

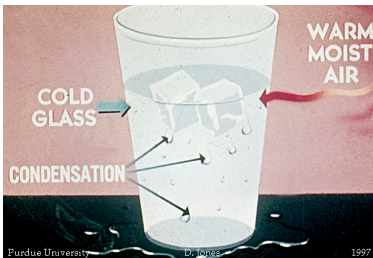
## THE WATER CYCLE

- (1) The WATER CYCLE is the continuous movement of water from earth's surface to the atmosphere.
  - EVAPORATION – Heat causes water on earth's surface to evaporate and rise into the atmosphere.
  - CONDENSATION – Water cools down and condenses in the atmosphere.
  - PRECIPITATION – Moisture then falls back to the surface in the form of rain, snow, hail, and sleet.

## EVAPORATION

- (2) Evaporation continuously moves water from the surface to the atmosphere.

## CONDENSATION

- (3) Water vapor in the air gets cold and changes back into liquid, forming clouds. This is called condensation.
  - (4) Try this.  
On a hot day, pour a glass of cold water. Watch what happens. Water forms on the outside of the glass. That water didn't somehow leak through the glass! It actually came from the air. Water vapor in the warm air turns back into liquid when it touches the cold glass.
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- The diagram shows a clear glass filled with ice cubes and water. Labels include 'COLD GLASS' pointing to the ice, 'CONDENSATION' pointing to water droplets on the outside of the glass, and 'WARM MOIST AIR' with an arrow pointing towards the glass. A small credit 'Purdue University' is visible at the bottom left of the diagram.
- (5) Perspiring (sweating) is the same thing as condensation.
  - (6) You could stop perspiring by cooling off somehow.
  - (7) You could stop the condensation on a glass by putting the glass in the refrigerator.
  - (8) Passing a spoon over the top of a hot cup of coffee is similar to running hot water in a shower in a bathroom.

## PRECIPITATION

- (9) A weather forecaster or a meteorologist would study clouds and precipitation.

## FOG

- (10) There is more fog at a higher elevation because fog is just water condensing and it is cooler at higher elevations.
- (11) Heating by the sun evaporates water vapor in the air and that causes fog to disappear.

## HYPOTHESIS, FACT, and OPINION

- (12) HYPOTHESIS – A hypothesis is a guess based on facts. A hypothesis statement uses words like maybe, probably, most likely, perhaps.
- (13) FACT – A fact is something you can prove.
- (14) OPINION – An opinion is someone's idea of something. Expressing an opinion uses words, such as always, never, or cannot happen.
- (15) IF a pregnant woman smoked marijuana during her pregnancy, and her baby were born shaking, the baby may be born addicted to marijuana. This is a hypothesis or an educated guess based on the fact that the mother had smoked marijuana during her pregnancy.

## 3 MAJOR SUBDIVISIONS OF ANIMAL HISTORY

- (16) The three major subdivisions of animal history are Paleozoic, Mesozoic, and Cenozoic.

### THE PALEOZOIC ERA

- (17) During the PALEOZOIC Era, fish, land plants, and reptiles appeared.
- (18) During the PALEOZOIC Era an explosion of diversity in animal life occurred. This was the first era to exhibit a foundation of the complex life forms that established the foundation of life as it is today.

### TRILOBITES

- (19) Hard-shelled, segmented creatures that existed over 300 million years ago in the Earth's ancient seas are called trilobites. They were extinct before dinosaurs even existed!!



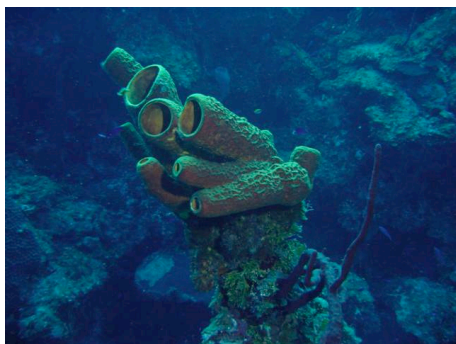
- (20) Trilobites are one of the key signature creatures of the Paleozoic Era.
- (21) Trilobites were among the first of a group of hard-shelled creatures with multiple body segments and jointed legs.
- (22) Trilobite fossils are found in rocks on all continents.
- (23) The area of science that would most likely have information on trilobites would be Biology.

### THE MESOZOIC ERA

- (24) The MESOZOIC era came after the PALEOZOIC era.
- (25) This era is known as the "Age of the Dinosaurs."
- (26) Dinosaurs died out at the end of the MESOZOIC era. Dinosaurs never lived at the same time as man.

## SCIENCE NOTES – SECTION 2

- (27) The sponge is older than dinosaurs and mammals. It is the oldest organism, but it is still around today!

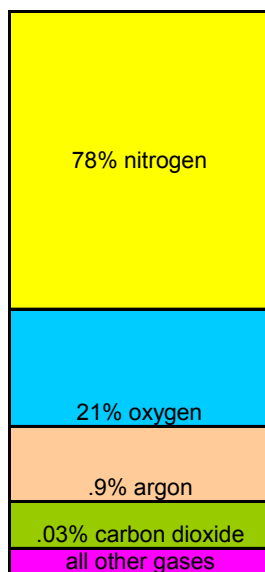


### THE CENOZOIC ERA

- (28) The CENOZOIC ERA is the most current era.

### EARTH'S ATMOSPHERE

- (29) 78% of the earth's atmosphere is composed of NITROGEN.



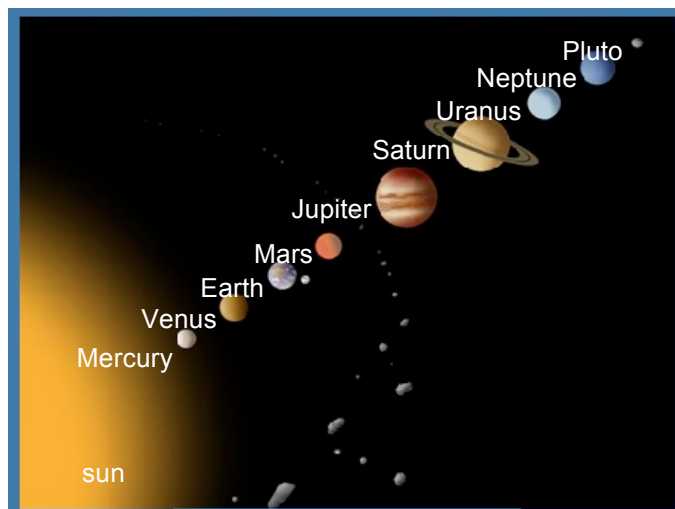
### ACID RAIN and POLLUTION

- (30) Factories burn coal and oil fuels that contain sulfur dioxide.
- (31) Cars burn fuels that produce nitric oxide.
- (32) When sulfur dioxide and nitric oxides mix with water vapor in the upper atmosphere, they form acid rain in areas that are cold and humid.
- (33) When water vapor condenses and rain falls, the acids fall with it. Every time acid rain falls in a lake, the level of acid in the lake rises.
- (34) Over time, the acid can rise to the point at which plants and insects cannot survive.
- (35) Acid rain can destroy fish and other water life, destroy crops, and cause health problems.
- (36) POLLUTION is spoiling the earth with toxic, poisonous chemicals, such as trash.

- (37) You should you not bury motor oil because it could soak into the earth and contaminate the water supply.

### SOLAR SYSTEM

- (38) There are 9 planets in the solar system.
- (39) A good title for the following illustration would be "The Solar System."



### THE EARTH

- (40) ROTATION (turns)  
The earth rotates every 24 hours.
- (41) REVOLUTION (travel or go around)  
It takes the earth exactly 365  $\frac{1}{4}$  days to revolve around the sun. For this reason, there is an extra day once every four years to make up the  $\frac{1}{4}$ s. This is called leap year.
- (42) The sun always rises in the east because of the direction in which the earth revolves.
- (43) The TILT OF THE EARTH causes the seasons.