



ASSIGNMENT #2

GRAD EARTH SCIENCE
 Engr. Reynaldo P Ramos, PhD

TTH 5:30-9:30PM

Name _____ Date _____

Ocean Water

The table below lists the elements found in dissolved ocean water. Complete the table by calculating the percentage of each element in ocean water. Then complete each statement by filling in the blank with the term that will make the statement true.

Element/ion	g/1,000 g of Seawater	Percentage
Calcium	0.419 g	1.
Chloride	19.35 g	2.
Magnesium	1.304 g	3.
Potassium	0.390 g	4.
Sodium	10.71 g	5.
Sulfate	2.69 g	6.
Other	0.216 g	7.
Total	35.08 g	100%

8. _____ is the most common ion in ocean water.
9. The next most common ion is _____
10. Sodium and chloride make up about _____ percent of the ions dissolved in seawater.

The table below lists the temperature of ocean water at various depths. Use the table to answer the following questions by filling in the blanks.

Depth (m)	Temperature (°C)	Depth (m)	Temperature (°C)
0	19	1,000	9
200	18	1,200	5
400	18	1,400	5
600	16	1,600	4
800	12	1,800	4

11. Based on the table temperature _____ with an increase in depth.
12. There are three temperature zones in the ocean. In the first zone, the surface zone, the temperature is fairly constant. Based on the table, the surface zone occurs where the temperature is around 19–18°C. It extends to a depth of _____
13. The next zone is the transition zone. Here the temperature drops gradually to about 4°C. The transition zone in the table extends from 400 m to _____



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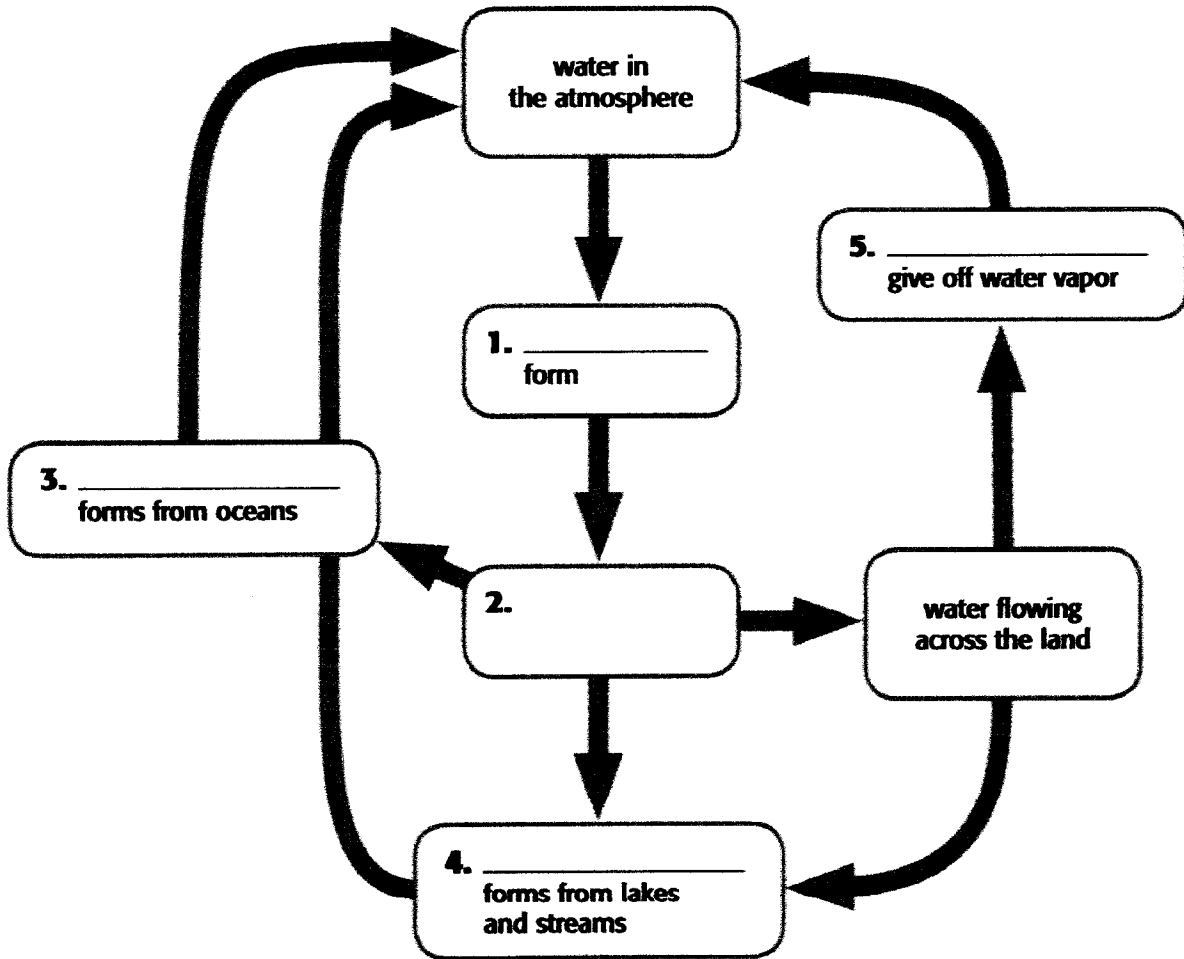
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The Water Cycle

Explore the water cycle by completing the flow chart below.



Complete each statement by filling in each blank.

6. Water vapor enters the atmosphere from the _____, _____, and _____.
7. The energy from the _____ provides energy for evaporation and therefore drives the water cycle.
8. Water vapor in the air condenses to form _____.
9. Water returns to the land, oceans, and lakes as _____.
10. The water cycle involves living things in the form of evaporation from _____.



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Water Use in the Home

Explore water use in the home. Create a double bar graph for the data below.

Activity	Regular Use	Water-efficient Use
Showering	19 L/min	9 L/min
Toilet flush	19 L/min	13 L/min
Washing clothes	170 L/load	72 L/load
Dishwasher	61 L/load	24 L/load
Running faucet	19 L/min	9 L/min

Use the data in the table above to answer the following questions.

1. Which activity represents the largest water use? _____
2. Suppose the regular dishwasher is used once a day. How much water is used in one week (7 days) in regular use? _____
3. How much water is used in one week using the water-efficient dishwashing method?

4. Compare the regular use dishwashing method for one week with the water-efficient method. How much water is saved in one week? _____
5. Suppose a family uses 650 L of water per day (on average). What percentage of this is used for washing clothes? _____
6. Suppose you take a 10-minute shower using water-efficient equipment. How much water do you use? _____
7. Your friend has regular showering equipment. To use the same amount of water as used in Question 6 how long a shower would your friend be able to take?



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Space Exploration

Explore the history of Space Exploration by finding the year and plotting each key event on the time line below.



Date (year)	Event
1957	Sputnik 1, the first man-made object to orbit Earth, is launched by the USSR.
1.	Explorer 1 is the first U.S. satellite to orbit Earth.
2.	Volstok 1 is launched by the USSR carrying Cosmonaut Yuri Gagarin. Project Mercury carries Alan Shepard into space as the first U.S. Astronaut.
3.	John Glenn is the first U.S. astronaut to orbit Earth.
4.	Project Gemini launches the first U.S. two-man crew into space.
5.	Apollo 8 leaves Earth's orbit and circles the Moon.
6.	Apollo 11 lands on the Moon. Astronauts Neil Armstrong and Edwin "Buzz" Aldrin walk on the Moon.
7.	Project Skylab is launched by the U.S.
8.	Viking 2, launched by the U.S. lands on Mars.
9.	First mission of the U.S. Space Shuttle.
10.	The Hubble Space Telescope is launched.
11.	Pathfinder lands on Mars. Color images of the surface and data on the rocks and soil are collected.
12.	Construction begins on the International Space Station.
1999	First evidence of a planet outside the solar system is obtained.



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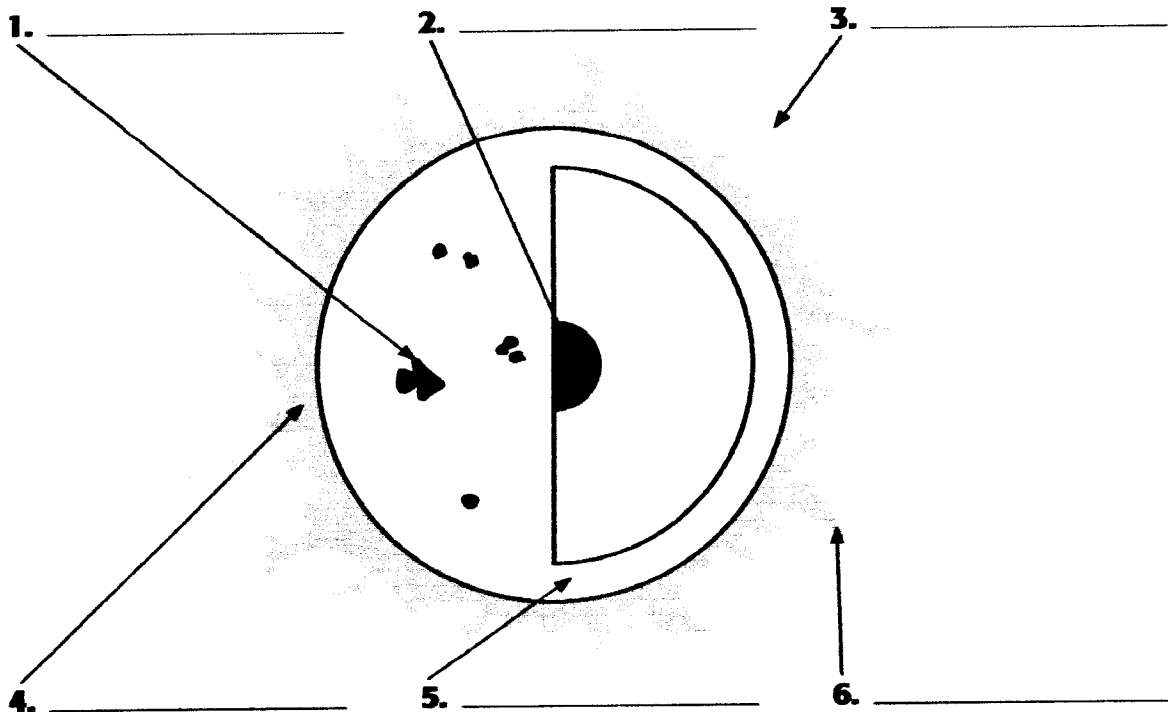
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Structure of the Sun

Explore the structure of the Sun by labeling the diagram below.



Complete the table below listing each layer of the Sun and its temperature.

Layer	Temperature
Core	7.
Photosphere	8.
Chromosphere	9.
Corona	10.

Complete each statement by circling the term in each pair that makes the statement true.

11. Hydrogen and helium are in the plasma state in the [core / corona].
12. The visible surface of the Sun is the [corona / photosphere].
13. The outer atmosphere of the Sun is the [corona / photosphere].
14. A solar prominence could form in the [chromosphere / core].
15. Dark areas on the Photosphere are called [solar prominences / sunspots]