ASTROFE –ASTRONOMY OFE

(Opportunity for Excellence)

Name:

Due:

This photograph best represents what Principle?
Please explain using some of the fossils on the right

_____

_____

_____

_____

_____

_____

Please circle the fossil that is older based on this principle

_____ or _____

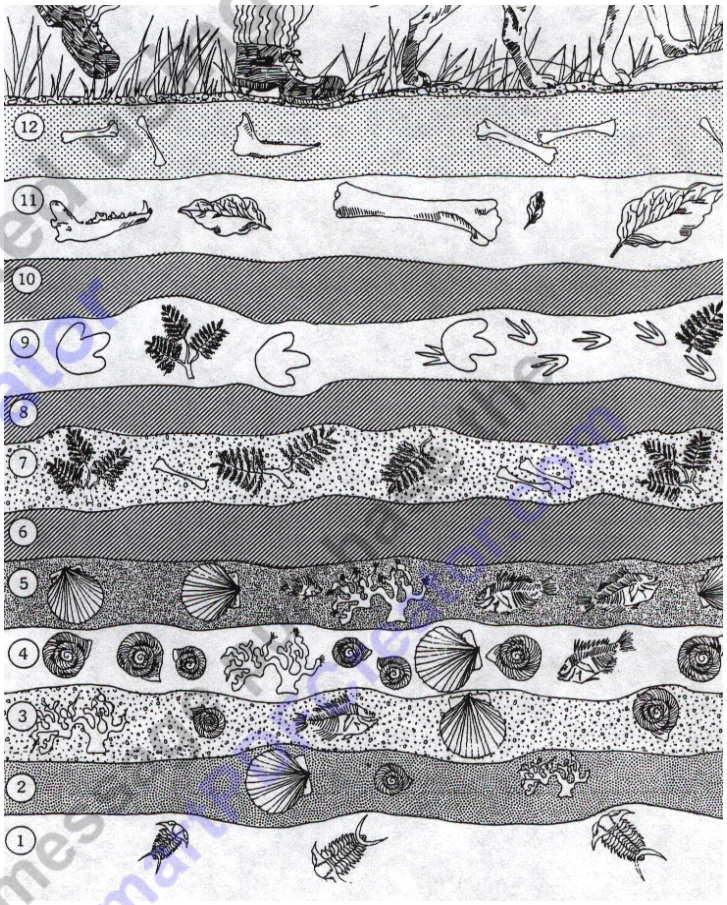
_____ or _____

_____ or _____

_____ or _____

What happened at number #10?_____

_____



Please record the name of time periods from earliest to latest in their chronological order below. Use the boxes beneath to group them according Era

HADEAN				CAMBRIAN						TRIASSIC				QUARTERNARY
Eon	Eon	Eon	Period	Period	Period	Period	Period	Period	Period	Period	Period	Period	Period	Period

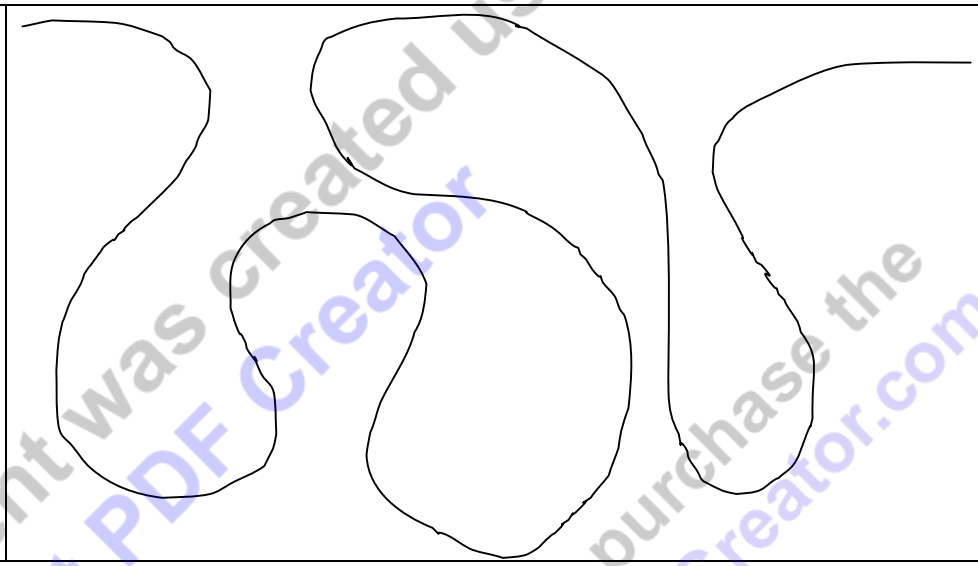
Precambrian			

Many aspects of science including earth system history have _____, _____, and _____ components.

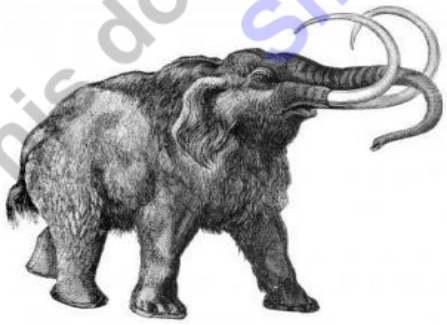
__ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ - Rules of nature do not change over time.

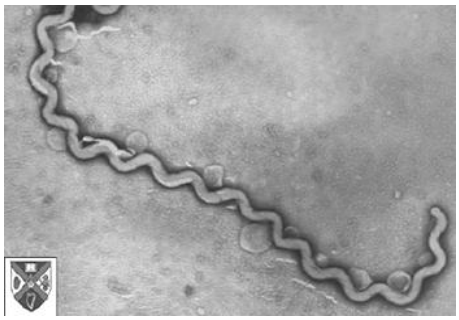
What percentage of all species that ever lived still exist today? _____ (Caution! Re-read Question)

Please use the line below as the history of the earth in actual time. Number when the following happened to the line.

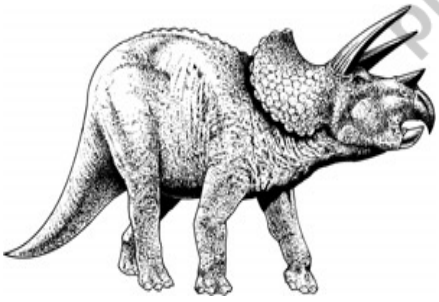
A – Formation of the Earth B- Moon Forms C – Earliest Life Begins (Single Cell) D – First Multicellular Life E – Carbon Swamps F – Dinosaurs Rule G – K-T Mass Extinction Event H – Earliest Mammals I – Earliest Humans J – Human Civilization K – Age of Exploration L – Computer Age	

Please look at the pictures below and describe the best time period that each picture represent. Record some information about each photograph as well.

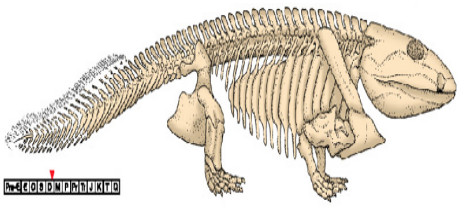




First evidence of life

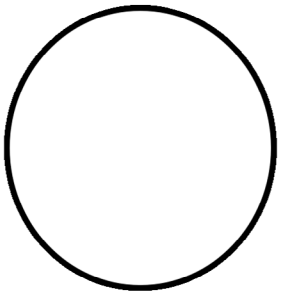


Not K-T Mass Extinction



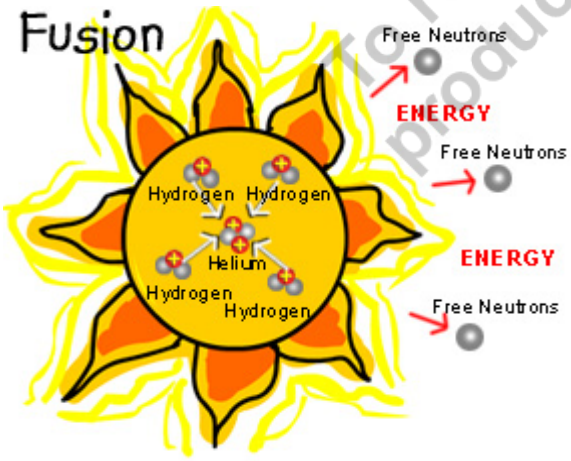
First Amphibian

Use this space to describe the order and names of planets and other bodies in our solar system. Distance, Relative Size, is always important when possible.



M
V
E
M
-
J
S
U
N
P

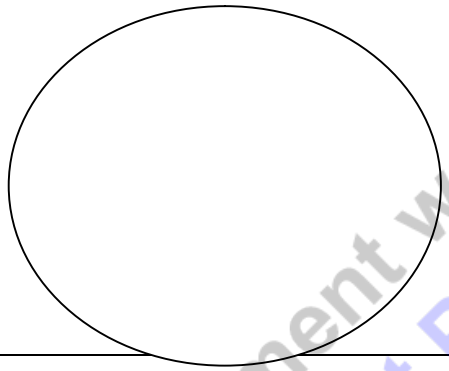
Please list ten factoids about the sun around or on in the picture below. Color to taste



Where does the energy in our solar system come from? A strong answer will use the picture on the right for details.

Use the boxes below to describe the life cycle of a generic star. You can pick its future

If the Circle is a Super Red Giant then draw our sun next to it in the space below.



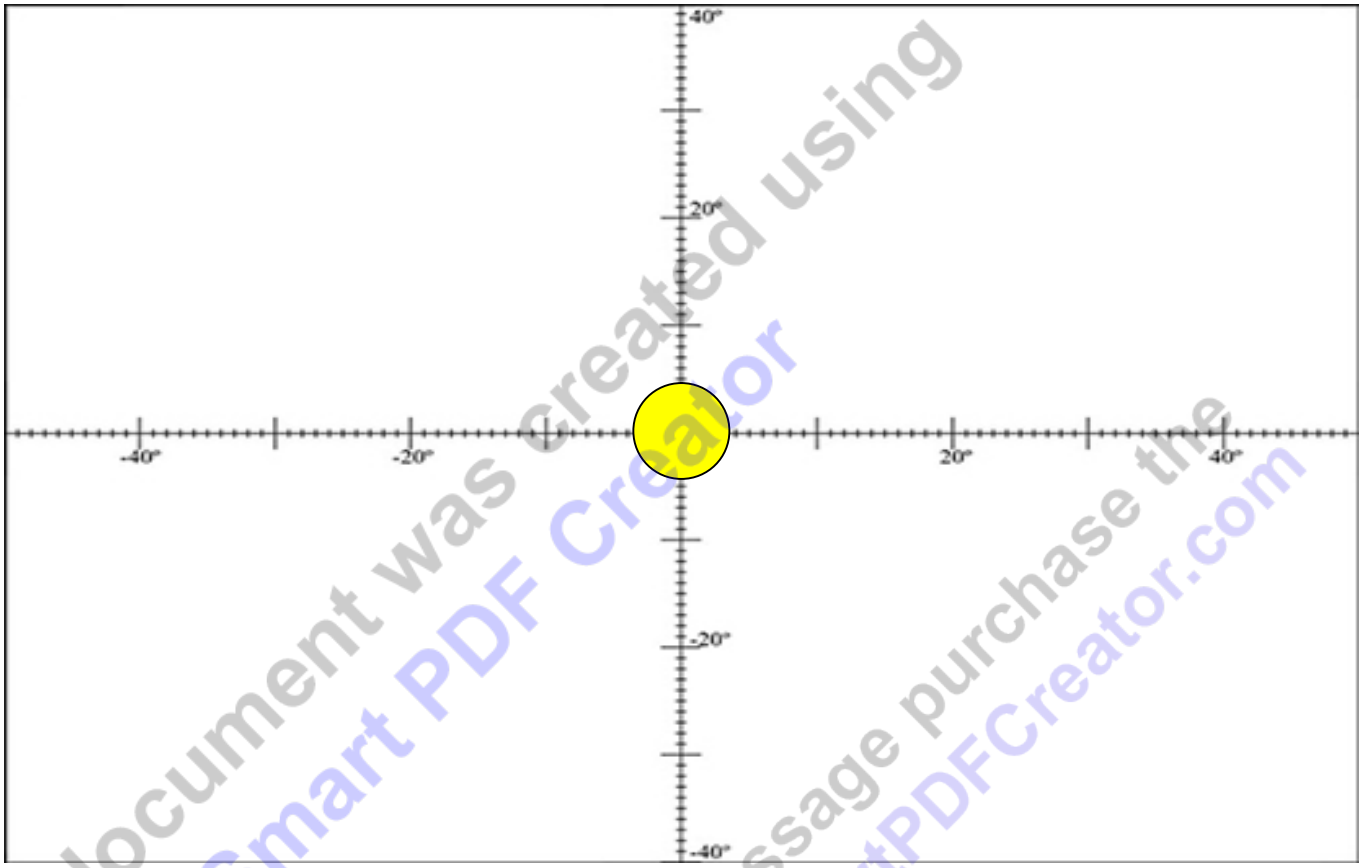
What is an exoplanet? Provide some information about any exoplanet below.
Visit http://exoplanets.org

Please use your knowledge of a solar and lunar eclipse to describe the boxes below.

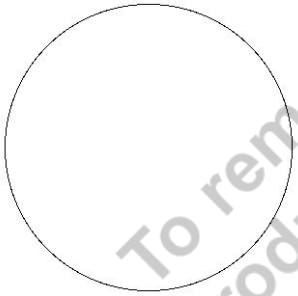
Solar Eclipse

Lunar Eclipse

Provide information about the inner planets below next to each planet. Size, Composition, Rotational Period, Year, Moons, Temperature, and other neat facts that you know. Oh yah, you have to sketch them out below.

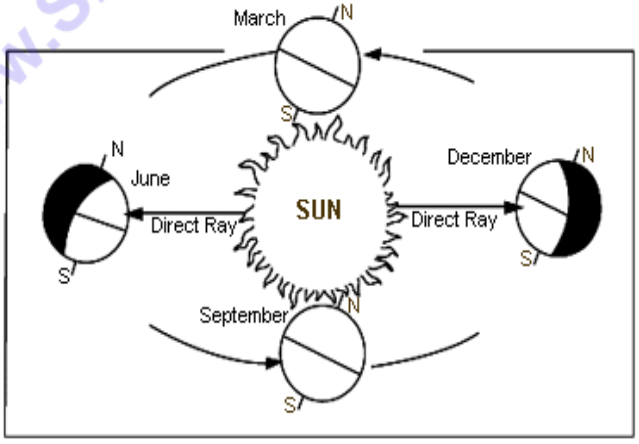


Please draw the axis of the earth below as it spins around our solar system on the elliptical plane



Provide some information about our home planet earth below.

Why does this axis cause the changes in season in New Hampshire? Use the picture to help you.



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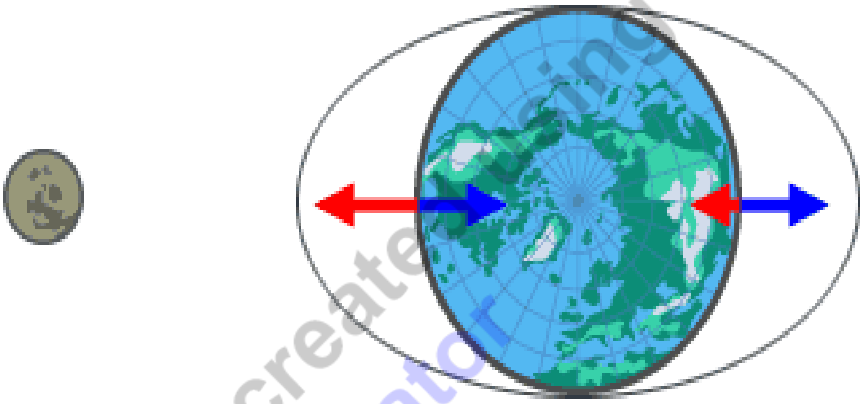
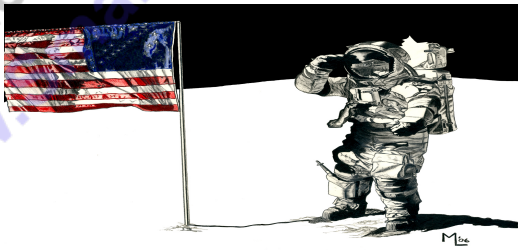
Please describe how the earth, moon, and sun create tides. How many tides doe we have a day? The picture below can help you. What will the tide be at 12:00 PM on the day this OFE is due?

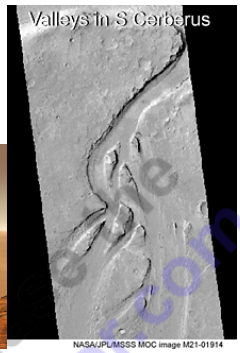


Use the space below to discuss phases of the moon. Shade in a section and label it, work in the margins, Don't forget to mention a bit about the Apollo Missions.

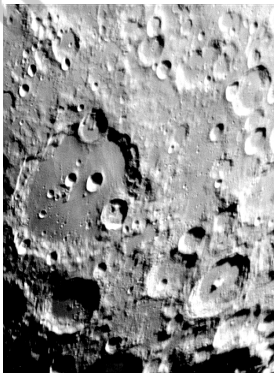


What phase will the moon be On July 4th of this year?

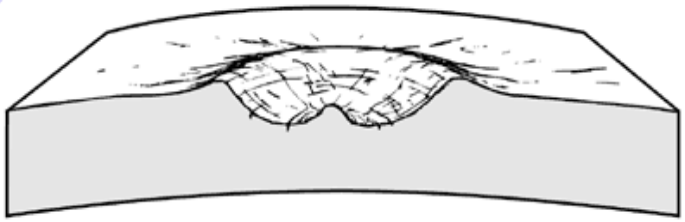
Tell me all that know about this planet and these pictures



Why doesn't the Earth have as many craters as other planets?

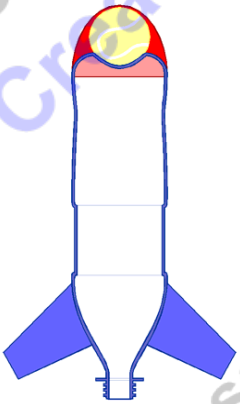


Please provide some technical information about the crater below. How do mass and speed affect impact size?

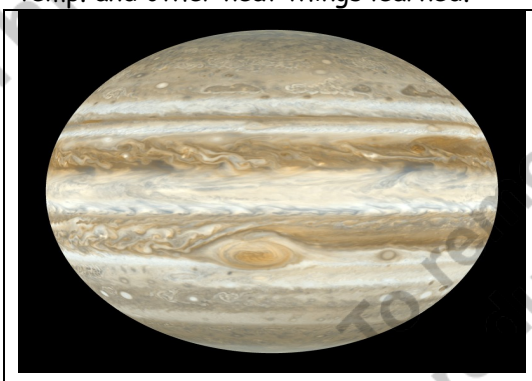


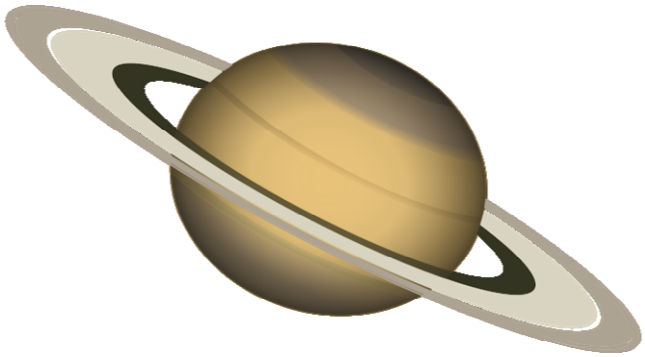
Describes earth's violent past with regard to impact events, what may the future bring us, What is the difference between an asteroid, meteor, and meteorite?

Please describe the parts of a rocket below. What are some parts of a basic rocket and how do they work?



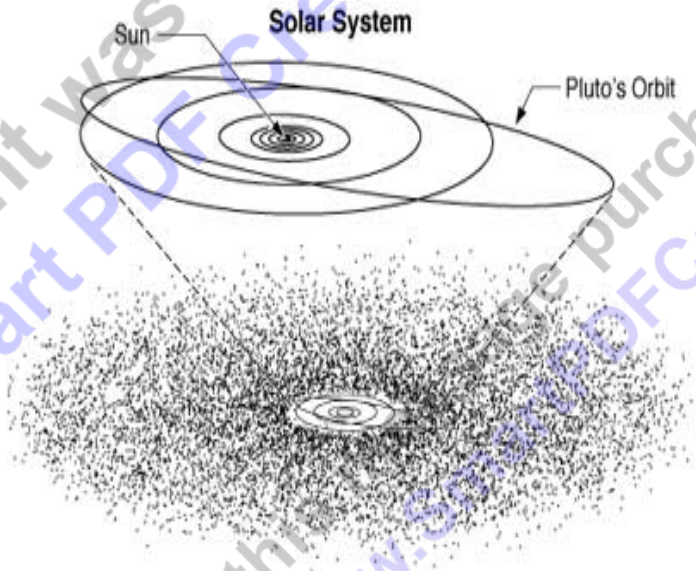
Please provide some information about the outer planets below. Size, rotational period, year, moons, composition, temp. and other neat things learned.



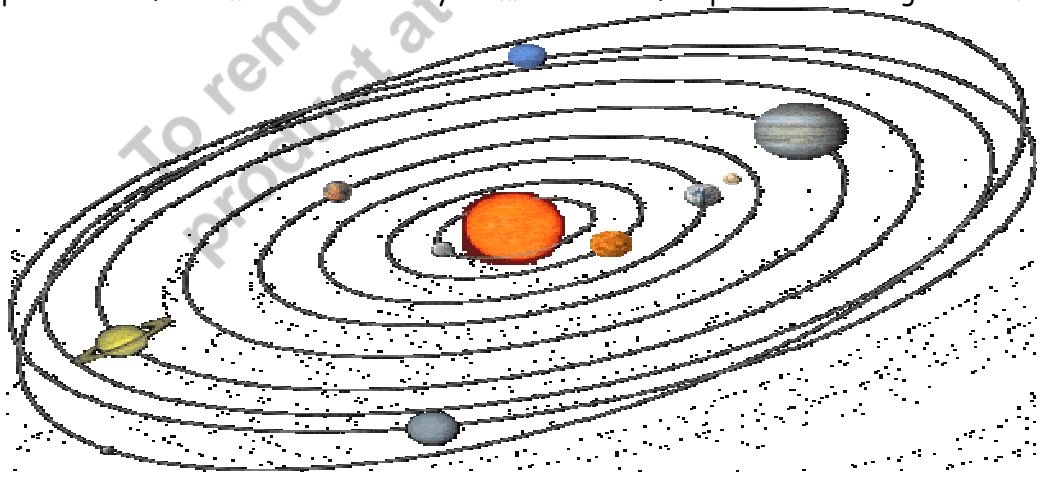


This is after Saturn but before Neptune

Should Pluto be reinstated as a planet instead of a Dwarf Planet. Use your knowledge of the 70,000 objects in the Kuiper Belt within your answer.



Please draw a typical orbit of a comet in our solar system. Provide a few pictures showing the tail.



What is so mind blowing about this photograph that the Hubble Deep Space Telescope took just focusing on the areas of empty space.

_____

_____

_____

_____

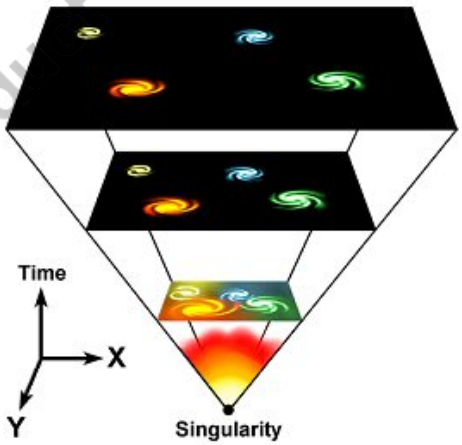
_____

Draw and or describe the following terms.

Quasar	Nebula	Spiral Galaxy	Black Hole

Venus	♆	☿	♁	♂	Saturn	Uranus	♃

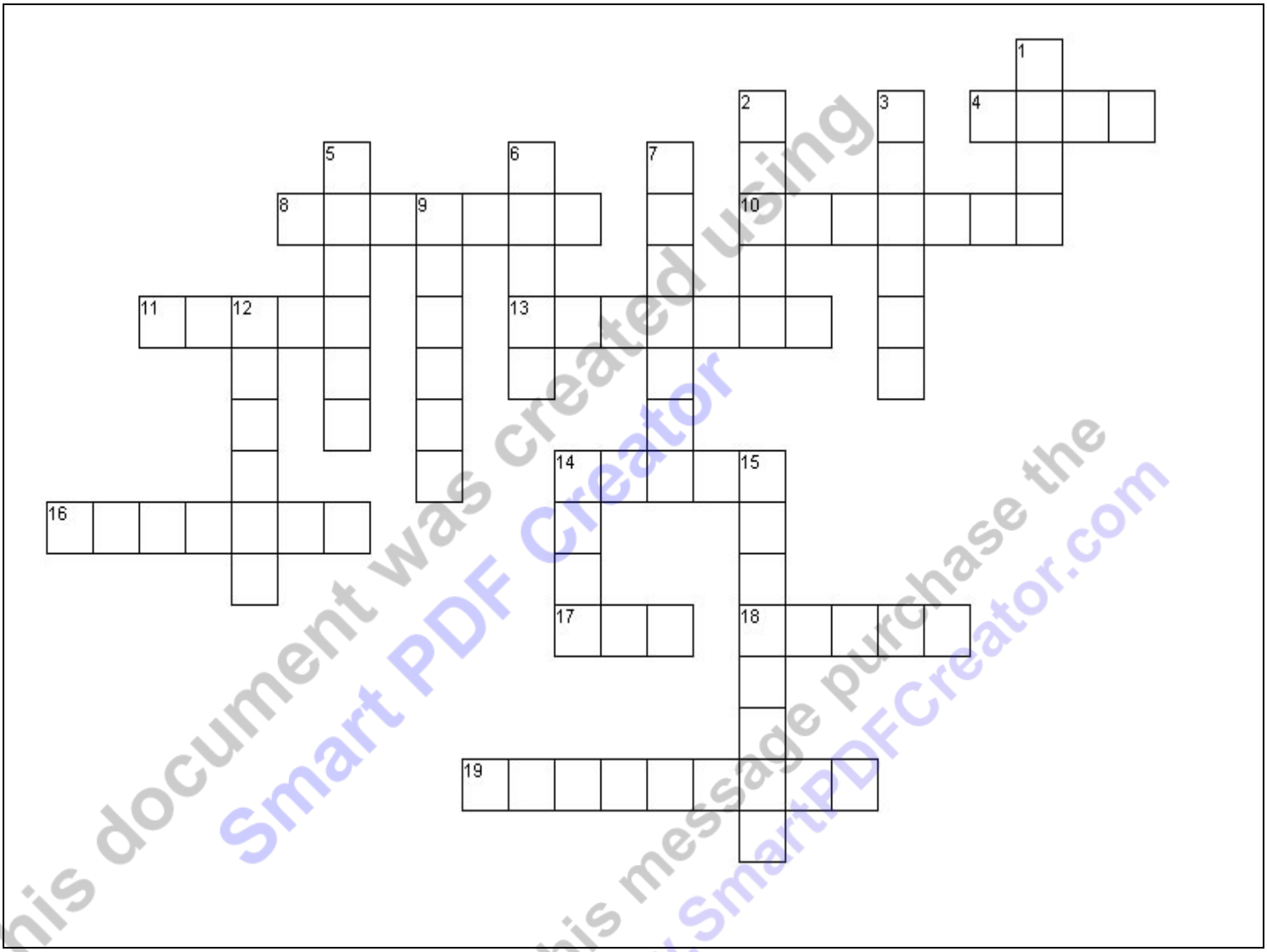
What is the Big Bang Theory? Use the picture below to help you.



Please describe the picture above. What is it? Who owns it? What does it do? What are some of its parts? How does it get energy?

Name the terms / planet / other associated with the following words.

Phobos and Deimos _____
Water Exists in all three states of matter _____
Spirit and Opportunity are their _____
Io and Europa _____
Giant Red Spot_____
Hottest Planet in the Solar System _____
Tethys, Telesto, Calypso, Titan _____
Symbol for Men _____
Symbol for Women _____
Olypmus Mons _____
Valles Marineris_____
Has two Ice Caps _____
Apollo Missions visited here_____
A very long day _____
Largest Planet in our Solar System _____
Has the most moons _____
Is made up of 70,000 objects _____
Now considered a Dwarf _____
Chunks of a comet recently hit this planet _____
I am after Saturn but before Neptune _____
I have a ring but I am not Saturn _____



Across

4. Major cause of tides on Earth
8. Blemish on the surface of the Sun
10. Sometimes the furthest planet from the Sun
11. Smallest planet in the solar system
13. The passing of one celestial body in front of another
14. Answer! **Maria** (Sea on the Moon)
16. Closet planet to the Sun
17. Lies at the center of the solar system
18. Only hospitable planet in the solar system
19. Another name for a planet's moon

Down

1. At the center of planets and stars
2. The hottest planet
3. Bright streak in the sky
5. Beautiful displays of light (_____ Borealis)
6. Icy visitor to the solar system
7. Largest planet in the solar system
9. Has Rings
12. Rotates at 90 degrees
14. Has two moons Phobos and Deimos
15. Found between Mars and Jupiter (QQ47)

Bonus – 3 pts

ANDROMEDA
GALAXY
APOGEE
ASTEROID
ASTRONOMER
ATMOSPHERE
AURORA
BINARY STAR
BLACK HOLE
CONSTELLATION
CORONA
CRATER
DEEP SPACE
ECLIPSE
EQUINOX
GALAXIES
GALILEO
GRAVITY
HUBBLE
KEPLER
LIGHT
YEAR
METEOR
MILKY WAY
MOON
NEBULA
ORBIT
PARSEC
PERIGEE
POLARIS
PROXIMA
CENTAURI
PULSARS
QUASARS
RED GIANT
SATELLITE
SOLAR SYSTEM
SOLAR WIND
SPACE
SHUTTLE
SPACECRAFT
STARS
SUN
SUPERNOVA
TELESCOPE
TIDES
UNIVERSE
WHITE DWARF