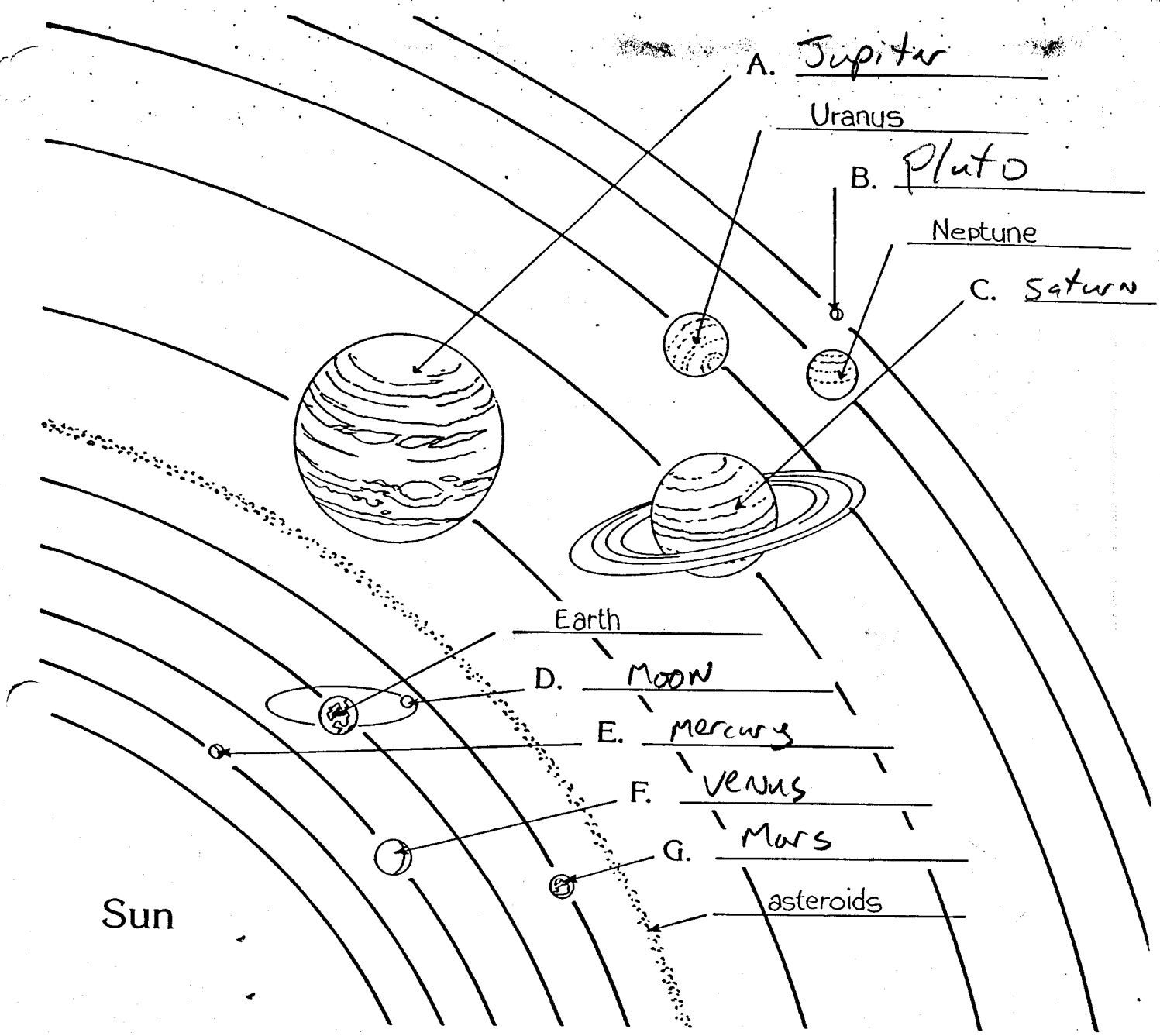
Our Solar System - Read Section 4.5

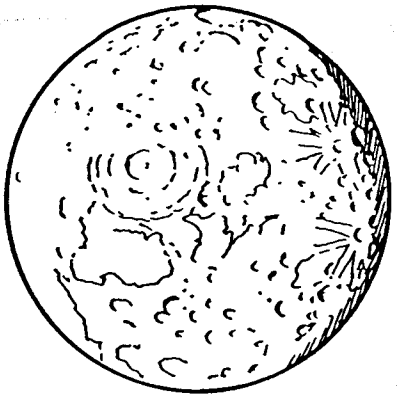


Identify and label above.

1. the ringed planet Saturn
2. the Earth's nearest natural satellite Moon
3. the farthest planet from the sun Pluto
4. the two planets between which the belt of asteroids orbit Mars, Jupiter
5. Earth's nearest neighbors—Mars and Venus
6. the planet with the smallest orbit around the sun Mercury

Mercury and Venus

Mercury



harsh landscape; no air or water; no natural satellites

Distance from sun: 59 million km
Diameter: 4,878 km
Revolution time: 88 days
Rotation: 59 days
Surface temperatures: 400°C on day side to -180°C on night side

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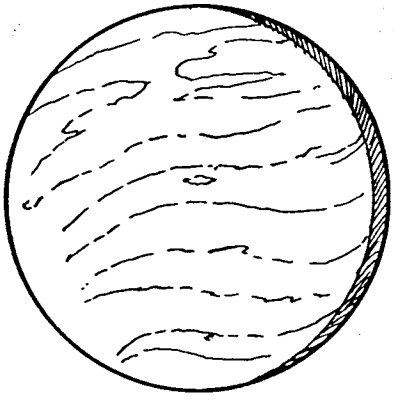
Venus



harsh landscape; heavy cloud cover; strong surface winds; seen in phases; referred to as a "star"; no natural satellites

Distance from sun: 108 million km
Diameter: 12,100 km
Revolution time: 225 days
Rotation: 243 days
Surface temperature: 470°C

Is it Mercury or Venus? Write your answer in the space.

M 1. often hidden in the sun's glare

✓ 2. sometimes called the "morning star" or "evening star"

M 3. has a wide range in temperature on its surface

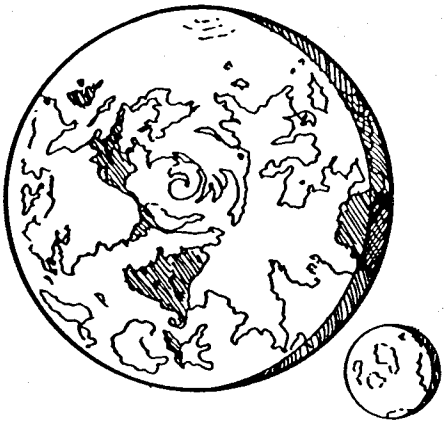
✓ 4. Rotates in opposite direction

✓ 5. except for the sun and moon, the brightest object in the sky

M 6. has very long periods of day and night due to rotation time

Earth and Mars

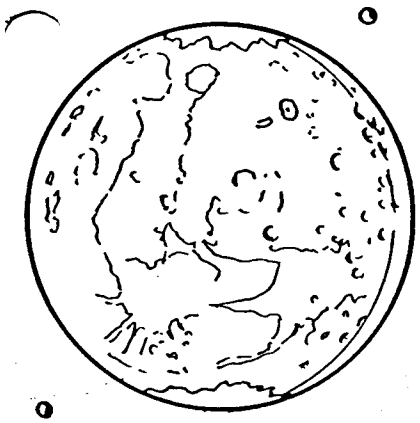
Earth



one-fourth of surface covered by land, three-fourths by water; atmosphere mostly of nitrogen and oxygen; supports intelligent life; one natural satellite

Distance from sun: 150million km
Diameter: 12,756 km
Revolution time: 365¼ days
Rotation: 23.93 hours
Surface temperature:
varies, averages around 15°C

Mars



one of two moons

varied surface conditions—deserts, craters, valleys, volcanoes, great dust storms, polar ice caps; thinner atmosphere than Earth; two natural satellites

Distance from sun: 228million km
Diameter: 6,787 km
Revolution time: 687 days
Rotation: 24.65 hours
Surface temperature: -120 → 30°C

Is it Earth or Mars? Write your answer in the space.

E 1. Revolution and rotation cause this planet to have four different seasons within 52 weeks.

M 2. Tremendous dust storms frequently rage across the surface of this planet.

M 3. Phobos and Deimos are its natural satellites.

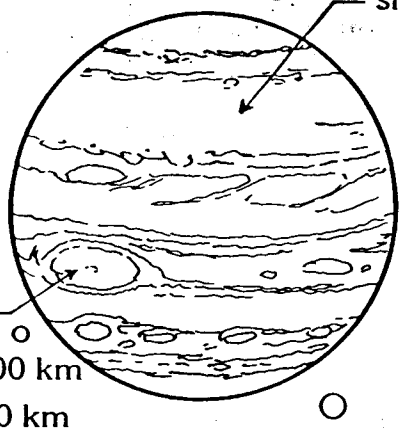
E 4. Most of this planet is covered with water.

E 5. It is the third planet in distance from the sun.

M 6. Its polar ice caps grow in size during the winter and shrink in the summer.

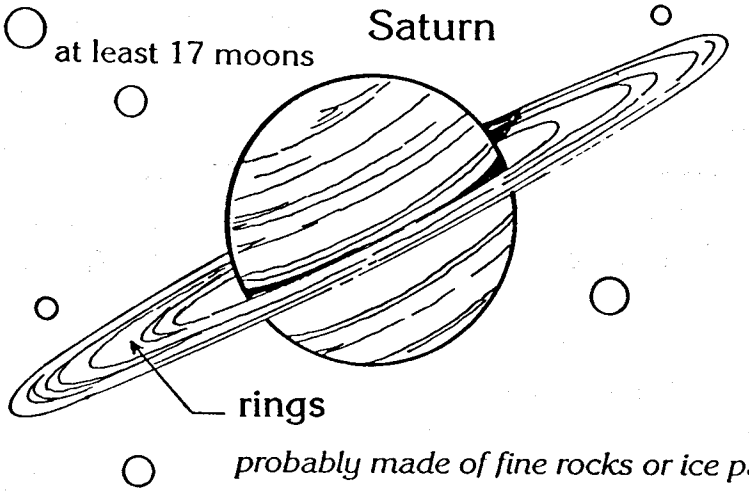
Jupiter and Saturn

Jupiter



Distance from sun: 778 million km
Diameter at equator: 142,800
Revolution time: 11.86 years
Rotation: 9.8 hours
Atmosphere temperature: -160 °C

Saturn



probably made of fine rocks or ice particles

Distance from sun: 1.5 billion km
Diameter at equator: 120,400 km
Revolution time: 30 years
Rotation: 10.6 hours
Atmosphere temperature: -180 °C

1. What gives Jupiter its banded appearance? cloud belts

2. Why could a spacecraft fly through the rings of Saturn? Mostly empty space

3. Why are the atmosphere temperatures of these two planets so cold? No atmosphere, far away

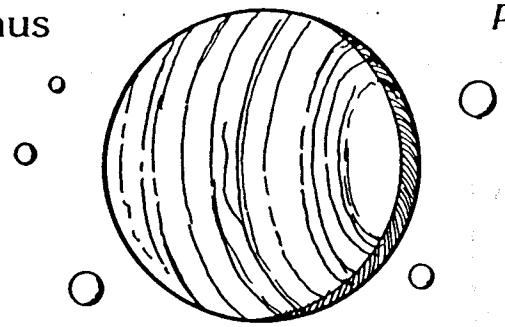
4. How does the length of the Great Red Spot compare with the diameter of Jupiter? ~¼ diameter

5. How much farther from the sun is the planet Saturn than planet Earth? 10x farther

6. How does the time of rotation of Jupiter and Saturn compare with that of Earth? ½ time of Earth.

Far Distant Planets: Uranus, Neptune, and Pluto

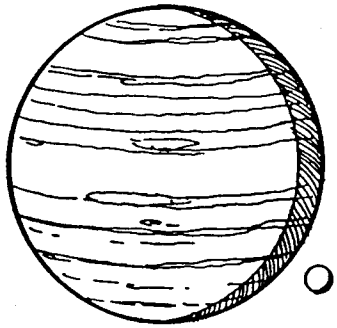
Uranus



has greenish color with narrow rings; thick atmosphere of gases; rotates on horizontal axis of about 98° from perpendicular; five natural satellites

Distance from sun: 2.9 billion km
Diameter: 51,800 km
Revolution time: 84 years
Rotation: about 17.3 hours
Atmosphere temperature: -210 °C

Neptune



has greenish color; thick atmosphere of gases; "twin of Uranus"; two natural satellites

Distance from sun: 4.5 billion km
Diameter: 48,600 km
Revolution time: 165 years
Rotation: 15.7 hours
Atmosphere temperature: -220° °C

Pluto

most recently discovered planet in solar system (1930); least known planet; one natural satellite

Distance from sun: 5.9 billion km
Diameter: 3,000 (?) km
Revolution time: 248 years
Rotation: 6.7 days
Surface temperature: -220 °C

Is it Uranus, Neptune, or Pluto? Write your answer in the space.

P 1. the smallest planet in the solar system

U 2. both poles take a turn facing the sun during its 84-year revolution

P 3. the most recent planet to be discovered

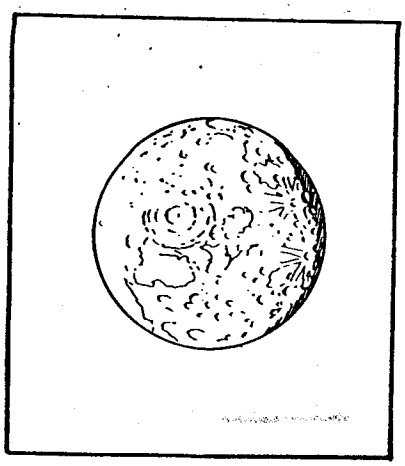
N 4. the eighth planet from the sun in the solar system

U 5. a gaseous planet with narrow rings about 3,030,000,000 km from Pluto

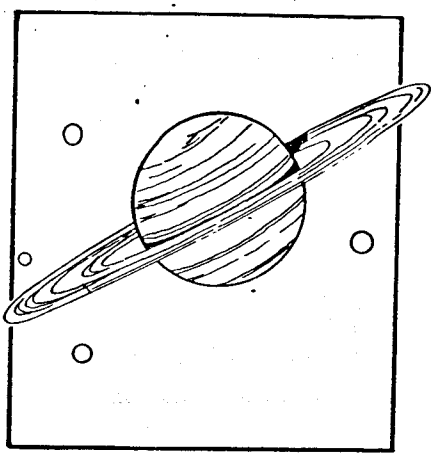
N 6. a greenish-colored planet with two natural satellites

A Last Look—Part II

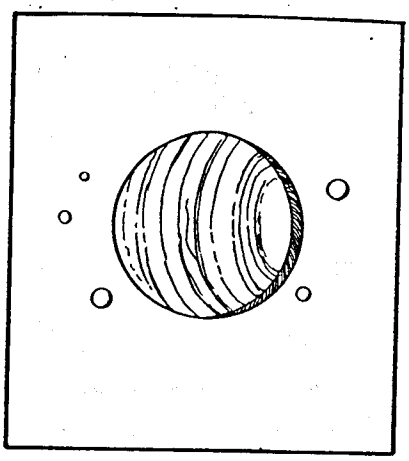
On line **a**, name the planet shown.
On line **b**, write its order of distance from the sun.



1. a. Mercury
   b. 1

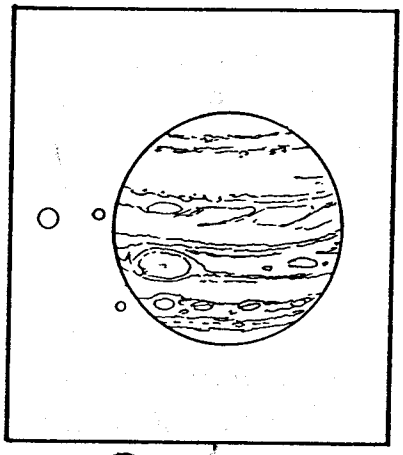


2. a. Saturn
   b. 6

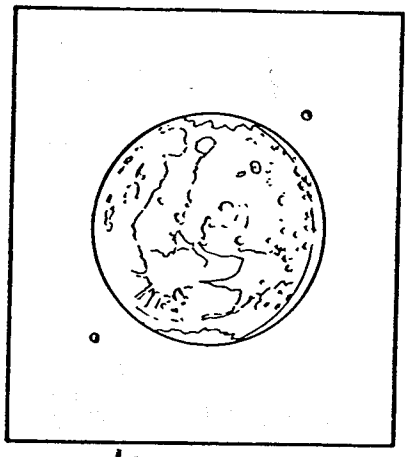


3. a. Uranus
   b. 7

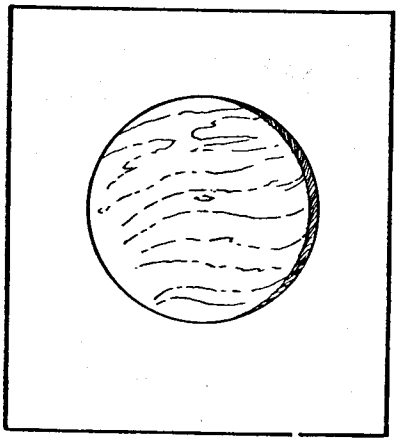
4. a. Earth
   b. 3



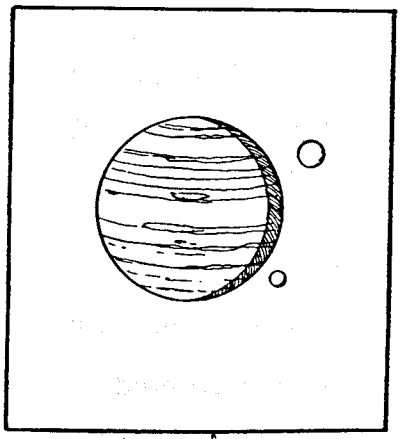
5. a. Jupiter
   b. 5



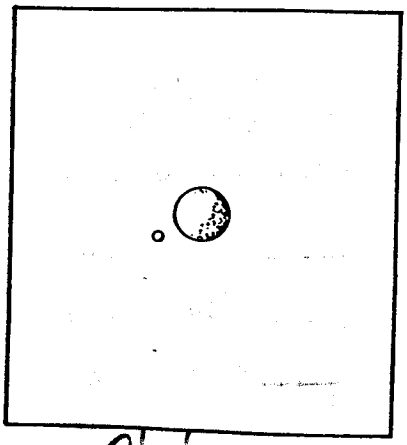
6. a. Mars
   b. 4



7. a. Venus
   b. 2



8. a. Neptune
   b. 8



9. a. Pluto
   b. 9