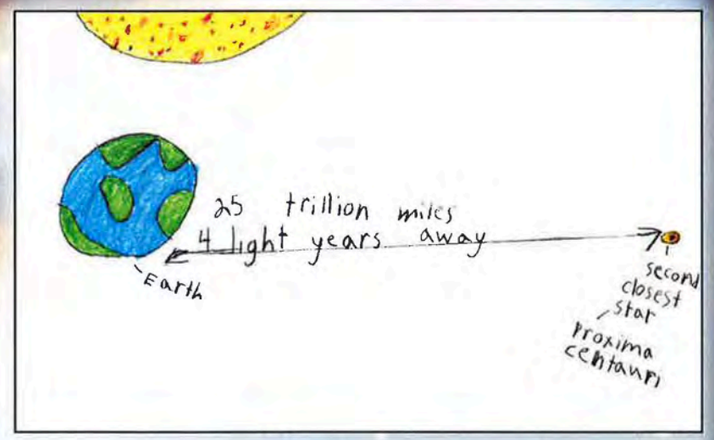
So now when you look outside you know that stars can be many different sizes an that they change size as they go through their life cycle!

The stages of a star show how it changes size.

How Far Away Are Stars?

By Olivia A.

Our sun is the closest star. The next star after that is 25 trillion miles away and it's called Proxima Centauri. It is 4 light years away. A light year is what astronomers use to measure space. Astronomers use light years because space is waaaay too big to measure in miles. Our solar system is in the Milky Way galaxy and there are millions of stars in our galaxy. The Milky Way is 100,000 light years across and 1,000 light years thick. That is a really big amount of miles. That is like 100,000 times 25,000,000,000,000. That means a star's light that you see now is light it made long ago, and that star could even be dead! Stars are millions of light years away.

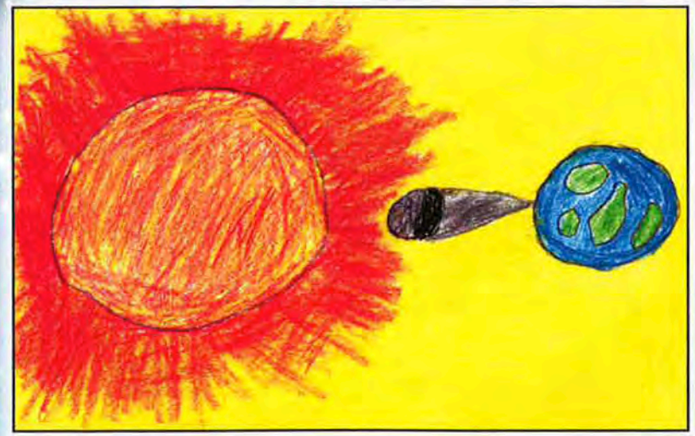


How far is the second closest star? 25,000,000,000,000 miles away.

The Moon's Small Shadow

By Willie A.

Do you know what a solar eclipse is? Well do you? A solar eclipse is when the moon makes a small shadow on the earth. The sun, moon, and Earth need to line up exactly in this order to make a solar eclipse. If you want to see a solar eclipse you need to be in the moons shadow. That's why you have to be in the exact spot on Earth to see a solar eclipse. The shadow hits just a little part of the planet because the moon is small compared to the Earth. There are two kinds of solar eclipses. One is a total solar eclipse and the other is a partial solar eclipse. A total solar eclipse is when the moon fully covers the sun. A partial eclipse is when the moon covers part of the sun. If you ever see a total eclipse you probably will see a corona. It is the light that shines from the sun and comes around the edge of the moon. A solar eclipse happens about two times a year, but you have to be in the right spot to see it.



This is how a solar eclipse happens. You have to be lucky to see a total solar eclipse.

Explosion On The Sun

By Khai S.

Do you want to hear what a solar flare is? A solar flare is an explosion on the sun's surface. They happen on sunspots. A sunspot is a place on the surface of the sun that is cooler than the rest of the surface of the sun. Solar flares are caused by magnetic fields around the sun. Solar flares can release as much energy as 40 billion atomic bombs. When scientists look at solar flares, they think that the solar flares look like a huge sheet of flaming gas that comes off the sun's surface. Sometimes there are electric particles left over from a solar flare explosion. These particles get sent into space and cause solar wind, which can interrupt radio signals. The solar wind can travel one million miles per hour. Solar wind can also cause light displays in the north and south poles. These are called Northern lights and Southern lights. Some solar flares take a half an hour to die away. The next time your radio goes out it might be a solar flare. It also could be the batteries.

This is a solar flare. A solar flare happens on a sunspot.

Standing on the Sun

By Claire

Chapter 1

Hi my name is Caitlin and I am about to go onto the sun. My Dad is coming with me of course and don't worry I have a fireproof space suite. I am going because at school we are studying space. I am studying - why doesn't the sun move? Now I am going to find that out! I said goodbye to my sister Hannah and my mom Lauren yesterday and then went on a plane to where the spaceship will take off.

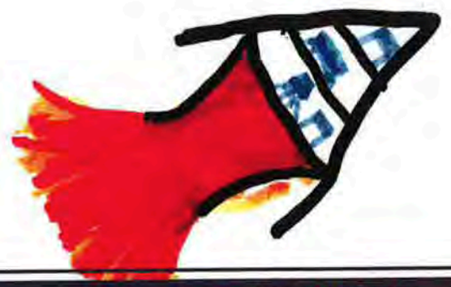
Chapter 2

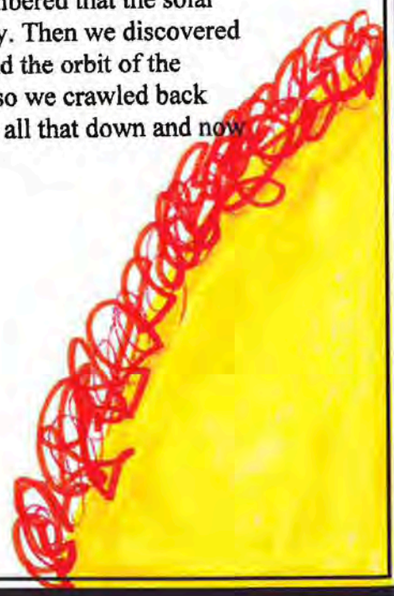
10 9 8 7 6 5 4 3 2 1! BLAST OFF!!!!! The spaceship flew high into the sky and I couldn't believe that I was actually going to the sun! It felt like the ride took 5 hours to get into space because I was so excited! Then I got to see all the planets! Neptune, Uranus, Saturn, Jupiter, Mars, Earth, Venus and Mercury! They were bigger then I thought but then a bright light shone in my eye it was humungous but it was where we were going. Then the space ship stopped. "We're there," Dad said. We got our fireproof suits on and stepped foot on the sun!

Chapter 3

It was really warm even though I was in a fireproof space suit. Then we felt the sun spinning like a merry-go-round. And then we saw ourselves spinning in the middle of the Milky Way galaxy. Then we felt the Milky Way galaxy spinning around the super cluster. Then we saw the outside of the universe with thousands of big and little balls. They were called stars. Then we remembered that the solar system takes 250 million years to orbit the Milky Way galaxy. Then we discovered that the solar system travels 220 kilometers per second around the orbit of the Milky Way galaxy that we are on. Then we were very tired so we crawled back into the space ship and went home. But thankfully, we wrote all that down and now you got to read it.

The End.





Different Color Stars

You are about to experience the changes of a stars life.

Created by Noah

You will need:

1 old box
Different color cellophane including red, blue, and yellow
Scissors
Tape
1 flashlight
1 white piece of paper
1 pen or pencil

Directions:

1. Cut one side of the box off
2. Make four holes: one tiny one, a little bigger, one a lot bigger, and the next one even bigger.
3. Have a adult cut the circles out.
4. Tape the red cellophane on the small one.

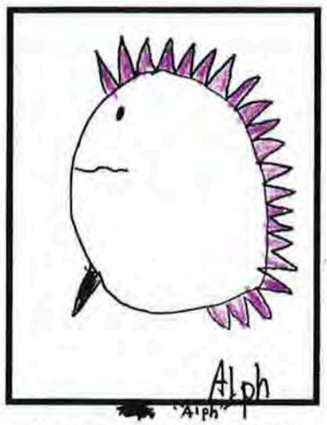
5. Tape the yellow cellophane on the second one.
6. Tape the blue cellophane on the third one.
7. Tape more red cellophane on the last one.
8. Draw the solar system on a normal piece of paper.
9. Shine the light from small to big. What do you see?

Fact: Our sun is only a yellow star so it won't swallow us for 5,000,000 years.

Show your project to your friends!

"Alph and the 72"

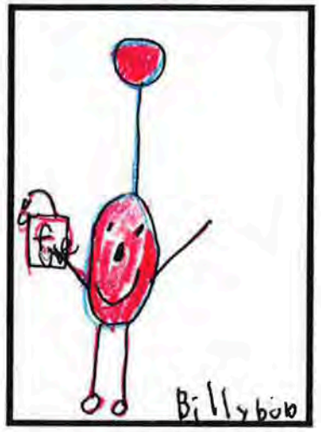
Written by Willie and Spencer
Genesee Community Charter School, 3rd Grade



The greatest space ship ever was the 72. The 72 was chosen for a dangerous double mission. The first part of the mission was to look at a solar eclipse. Alph got sent up into space in the 72. He went to Mars and saw a lot of craters. He said it looked like the moon. Then an alien came. His name was Billy Bob. He told Alph to follow him. He took Alph to the porta potty because it is a long trip. Alph didn't have to go, so they left. They went to Jupiter and got sucked into the red spot. Alph had no clue what the red spot is so he was kind of scared. They tried to get out of the spot. Alph couldn't with Jupiter's forceful gravity. Alph boosted the engine and suddenly was shot straight up in the air!

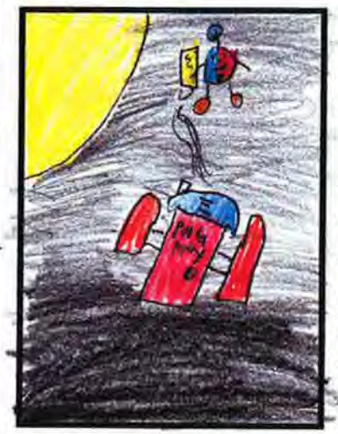
Alph took off and saw the moon and the sun and the earth lined up together. This was the solar eclipse he was sent to study. It lasted 3 minutes and 15 seconds. The longest in recorded history is 8 minutes and 7 seconds. There was a little light coming out from around the eclipse, that light is called corona. He zoomed by the eclipse off to Saturn.

When Alph went to Saturn he saw really thin rings when he was on the side. The planet's the second biggest planet in the solar system. Saturn's moon Titan is the coldest moon. Once a probe landed on Titan and froze so the system shut down and there was no way to turn it back on or get it working again. Then Alph ran out of fuel. He landed on the closest planet, Neptune. Billy Bob gave him extra fuel. With a full tank, Alph took off for the second part of his mission. He was off to find Alpha Centauri.



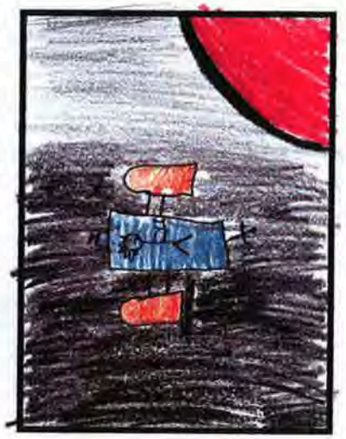
Alph flew the rocket to Mars and launched a space probe called Proxima to try to find out more about Alpha Centauri.

Alph flew the 72 back to Earth while the Proxima headed to Alpha Centauri. When the space probe got there it noticed that Alpha Centauri was only one tenth the mass of the Sun. The temperature on Centauri was crazy, too. It was 3,100 degrees Celsius! Then suddenly POOF! The space probe turned into a porta potty!



An alien flew by the space probe/porta potty and dumped super power juice on the porta potty then POOF! Then the porta potty turned back into a space probe. With some more wandering around, the space probe Proxima found that Alpha Centauri holds no planets. Proxima quickly sent the information about Centauri having no planets and scientists said that their theory was Centauri is so small that it has not that much gravitational force to capture planets. Even though the super power juice turned it back in to a space probe . . . it gave it blasters! Mission control called in and said: Hmmmmmm, those will come in handy some time! At that very second a group of aliens swooped in and threw rocks, slime and gross stuff at the ship but missed.

Then the probe found that Alpha Centauri is a flare star. People believed that no probe or any kind of spacecraft could go to Alpha Centauri. But the Proxima proved them wrong! Right then the space probe got hit by something and it went out of its planned orbit. It discovered two new stars like Alpha Centauri, and called them Proxima Centauri and Beta Centauri. Proxima sent the info to mission control. Beep. . . beep. . . beep. . . what was that!? Something came in on the screen: WARNING: SOLAR FLARE COMING AT YOU. Proxima increased speed and zoomed away right in time! People all say Proxima Centauri is part of the Southern Cross constellation. When Proxima got knocked out of orbit, it saw the Southern Cross. The back camera looked and saw that Proxima Cetauri was not part of the Southern Cross and took a picture. Then Proxima sent the information to scientists. Every one was astonished! Right then the scientists teleported Alph to the Proxima so that he could fly it home!



THE END!!!!!!!!

How Far Are Stars

by Diana

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

ALPHACENTAURI
CLOSEST
DISTANCE
FARTHEST
GALAXY
KILOMETERS
LIGHT
LIGHTYEAR
MILES
MILKYWAY
NEBULA
SOLORSYSTEM
SPEEDOFLIGHT
STAR
STARCLUSTER

The Person Who Went to Space

By Adriana

5...4...3...2...1! AAAAAAAAA! I just blasted into space! On my way to space I weaved through so many satellites I lost counts and also I saw a space station. So cool, there is a White Dwarf (a White Dwarf is a dying out star). Whoa, a Super Nova (a Super Nova is a giant sun or star exploding)! I feel happy when I see a super nova because it is very, very bright! Wow, I'm flying around and I see a star being born. Here are the stages of a star. First a liquid and a gas, the star begins to shine, the star swells up, and a Red Giant is born. Wow, I just passed a Black Hole! I almost got sucked into a Black Hole! Wow, I've never seen something so dark before. Some stars can be as big as Mars' orbit, other much smaller, whoa! Speaking of big stars, I just saw a star as big as Mars' orbit!! After about a really long time...let's say 10 billion years, a star gets old and runs out of fuel. Wow, I just landed back on earth. I look up in the night sky and I saw a Black Dwarf, a Black Dwarf is a dying out star. That dying out star gets cooler and it dies! ZZZZZZZ!!

Find a solar flare...

...created by Ethan

e	O	R	A	N	G	e	R	O	G	E	M	O	S	G	e	G
S	X	M	b	i	N	D	A	N	G	E	O	C	Q	S	M	A
M	a	P	C	p	e	D	A	N	G	E	R	O	U	S	O	S
M	T	L	L	P	S	U	n	S	P	O	T	N	O	U	S	O
M	M	C	S	O	Q	D	U	M	A	G	N	E	T	I	C	h
C	O	F	o	h	S	N	U	O	G	E	C	Q	F	C	h	e
M	S	C	i	O	Q	I	R	e	M	C	a	Y	I	M	C	a
Y	p	F	a	P	a	L	O	e	S	Q	R	Y	R	M	C	a
O	h	M	r	U	M	C	a	n	Q	O	R	E	E	G	U	C
O	e	U	F	F	U	F	O	e	B	E	I	E	a	t	M	O
M	r	O	L	M	C	a	b	R	U	I	C	A	U	P	L	M
S	e	I	A	C	U	B	P	G	R	I	N	O	r	C	Q	h
L	U	V	R	Z	O	M	i	Y	S	z	O	z	U	C	Q	O
L	M	n	e	U	V	U	F	G	T	B	L	O	W	U	P	t

sunspot
sun
solarflare
solar
gas
orange
explosion!
blowup
big
hot
atmosphere
Fire
magnetic
energy
burst
dangerous

Earth's View

The Image Of Life

By Grace G.

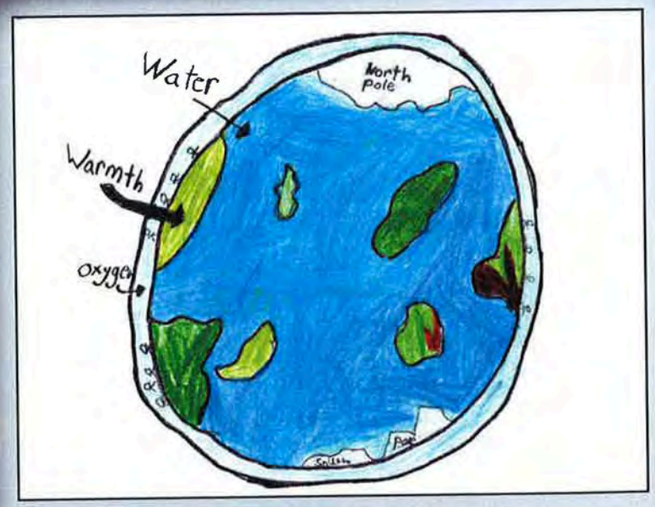
Imagine if Earth did not have any oxygen, water, or if it was boiling hot or freezing cold. What do you think it would be like? Do you think living things would survive?

Earth does have oxygen, water, and the perfect temperature. That is why Earth can have living things. Each of those things has an important job. The temperatures on Earth are good. It's not too hot and not too cold. For example, the temperature can get as high as 864 degrees F on Venus. That is too hot to survive. On Uranus it can get to – 357 degrees F. It would be too cold to survive there.

The oxygen in Earth's atmosphere is very important. We would not be able to survive if we did not have the oxygen in our atmosphere. For example, Mars has an atmosphere but it does not have the oxygen for us to breathe.

Water is also important for living things. The water on Earth is used for drinking, washing, and farming. It keeps us, plants and animals alive.

Astronomers are looking for water on different planets. That could be a sign of life. Mars is an example of a place they looked because they saw things that looked like old river beds. They haven't found a planet yet with oxygen, water, or the perfect temperatures. Scientists don't know for sure but right now they think that Earth is the only planet with life.

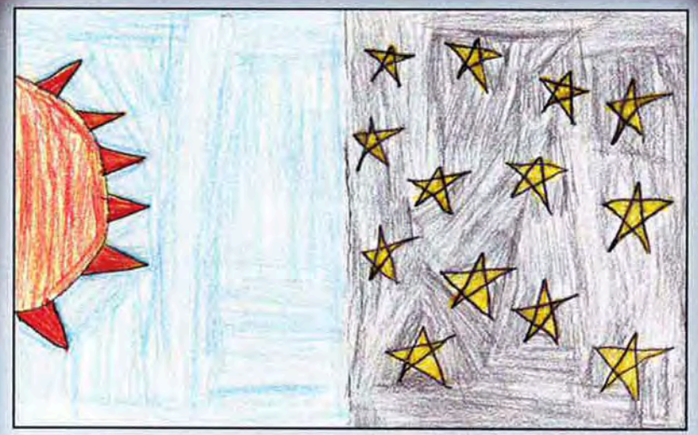


Water, oxygen, and the perfect temperature make Earth able to have life.

Twinkle, Twinkle, Little Star, How I Wonder *Where* You Are

By Leanna B.

Do you want to know where stars go during the day? They don't go anywhere. In fact, they're still here you just can't see them. Think about it this way. If you are watching a movie and someone is opening the door the light is blocking the darkness of the movie so you can't see the movie, right? But when someone closes the door and there is no more light blocking the darkness of the movie, you can see it clearly. This might be confusing to you but basically the light of the sun is like the light coming through the door of the theater. It's light blocks the light of other stars so you can't see them. At night when our part of the Earth is facing away from the sun, it's light doesn't block the stars so you can see them.



Stars don't go anywhere. We just can't see them in the daytime.

Roaring Rockets

By Aidan S.

Do you depend on spacecraft? Well, if you said no, you can think again! Spacecraft are very important to us because they help us communicate, take pictures of space, help us study our planet and universe, and sometimes take humans into space. Here are some examples. One example is weather satellites. They tell us when thunderstorms, tornadoes, hurricanes, and of course sunny weather is coming. Another example is communication satellites. These help us communicate on cell phones, regular phones, and radios. Yet another example is space probes. Right now they are looking for life on other planets and other answers to our questions. One example is the Casini space probe. It has a smaller space probe aboard it that landed on one of Saturn's moons in 2004. Another example of space probes is the Martian Rovers. I used to think there was only one but there are two. Their names are Spirit and Opportunity and they are looking for evidence of life on Mars. Space telescope are another type of spacecraft. They take pictures in space and they help us get a better idea of what's out there in our universe.

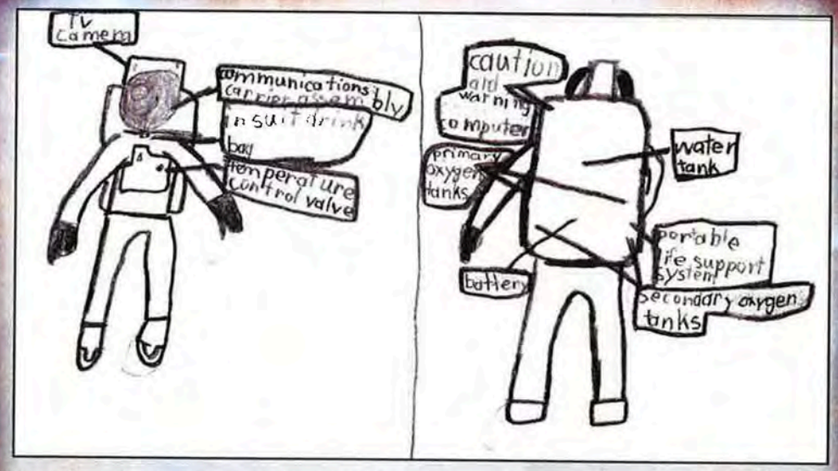
All of these examples need a way to get up into space, so we invented rockets. Rockets turn their fuel into gas which is pushed downward to propel the rocket upward into space. It has to break free of Earth's gravity to get into space. An example of a rocket would be the Saturn V rocket. This rocket was manned and was the rocket that landed men on the moon for the first time! Now that you finished reading, do you think you depend on spacecraft? You're right.

A United States Shuttle Assembly.

Our Own Personal Atmosphere

By Sam O.

Imagine that you're in space in a space suit. Then imagine taking off your helmet. What would happen if you did that in real life? Well, here's your chance to find out! A space suit helps us survive in space because it gives us important things. First it provides us with oxygen. Without oxygen our body wouldn't function right. All the cells in our body need oxygen to live. Earth's atmosphere provides us with oxygen by letting us breathe air. A space suit also has air with oxygen. Next, a space suit keeps us pressurized. On Earth we have air pressure. It comes from gravity pulling the atmosphere down. But in space there is no atmosphere to keep us pressurized. Our space suit provides us with pressure our bodies need. If gravity didn't pressurize us, we might explode, or maybe our cells would. A space suit also protects us from the sun's ultraviolet rays. Earth's atmosphere filters the sun's harmful rays. But in space there is no atmosphere to protect us, and a space suit does that for us. Another thing a space suit does for us is it keeps us from freezing and overheating. The space suit has a portable life-support system so the temperature doesn't get too hot or too cold. The atmosphere on Earth also does that for us. Finally, a space suit protects us from rocks and dust flying around in space. Are you wondering what does that for us on Earth? You guessed it! It's the atmosphere. Basically, a space suit just makes the conditions we need to survive. It even has a built-in toilet!

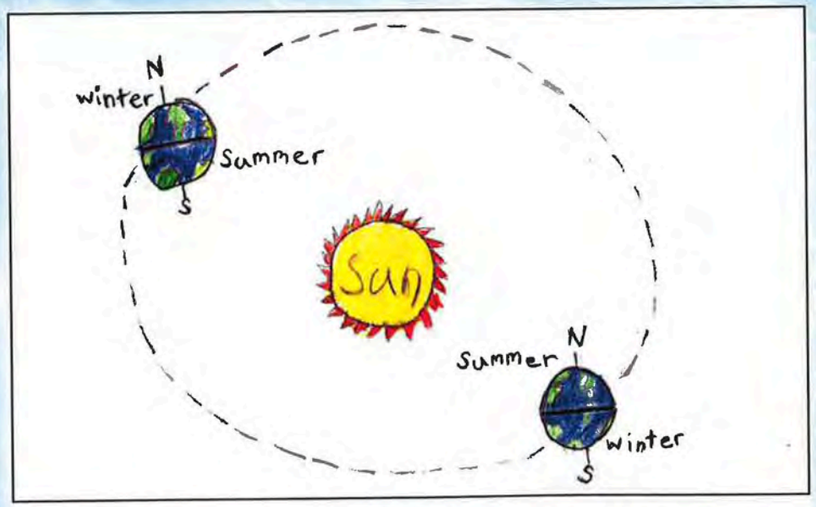


A space suit might be uncomfortable, but it's better to be uncomfortable than to die.

The Mystery Of The Seasons On Earth

By Gabriella E.

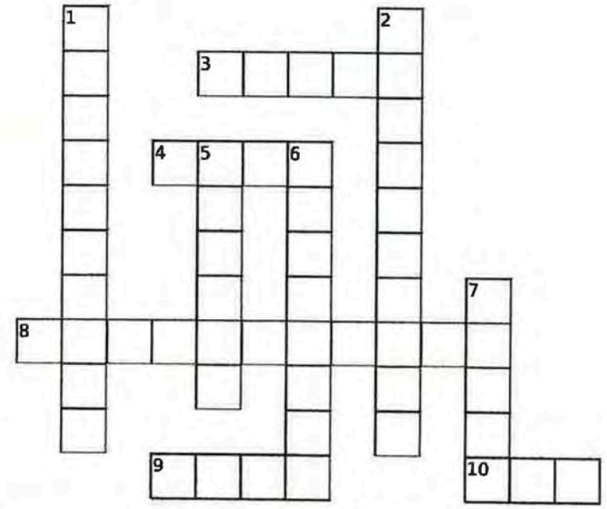
I used to think that we had different seasons because the Earth moves around the sun. But I didn't know about the tilt of the Earth's axis! Have you ever wondered how it works? Well, the seasons we have (winter, spring, summer, and fall) all happen because of the tilt of Earth's axis. The Earth's axis is an imaginary line, which the Earth spins around. The Earth is divided up into two halves called the northern hemisphere and the southern hemisphere. It is divided up by a line that really is not there! This line is called the equator. When the northern hemisphere is tilted towards the sun then it is having summer. The southern hemisphere is then tilted away from the sun and it is having winter. As the Earth orbits around the sun its tilt doesn't change. So when the Earth moves to the other side of the sun the northern hemisphere is now tilted away from the sun and is having winter and the southern hemisphere is tilted towards the sun and is having summer. When part of the world is having summer they are getting direct sunlight and it feels really hot. When the other part of the world is having winter, they are getting less direct sunlight and it does not feel as hot. So the seasons all happen because of the tilt of Earths axis and the Earth moving around the sun.



The tilt of Earth's axis gives us the seasons.

Earth's Criss Cross Puzzle

Grace



Across

3 This is a liquid that covers a lot of the Earth's surface.
4 Not too _____, like Uranus and Neptune.
8 The Earth has just the right _____, not too hot and not too cold.
9 Earth is the only planet with _____.
10 It keeps us warm.

Down

1 This is the layer of gas that surrounds and protects the Earth.
2 The _____ effect traps the heat and warms the Earth.
5 We need this to breathe.
6 The Earth is the right _____ from the sun.
7 It is the hottest planet.

The Mystery of the Colors

By Bryce

Once there was a UFO (unidentified flying object) carrying three aliens. It was scout ship #567 and it was exploring space when it came across Earth. It was sunrise when they landed and they were scared by the colors! Back on their home planet, the sky was always black. They were very worried. They tried to get off Earth, but as they were speeding away their sensors indicated (sensed) something. What was it? Their Name Finder answered that. It seemed to be a thick, layered atmosphere. They were curious about the mysterious colors of the sky at sunrise.

As they left Earth, they noticed the sun. They were interested in this ball of hot, burning gases that radiated heat and light. Light! The aliens were *very* interested in this thing called light. They went to investigate and then followed a path of light back to Earth. They were worried. What would happen if they risked going down again? Curiosity took over and they landed again.

Now it was the middle of the day. They were mystified (puzzled) because the sky had changed colors. Now it was blue! They decided to call scout ship #978 to help them investigate the mysterious atmosphere. Unfortunately, they gave scout ship #978 the wrong directions and it happened to land where sunrise was occurring. Scout ship #978's sensors sensed a very thick atmosphere, while scout ship #567's sensors sensed a very thin atmosphere. This led to a strange discovery. Light seemed to be splitting up when it hit the atmosphere. It seemed that the split light was making the colors of sunrise. They also checked sunset and everything was the same. They thought this was unique! They wished their planet had the same beautiful colors as Earth, but it just wasn't possible without an atmosphere.

Going to the Moon

By Aidan

It all started when I built my rocket-ship, the Flame. I had to use aluminum so as not to be too heavy. The fuel I used was kerosene mixed with oxygen. I was curious to know why the oxygen was liquid and the kerosene was solid. As the mixture heated up, it became a gas. The gas was propelled downward, giving the rocket thrust, which pushed the rocket upwards. There was no room for a big fuel tank so I figured I would find something to use as fuel on the moon. But I had forgotten that the moon has almost no gravity, so I wouldn't need fuel to blast through the moon's atmosphere when I was ready to leave.

I went to the launch place and got ready. First, I put the rocket on the launcher, then I got in and got the controls ready. Suddenly an unfamiliar robot started the countdown:

10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. BOOM!!!!!! And I was off!

Now, the first stage had fallen off and I was in the atmosphere! I checked my outdoor thermometer and it said 200 degrees Celsius!!! Next, the second stage fell off and the rocket was getting slower. Now it was time to prepare the lunar lander.

First I put in a little fuel—only enough to get to the moon and back, no extra. I got my space ship into orbit and got in the lunar lander. As soon as I got in, I landed on the moon.

This was my very first time on the moon. From the spacecraft, the moon looked very interesting. As I was putting on my space suit, so that I could breathe on the airless surface, I saw an alien running towards me. I was afraid it would capture me.

I hopped out onto the moon. I planted my flag and I said hello to the alien. The alien said hello to me, and went home, saying his mom wanted him home for dinner. I gathered some moon rocks and found a cool monorail system. So, I took a ride. It was crazy, because I didn't know how to drive it very well. Next, I walked back to my lunar lander, got in, and blasted off to go back to the Flame, my space ship. I went home to Earth, landed the rocket, and returned home to dinner with my Mom and Dad.

The End

What's Up With Space Suits?

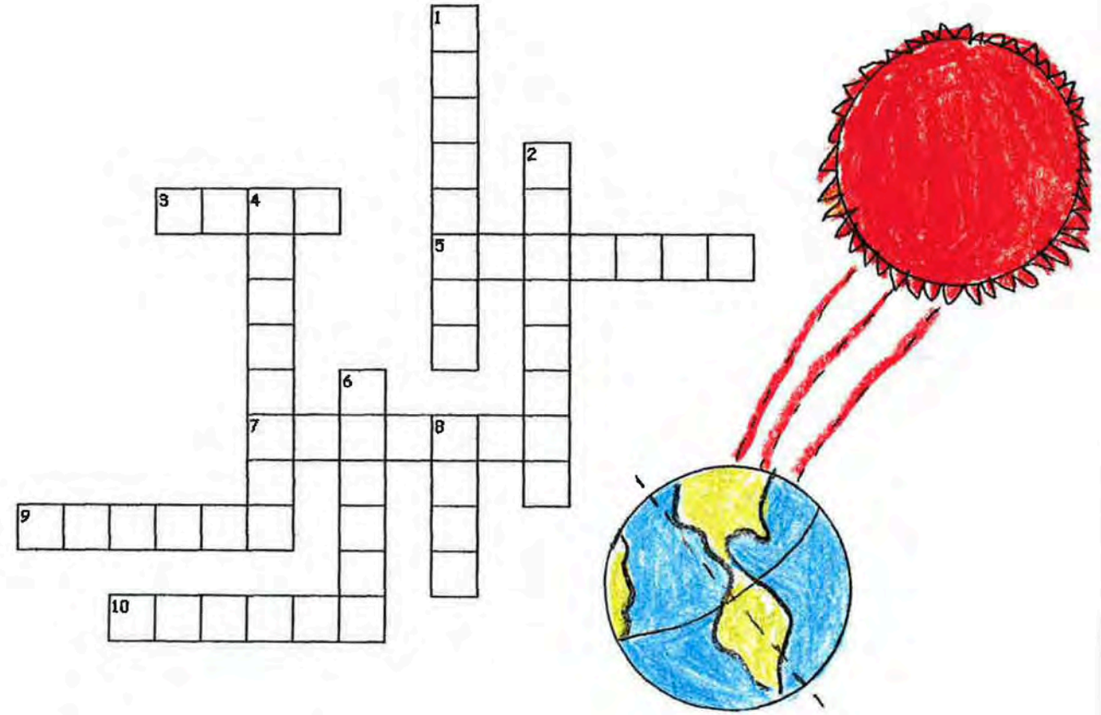
Created by Sam

Beware: Words in RED are backward in puzzle!

AIRLOCK
ATMOSPHERE
BOOTS
BREATHING
BUILT IN TOILET
FREEZE
GLOVES
GUS GRISSOM
HEAT SOURCE
HEAVY
HELMET
MOONWALK
OXYGEN
PRESSURE
RADIATION SHIELD
SPACE STATION
SPACE SUIT
VACUUM
VISOR
ZERO GRAVITY

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

The Seasons Crossword by Gabriella



Across
3. An imaginary line around which an object rotates.
5. When the days and nights are exactly the same length of time all over the world.
7. An imaginary line that separates the Northern and Southern hemispheres.
9. The light that shines on Earth during the summer season.
10. The season when the Earth is tilted so that indirect sunlight shines on a hemisphere.

Down
1. The hemisphere where you can find the United States.
2. The hemisphere where you can find Australia.
4. The light that comes to Earth during the winter season.
6. The season when the Earth is tilted so that direct sunlight shines on a hemisphere.
8. The Earth's axis has a _____.

Searching shapes of the moon

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

gibbous
quarter
rotation
orbit
sun light

moon
crescent
full
Phases
new
waxing
waning

eclipse
sliver
dark

created by Katie

Internet Sites About Lunar Eclipses

Created by Jordan

Lunar Eclipse Computer

http://aa.usno.navy.mil/data/docs/LunarEclipse.php

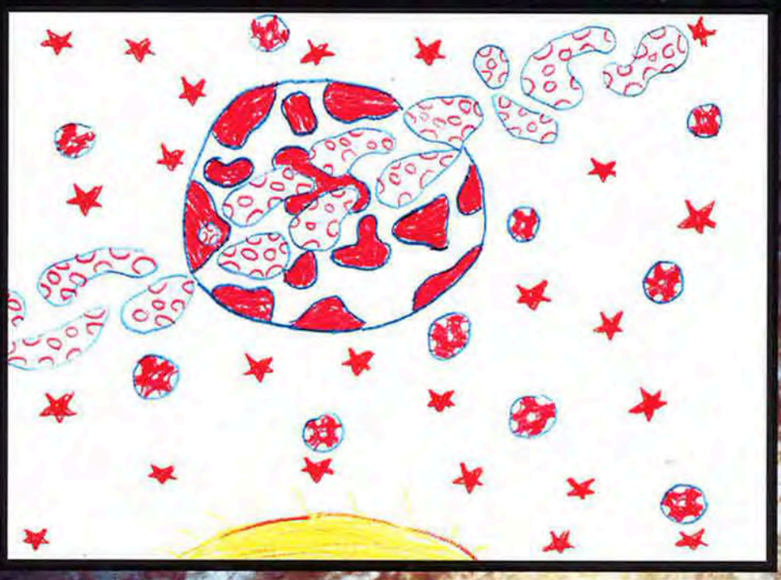
This website tells the time of when and where the lunar eclipse is going to be. Make sure you pick the total eclipse because you can't see the partial or penumbral eclipse that well. There is a date chart on the bottom that you can look at to see when the next eclipse is going to be.

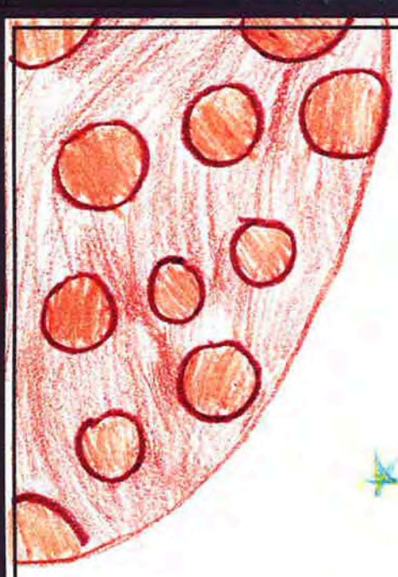
Lunar Eclipse for Beginners

http://www.mreclipse.com/Special/LEprimer.html

There is something interesting about this website. It has some pictures that are the color of the moon when it is in a total eclipse. There are some pictures of the moons cycle going across the sky in a picture. Read the introduction and you will learn about a lunar eclipse.

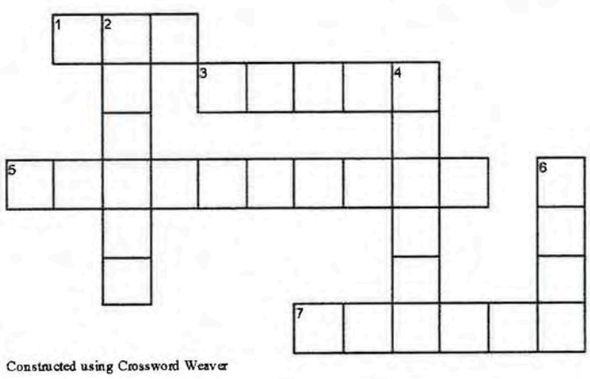
Deep Space





THE MOON

Created by: Savannah



Constructed using Crossword Weaver

ACROSS

1 Recently discovered on the moon.
3 An object that rotates around another object.
5 A person who studies space.
7 There is none of this gas on the moon. People need it to survive.

DOWN

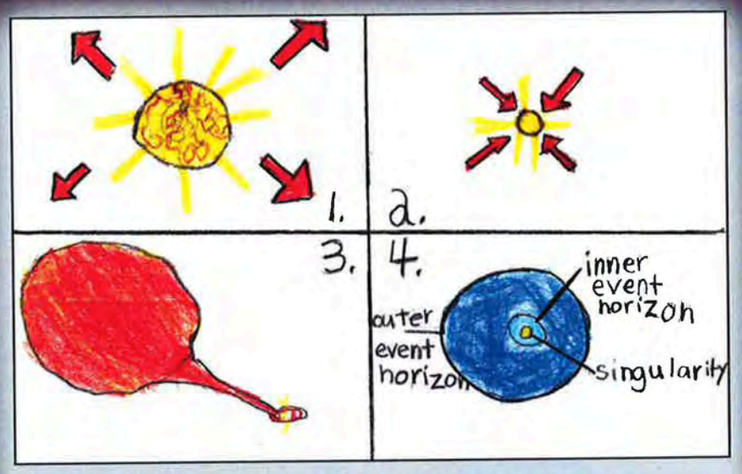
2 Is shaped like a bowl.
4 A scientific idea that survives an experiment becomes a scientific _____.
6 Something we can see from earth.

What Is A Black Hole And How Is It Formed?

By Phil K.

Have you ever wondered what a black hole is or how they form? Scientists have a theory about what a black hole is. They think a black hole is a star that has collapsed. Black holes are formed when a massive star goes super nova. To become a super nova a star explodes. After it explodes it starts giving off a lot of energy until it's energy is all used up. When the energy is all used up, the star's core starts compressing and the star falls inward until it becomes a neutron star. A neutron star is very small. The neutron star's gravity is so strong that it pulls anything near it into itself. As the star continues to compress and pull stuff into it, it becomes a black hole. Scientists can detect a black hole by its gravity and finding a star that it is feeding off of. The star that a black hole is feeding off of gets smaller as the black hole's gravity pulls the star's matter away from it.

Scientists have named some of the parts of a black hole. There is the outer event horizon, the inner event horizon, and the singularity. The outer event horizon is were you feel the gravity of the black hole. This is where you still have enough time to escape but you must be quick. The inner event horizon is where nothing at all can escape. The singularity is the dead star that formed the black hole. Now you know some stuff about black holes.



1. A star explodes and becomes a super nova.
2. A star compressing.
3. A star's gravity becomes stronger.
4. A black hole.

In the universe there are stars, flat galaxies, spiral galaxies, and elliptical galaxies. But what is the heart?

The Heart Of Space

By Aidan M.

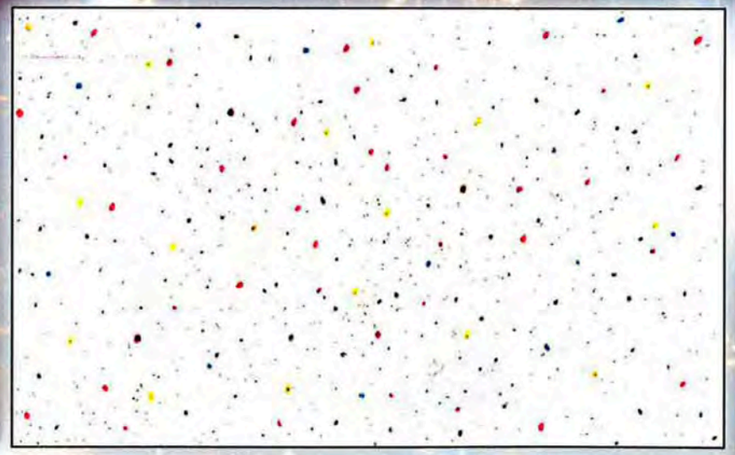
Have you ever wondered what the heart of space is? The human heart keeps us alive, pumps blood throughout the body, it's kind of in the center of our body, and we can't live without it. So what is the heart of space? Astronomers don't know so I don't know either. I do have some questions. What keeps space going in motion? What gives galaxies, black holes, and stars what they need to form? What is the middle of the universe? Astronomers think the universe is infinite, which means it goes on forever. If it doesn't have any boundaries it can't have a center. Once the universe began everything has been moving and gravity has been keeping it moving. Our planets revolve around the sun. The solar system revolves around the center of our galaxy and our galaxy revolves around the center of our super cluster (a group of galaxies). I wonder if our super cluster revolves around something. I wonder if it's the heart of space.

Billions And Billions

By Jenna C.

Have you ever wondered how many stars there are in the universe? Astronomers don't know how many stars and planets there are. They think the universe goes on forever so there's no number that high. There are over 100 billion stars in our galaxy and there are millions and millions of galaxies. For example, if it were a math problem you'd have to add 100 billion + 100 billion, millions and millions of times and that wouldn't even be close to how high the number is.

There are a lot of planets too but not as many as stars. Astronomers think that for every 10 stars a planet is going around just one of those stars. So if you look up at night you probably shouldn't count the stars because you'll be counting forever!



The number of stars shown in the picture is not even close to how many stars there are in the universe.

A Home Of Billions Of Stars

By Caleb K.

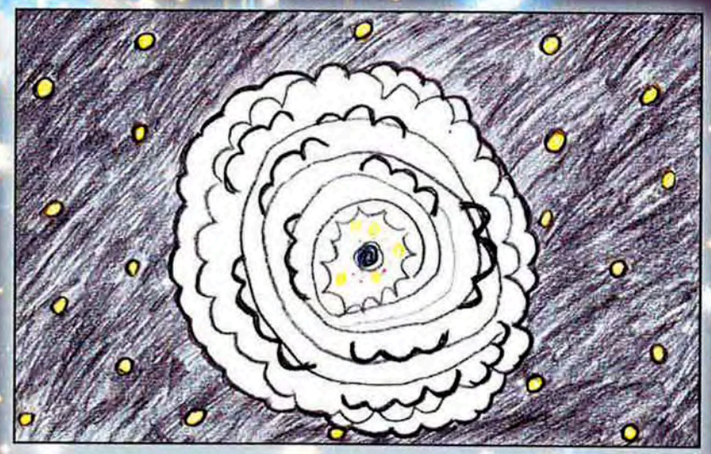
Do you want to learn what a galaxy is and how it is formed? A galaxy is a big home of billions of stars and gas, dust, and many other space objects. Galaxies are held together by lots of gravity.

Astronomers think there are over millions of galaxies in outer space. Scientists have found some galaxies with telescopes on Earth and some have been found with a space telescope like the Hubble. Some galaxies are close together and some are farther apart.

A galaxy is formed when a giant cloud of gas collapses. Some of the gas is pulled together by gravity and condenses into stars and planets. Some stars and planets form right away when a galaxy is forming and others form later. Scientists think there is a huge black hole in the center of our galaxy and maybe in other galaxies too.

We live in the Milky Way galaxy. There are billions of stars in our galaxy. Our galaxy is a spiral galaxy. A spiral galaxy is like a giant spinning wheel. It looks like a giant tornado. There are other types of galaxies like dwarf galaxies and ring galaxies.

That's what a galaxy is and how it is formed.



This is a spiral galaxy forming. Sometimes stars and planets form right when a galaxy is forming, and sometimes they form later.

Are We The Only Ones?

By Abigail R.

It's very possible we're not the only ones out there in the universe. We haven't found life yet but it's a gigantic universe. So it may take a long time for astronomers to find life in outer space!! There are millions of solar systems that have millions of suns and planets in them. There's a big chance one of those planets may have life. For life to survive on other planets it must have the correct conditions. Water is a very special condition to support life!!!! That's where life started on Earth and it may be the same on other planets!!! Astronomers have been testing Mars for life because there may be water or maybe there was water long ago!!!!! Scientists have sent rovers like Spirit and Opportunity to Mars to dig to find life or fossilized critters. I mean microscopic life forms!!!! There may have been life 10,000 years ago on Mars, and there may be life there right now!

Spirit is digging on Mars for evidence of life.

Dirty Snowballs In Space

By Graham G.

Do you think you know what a comet is? Well... It is a ball of ice, rock, and dust with one or two tails trailing behind it. The scientific name for the ball is a nucleus. The nucleus can only be seen when the comet's orbit is near the sun. The ice and dust melts off to make a large ball of dust and gas around it called a coma. The dust and gas stream behind it to make long tails. There may be one or two tails. The dust tail is made of, you guessed it, dust, and is mainly curved. The ion tail is made of the ice on the comet which melts to make gas.

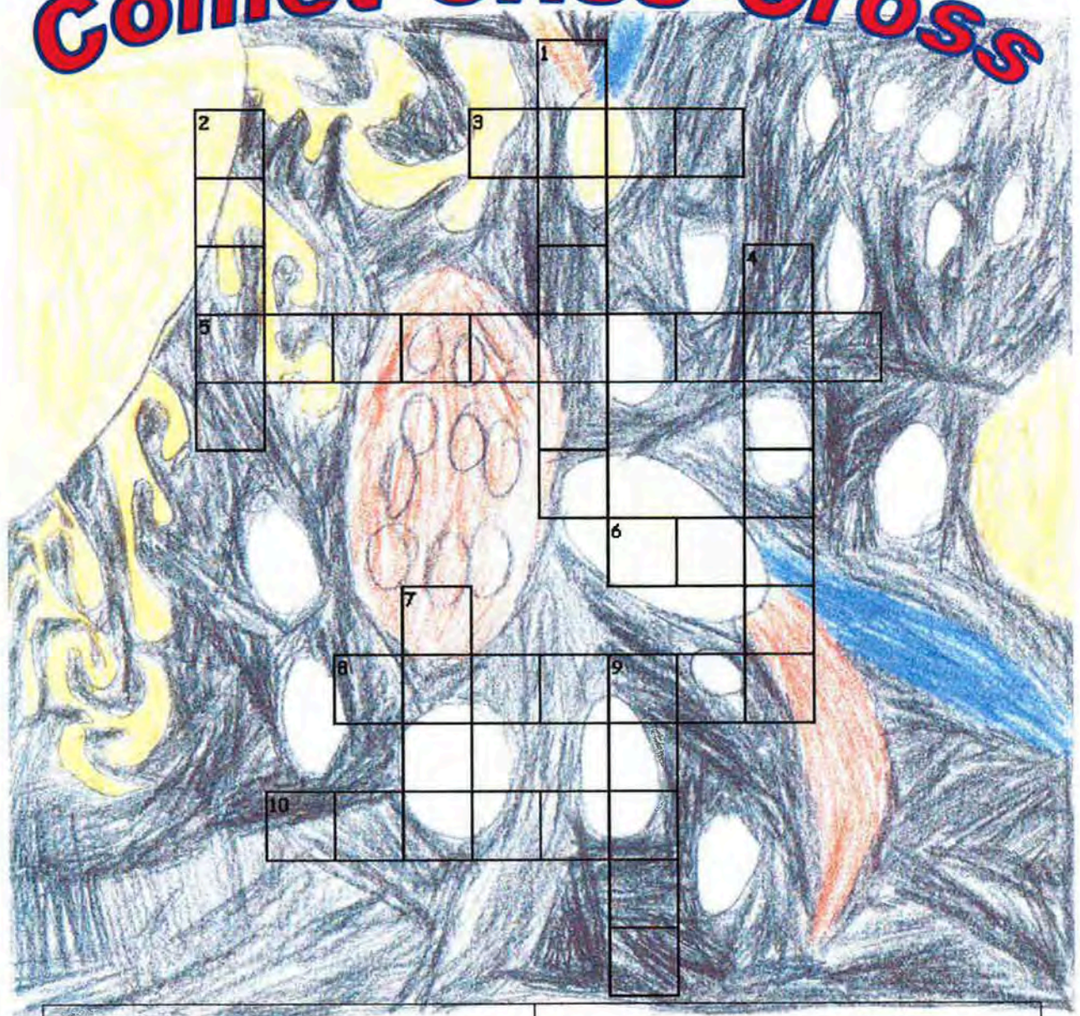
A comet comes from outside Neptune's orbit from either a place called the Kuiper belt or another called the Oort cloud. The Kuiper belt is a ring of comet nuclei (comets that don't have their tails yet) and other material that orbit the sun beyond Neptune's orbit. The Oort cloud is like a shell of comet nuclei around us and just like the Kuiper belt, the sun's gravity pulls them out and into our solar system. Some comets begin to orbit the sun while others crash and burn when they get in too close. Others are pulled in by a planet's gravity. An example is the Shoemaker Levy 9 that broke apart when it got caught in Jupiter's atmosphere.

Comets whose orbits around the sun take less than two hundred years are called short term comets. Those come from the Kuiper belt. An example is the Shoemaker Levy 4. Comets whose orbits take more than two hundred years are called long term comets. An example is Halley's Comet.

Now you know what a comet is!

The sun can pull comet nuclei out from the Kuiper Belt and Oort Cloud.

Comet Criss-Cross



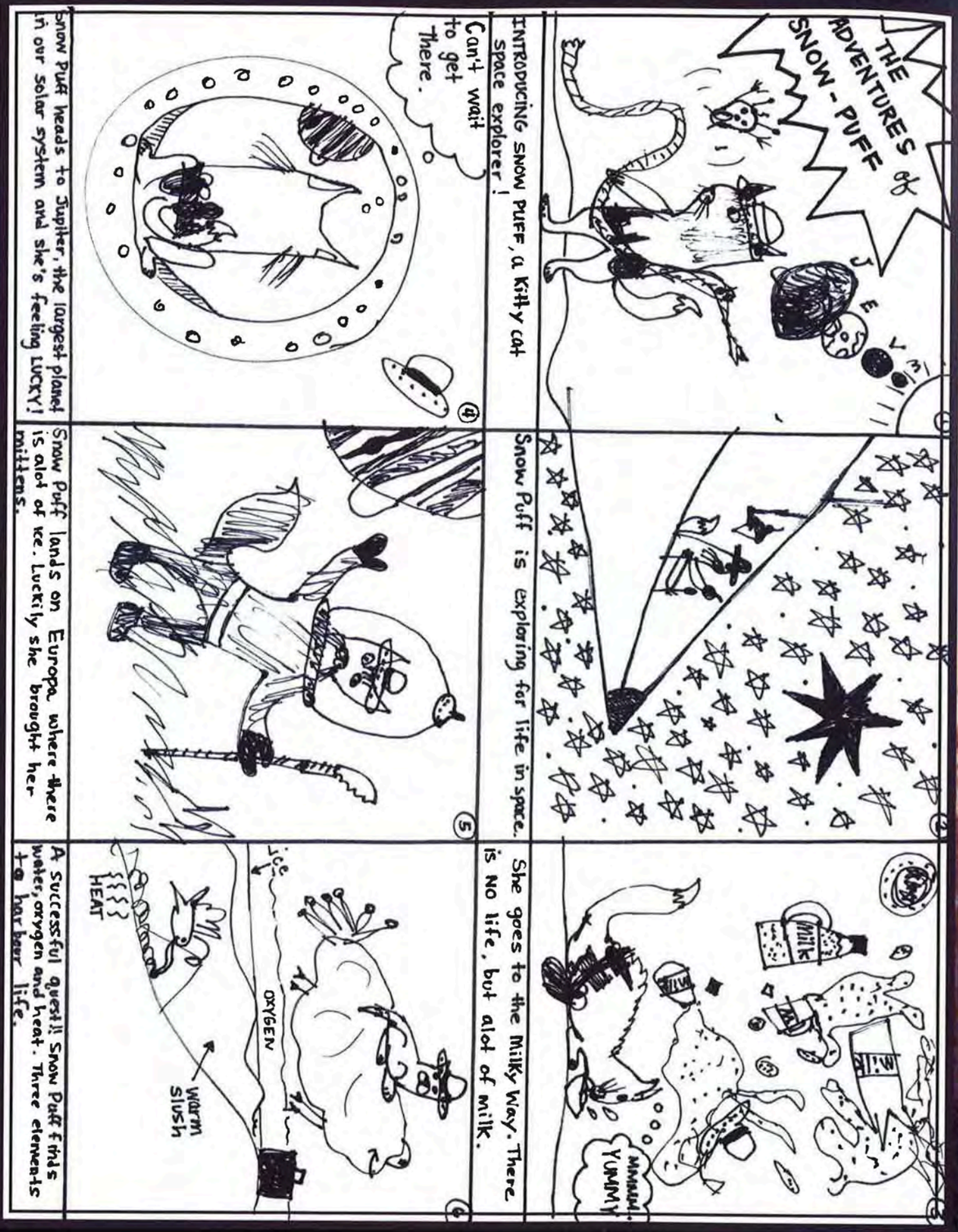
ACROSS

3. Comets do this if they get too close to the sun.
5. A shape of a comet's orbit.
6. Water that is in solid form and found on comets.
8. A part of the comet made of Ice, gas, and dust.
10. A shower that happens when Earth is bombarded by a comet's dust and rock.

DOWN

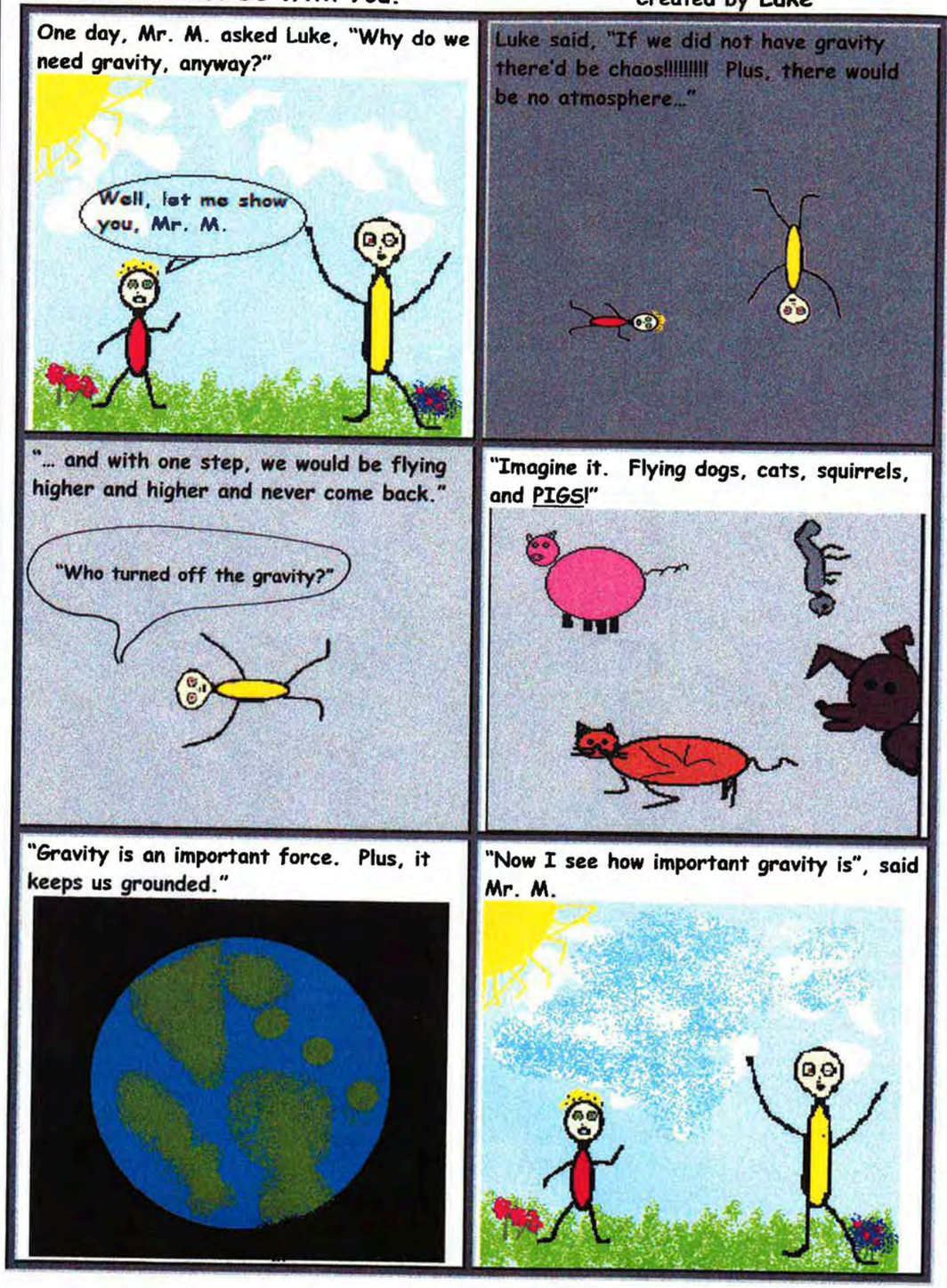
1. Fragments from the Shoemaker-Levy 9 comet smashed into this planet in 1994.
2. A small body that orbits the sun.
4. A comet found in 240 B.C.
7. ____ tail - a tail made of particles that curves because of the comet's motion.
9. Name of a planet that passes through orbits of some comets.

By Graham



"The Force *Not* Be With You."

Created by Luke



Puzzle Answers

Page 11

Solar System Crossword Puzzle

Created by Mikayla

ACROSS

1. The solar system formed _____ of years ago.
3. Our solar system began as a _____.
5. _____ are small icy bodies that pass the sun and give off gas and dust.
7. There are _____ planets in our solar system.
8. Pluto is a _____ planet.
9. The Earth is the _____ rock from the sun.

DOWN

2. _____ take people into space.
4. We live on planet _____.
6. The _____ is the center of our solar system.

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WHAT MAKES A PLANET A PLANET? WORD SEARCH

Created by Jada

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

PLANETS
SUN
VENUS
MARS
NEIGHBORHOOD

JUPITER
NEPTUNE
EARTH
GRAVITY
PATH

ORBIT
MERCURY
PLUTO
SPHERE
DWARF PLANET

SATURN
URANUS
CIRCLE
ROUND

Page 17

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

Large Key

Page 30

How Far Are Stars

W	P	L	Z	F	O	S	U	R	N	Q	Z	J	O	I
W	A	V	S	T	A	R	C	L	U	S	T	E	R	F
M	L	B	M	I	L	E	S	V	G	A	L	A	X	Y
L	I	D	C	M	L	C	N	S	T	E	D	H	S	R
I	G	I	Q	L	M	A	B	S	I	A	R	S	W	B
G	H	F	A	R	T	H	E	S	T	L	S	D	H	N
H	T	A	M	P	X	E	C	S	U	V	S	K	U	P
T	U	S	O	L	O	R	S	Y	S	T	E	M	D	W
Y	A	L	P	H	A	C	E	N	T	A	U	R	I	W
E	H	K	I	L	O	M	E	T	E	R	S	M	S	O
A	K	V	C	L	O	S	E	S	T	J	Z	C	N	T	A
R	C	F	B	C	D	L	S	P	Z	I	O	G	A	S
S	P	E	E	D	O	F	L	I	G	H	T	O	N	Y
A	N	D	E	G	M	I	L	K	Y	W	A	Y	C	H
N	R	G	Y	A	2	C	N	E	B	U	L	A	E	L

ALPHACENTAURI
CLOSEST
DISTANCE
FARTHEST
GALAXY
KILOMETERS
LIGHT
LIGHTYEAR
MILES
MILKYWAY
NEBULA
SOLORSYSTEM
SPEEDOFLIGHT
STAR
STARCLUSTER

Page 32

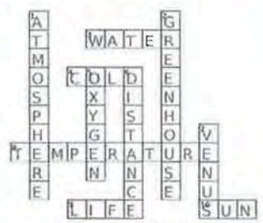
Find a solar flare

created by Rhea

Page 41

Earth's Criss Cross Puzzle

Grace



Across

Down

Page 46

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

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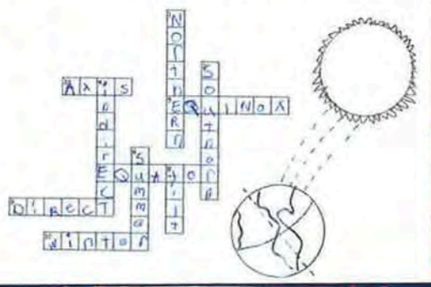
The Seasons Crossword by Gabriella



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

Page 56

The Moon-Solutions Page

Created by: Savannah

		I	C	E										
		R		O	R	B	I	T						
		A					H							
A	S	T	R	O	N	O	M	E	R			M		
		E					O					O		
		R					R					O		
				O	X	Y	G	E	N					

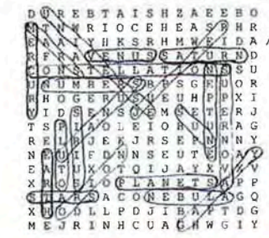
Page 65

Answer Key for "The Heart of Space" Crossword Puzzle

1. Universe
2. Infinite
3. Edge
4. Movement
5. Gravity
6. Center
7. Space
8. Heart

Page 66

Searching stars and Planets Answer Key



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How is a galaxy formed?

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Comet Criss-Cross