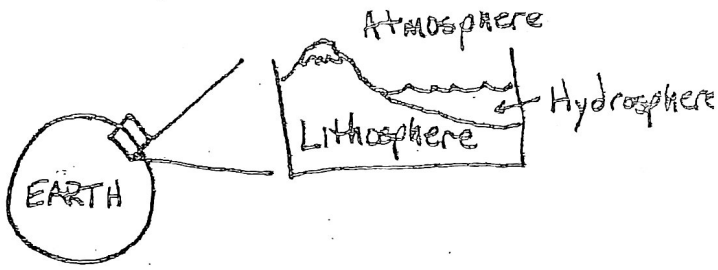
1

Earth Science

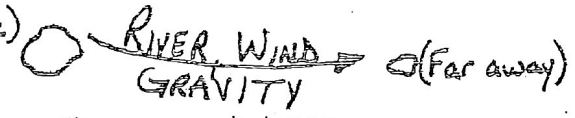
1. Lithosphere is the earth's rock layer

   Hydrosphere is the earth's water layer

   Atmosphere is the earth's air layer.



2. Erosion is to carry away rock sediments.



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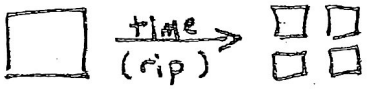
   ex: ripping paper, tree root action.



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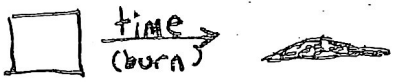
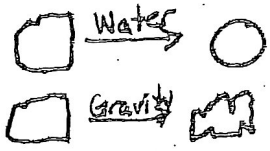
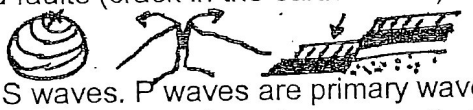


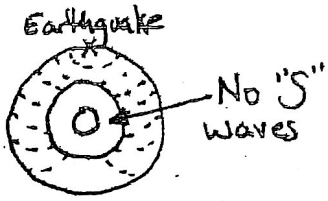
4. Gravity, wind, water, and glaciers are forces of erosion. Wind and moving water make sediments round in shape and gravity and glacier are angular.



5. Earthquakes, volcanoes, and faults (crack in the earth's crust) are found near plate boundaries.

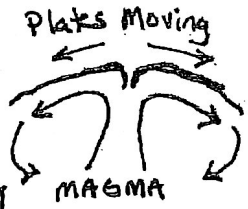


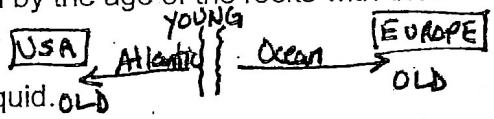
6. Earthquakes produce P and S waves. P waves are primary waves that go through solids and liquids. S waves are secondary waves that only go through solids. The earth's interior has been learned by studying P and S waves.



7. The crust is the outer layer of the earth. The ocean crust is thinner than the continental crust.

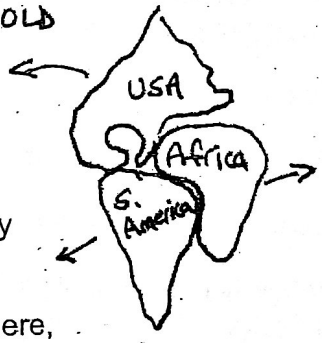
8. The mantle is the earth's second layer. The magma in the mantle moves in currents which causes the tectonic plates to move. The magma in the mantle rises through the cracks in the ocean floor causing seafloor spreading. Seafloor spreading is proven by the age of the rocks with their relationship to the distance of the crack.





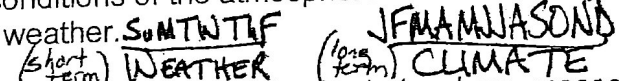
9. The outer core is the third layer and is a liquid.

10. The inner core is the forth layer and is a solid.



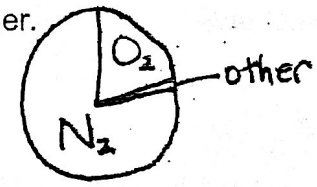
11. All the continents fit together as one super continent called Pangaea.

12. Weather is the daily conditions of the atmosphere. Climate is the yearly average of the daily weather.



13. The layers of the atmosphere are troposphere, stratosphere, mesosphere, and thermosphere. The troposphere is the only layer that has water.

14. The atmosphere contains 78% nitrogen, 21% oxygen, and 1% other.

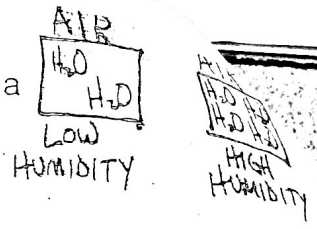


15. Air temperature is measured with a thermometer.

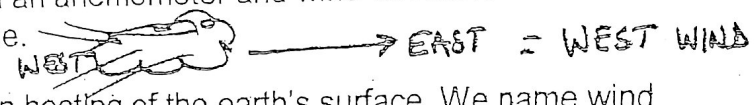
16. Air pressure is measured with a barometer.

Ms. Rashid

17. Humidity is the moisture in the air that is measured with a hygrometer or a psychomotor.

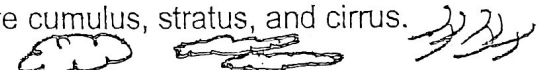


18. Wind speed is measured with an anemometer and wind direction is measured with the wind vane.



19. Wind is caused by the uneven heating of the earth's surface. We name wind by the direction in which it came from.

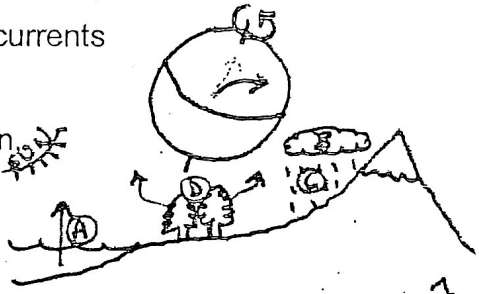
20. The three cloud types are cumulus, stratus, and cirrus.



21. The five forms of precipitation are rain, hail, snow, sleet, and drizzle. We measure rain with a rain gauge.

22. Insolation stands for incoming solar radiation. Warm are rises co .ld air sinks. The earth's round shape causes different angles of insolation.

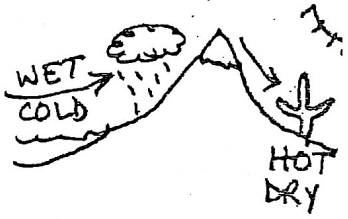
23. The coriolis effect is the turning or deflection of the wind and ocean currents caused by the earth's rotation.



24. The water cycle contains the processes of evaporation, condensation, precipitation and transpiration.

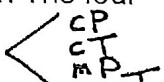
25. Climate is affected by latitude, bodies of water and mountains.

26. The windward side of the mountain is near the body of water, receives wind and clouds. The leeward side of the mountain has very little wind and a drier climate.



27. An air mass gets its characteristics from the area it's formed over. The four main conditions are polar, tropical, continental, and maritime.

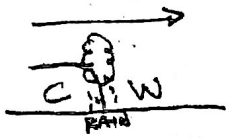
cold warm land water



28. High pressure systems bring dry weather and clear skies. Low pressure systems bring cloudy and damp weather.

High + Dry Low Wet

29. A cold front is when a cold mass pushes a warm mass. A warm front is when a warm mass pushes a cold mass. Precipitation is found along fronts.



30. Isotherms connect points of equal temperatures.

31. Isobars connect points of equal air pressure.

32. Greenhouse effect traps CO^2 in the atmosphere increasing global warming.

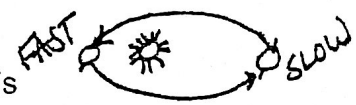
33. Rotation is to spin on its axis. Earth's Rotation rate is 15 degrees per hour = 24 hours.

$\frac{360^\circ}{24 \text{ hrs.}} = 15^\circ/\text{hr}$

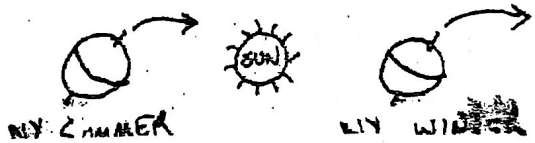
34. Revolution is to orbit around the sun. Earth's revolution rate is 1 degree per day = 365 days.

$\frac{360^\circ}{365 \text{ days}} \approx 1^\circ/\text{day}$

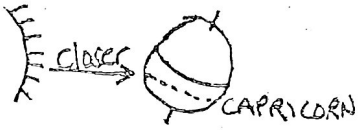
35. When the Earth is close to the sun, we travel faster and the pull of gravity is stronger.



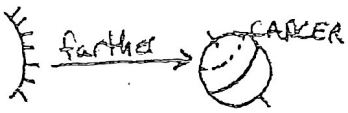
36. The main reason for seasons is the tilt of the earth.



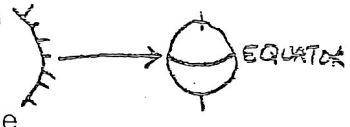
. Winter solstice is Dec. 21, 9 hrs of light, sun strikes tropic of Capricorn 23.5°S, *and we are close to sun.*



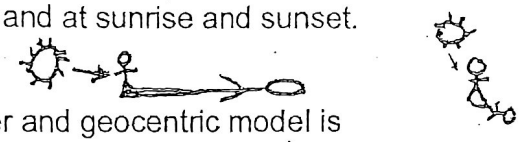
38. Summer solstice is June 21, 15 hrs of light, sun strikes tropic of cancer 23.5°N, *and we are far from the sun.*



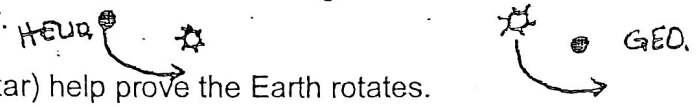
39. Equinoxes are fall – March 21, spring – Sept. 23, 12 hrs of light, and the sun strikes the equator.



40. The angle of the sun affects your shadow. The lower the angle of the sun, the longer your shadow. Low angles occur in winter and at sunrise and sunset. High angles occur in summer and at noon.



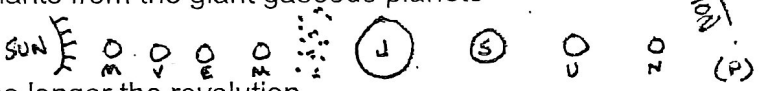
41. Heliocentric model is when the sun is in the center and geocentric model is when the earth is in the center.



42. Constellations and the sun (a star) help prove the Earth rotates.

43. My very educated mother just served us nine pizzas – Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, (and Pluto.)

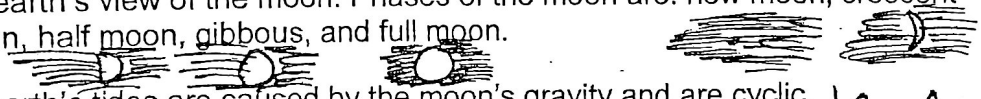
44. Asteroid belt separates the small solid plants from the giant gaseous planets which are between Mars and Jupiter.



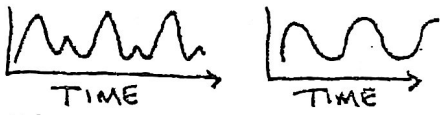
45. The farther the planet is from the sun, the longer the revolution.

46. The Moon orbits the Earth and spins on its axis at same rate of 29 ½ days. Rotation = revolution. (the dark side of the moon....Pink Floyd)

47. The phases of the moon are the apparent changes in the shape caused by the earth's view of the moon. Phases of the moon are: new moon, crescent moon, half moon, gibbous, and full moon.



48. The earth's tides are caused by the moon's gravity and are cyclic.

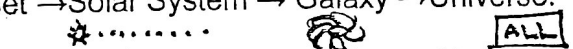


49. An eclipse occurs when the earth, sun, and moon line up.

A lunar eclipse occurs when the moon passes through the earth's shadow.
A solar eclipse occurs when the moon casts its shadow on the earth.

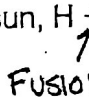
50. In space, a rock is called a meteoroid, in the atmosphere it's a meteor and on earth's surface it's a meteorite.

51. The earth is in the solar system which is in the Milky Way galaxy which is in the universe. Planet →Solar System → Galaxy →Universe.



52. The color of the star determines its temperature, red is cool, and blue is hot.

53. Hydrogen (H) is the main fuel of the sun, H +H = Helium (He). This is called nuclear fusion.



54. Gas and dust make a star which has a life cycle: star →stable star →compact star →red giant →nova →white dwarf.

Mr. Rinaldi

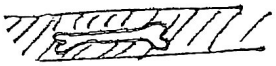
55. All rocks are composed of minerals.

56. Physical properties of minerals are tested by streak, hardness, luster, cleavage, and color. Chemical properties of minerals are tested by the acid test.

57. Hot liquid rock below the crust is called magma and above the crust is called lava.

58. Igneous rock is made by cooling magma.

59. Sedimentary rocks are made by the compression and cementation of sediments. They are classified by the size of their sediments. This is the only rock type that can contain a fossil.

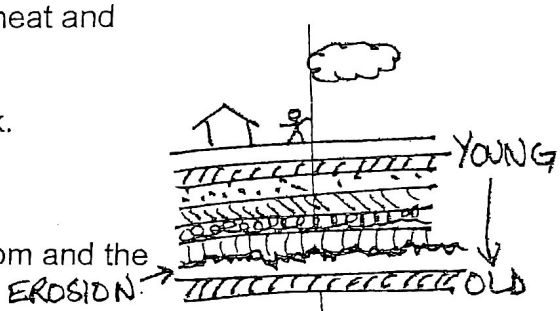


60. Metamorphic rocks are any rocks exposed to magma causing heat and pressure.

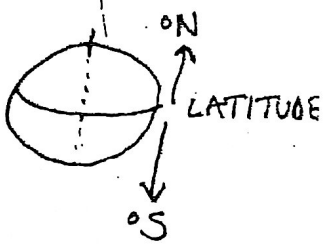
61. The rock cycle shows how any rock can be turned into any rock.

62. Rules for sequencing the history of rock layers are:

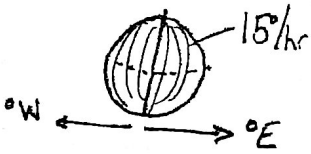
Layers form horizontally. If not overturned, the oldest is on the bottom and the youngest on the top. A wavy line indicates erosion.



63. Latitude lines are North and South and never touch. Longitude lines are east and west and meet at the poles. They also separate time zones which equals 15° per hour.

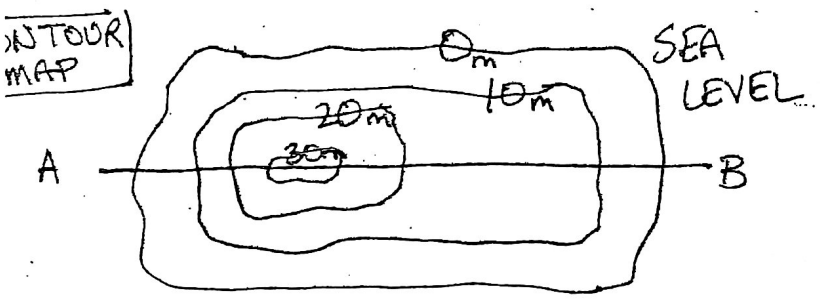


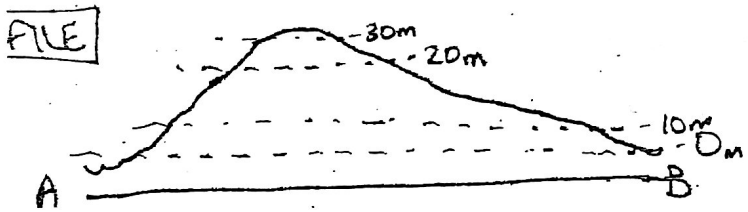
64. Contour lines connect equal points of elevation. The rules for contour maps are: the contour interval is the space between contours lines, the closer the lines the steeper the slope, hachure lines indicate a depression or hole, when a line crosses a body of water it points uphill, sea level is 0 , lowest elevation ends with a 1 and highest elevation ends with a 5 or 9.

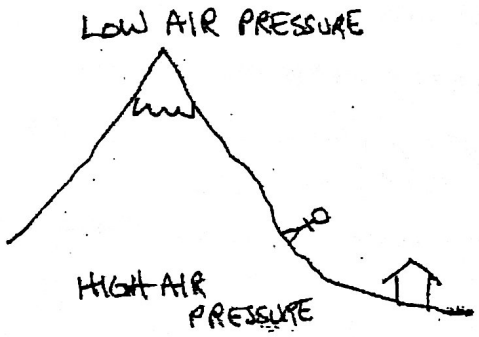


65. A profile is a side view of a contour map.

66. As you increase elevation or altitude, air pressure decreases.







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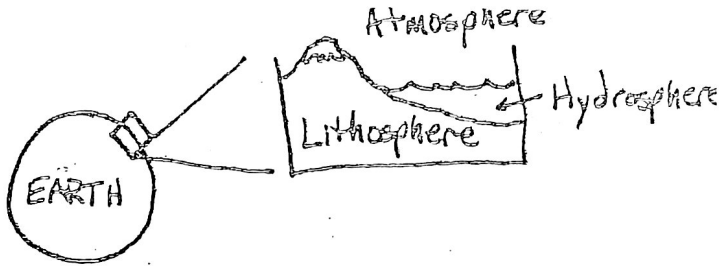

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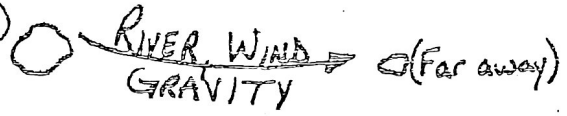

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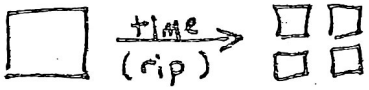
   ex: ripping paper, tree root action.



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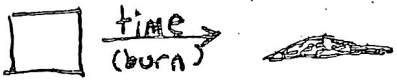

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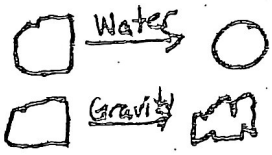

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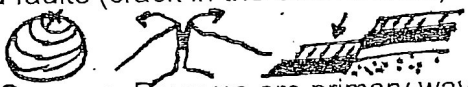

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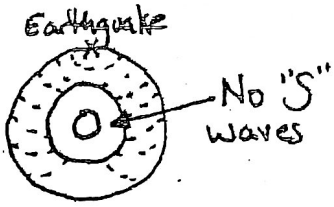

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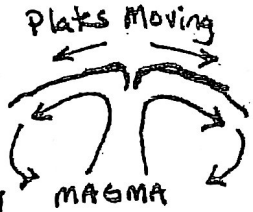
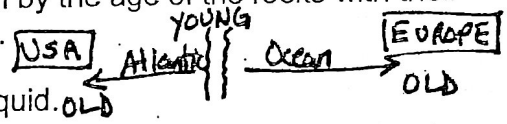
8. The mantle is the earth's second layer. The magma in the mantle moves in currents which causes the tectonic plates to move. The magma in the mantle rises through the cracks in the ocean floor causing seafloor spreading. Seafloor spreading is proven by the age of the rocks with their relationship to the distance of the crack.

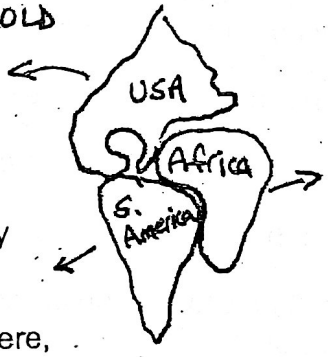




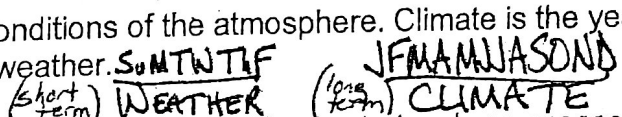
9. The outer core is the third layer and is a liquid.

10. The inner core is the forth layer and is a solid.

11. All the continents fit together as one super continent called Pangaea.

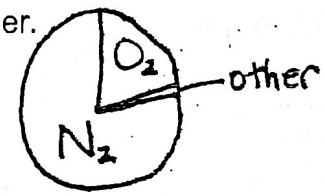


12. Weather is the daily conditions of the atmosphere. Climate is the yearly average of the daily weather.



13. The layers of the atmosphere are troposphere, stratosphere, mesosphere, and thermosphere. The troposphere is the only layer that has water.

14. The atmosphere contains 78% nitrogen, 21% oxygen, and 1% other.



15. Air temperature is measured with a thermometer.

16. Air pressure is measured with a barometer.

Ms. Rashid

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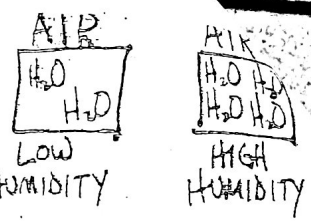
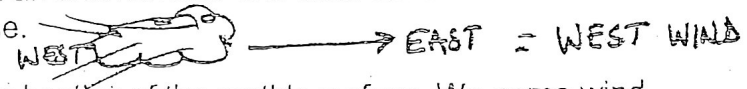
17. Humidity is the moisture in the air that is measured with a hygrometer or a psychomotor.

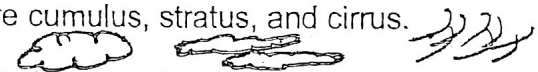


18. Wind speed is measured with an anemometer and wind direction is measured with the wind vane.



19. Wind is caused by the uneven heating of the earth's surface. We name wind by the direction in which it came from.

20. The three cloud types are cumulus, stratus, and cirrus.



21. The five forms of precipitation are rain, hail, snow, sleet, and drizzle. We measure rain with a rain gauge.

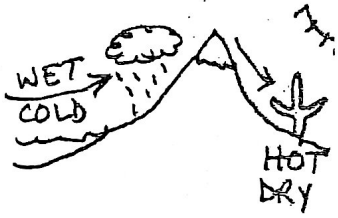
22. Insolation stands for incoming solar radiation. Warm are rises co .ld air sinks. The earth's round shape causes different angles of insolation.

23. The coriolis effect is the turning or deflection of the wind and ocean currents caused by the earth's rotation.

24. The water cycle contains the processes of evaporation, condensation, precipitation and transpiration.

25. Climate is affected by latitude, bodies of water and mountains.

26. The windward side of the mountain is near the body of water, receives wind and clouds. The leeward side of the mountain has very little wind and a drier climate.



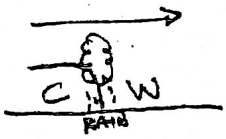
27. An air mass gets its characteristics from the area it's formed over. The four main conditions are polar, tropical, continental, and maritime.

cold warm land water

28. High pressure systems bring dry weather and clear skies. Low pressure systems bring cloudy and damp weather.

High + Dry Low et

29. A cold front is when a cold mass pushes a warm mass. A warm front is when a warm mass pushes a cold mass. Precipitation is found along fronts.



30. Isotherms connect points of equal temperatures.

31. Isobars connect points of equal air pressure.

32. Greenhouse effect traps CO^2 in the atmosphere increasing global warming.

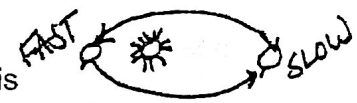
33. Rotation is to spin on its axis. Earth's Rotation rate is 15 degrees per hour = 24 hours.

$\frac{360°}{24 hrs.} = 15°/hr$

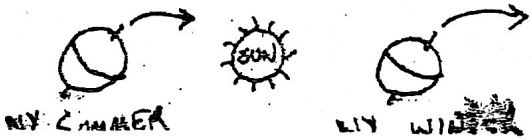
34. Revolution is to orbit around the sun. Earth's revolution rate is 1 degree per day = 365 days.

$\frac{360°}{365 days} \approx 1°/day$

35. When the Earth is close to the sun, we travel faster and the pull of gravity is stronger.

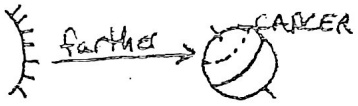


36. The main reason for seasons is the tilt of the earth.

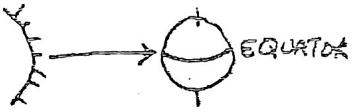


Winter solstice is Dec. 21, 9 hrs of light, sun strikes tropic of Capricorn 23.5°S, *and we are close to sun.*

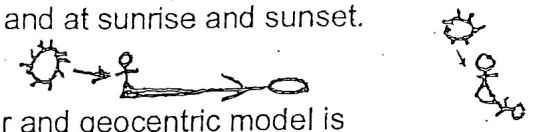
38. Summer solstice is June 21, 15 hrs of light, sun strikes tropic of cancer 23.5°N, *and we are far from the sun.*



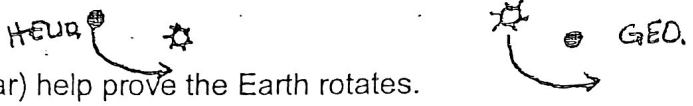
39. Equinoxes are fall – March 21, spring – Sept. 23, 12 hrs of light, and the sun strikes the equator.



40. The angle of the sun affects your shadow. The lower the angle of the sun, the longer your shadow. Low angles occur in winter and at sunrise and sunset. High angles occur in summer and at noon.

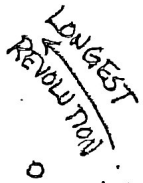


41. Heliocentric model is when the sun is in the center and geocentric model is when the earth is in the center.

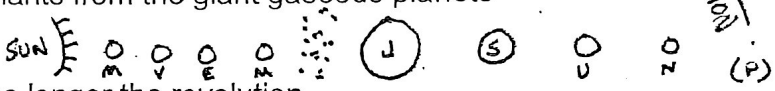


42. Constellations and the sun (a star) help prove the Earth rotates.

43. My very educated mother just served us nine pizzas – Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, (and Pluto.)



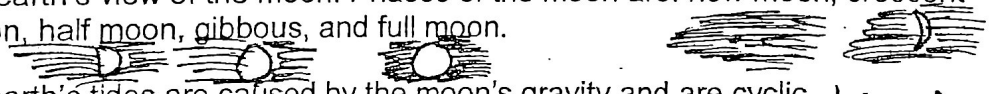
44. Asteroid belt separates the small solid plants from the giant gaseous planets which are between Mars and Jupiter.



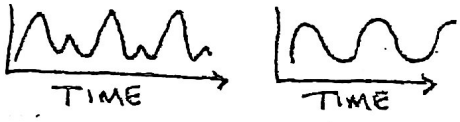
45. The farther the planet is from the sun, the longer the revolution.

46. The Moon orbits the Earth and spins on its axis at same rate of 29 ½ days. Rotation = revolution. (the dark side of the moon....Pink Floyd)

47. The phases of the moon are the apparent changes in the shape caused by the earth's view of the moon. Phases of the moon are: new moon, crescent moon, half moon, gibbous, and full moon.

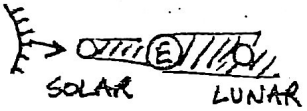


48. The earth's tides are caused by the moon's gravity and are cyclic.



49. An eclipse occurs when the earth, sun, and moon line up.

A lunar eclipse occurs when the moon passes through the earth's shadow.
A solar eclipse occurs when the moon casts its shadow on the earth.

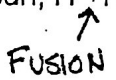


50. In space, a rock is called a meteoroid, in the atmosphere it's a meteor and on earth's surface it's a meteorite.

51. The earth is in the solar system which is in the Milky Way galaxy which is in the universe. Planet →Solar System → Galaxy →Universe.

52. The color of the star determines its temperature, red is cool, and blue is hot.

53. Hydrogen (H) is the main fuel of the sun, H +H = Helium (He). This is called nuclear fusion.



54. Gas and dust make a star which has a life cycle: star →stable star →compact star →red giant →nova →white dwarf.

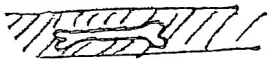
55. All rocks are composed of minerals.

56. Physical properties of minerals are tested by streak, hardness, luster, cleavage, and color. Chemical properties of minerals are tested by the acid test.

57. Hot liquid rock below the crust is called magma and above the crust is called lava.

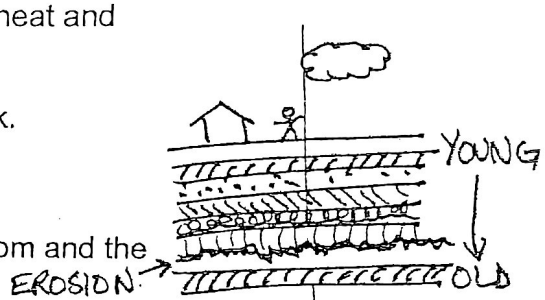
58. Igneous rock is made by cooling magma.

59. Sedimentary rocks are made by the compression and cementation of sediments. They are classified by the size of their sediments. This is the only rock type that can contain a fossil.



60. Metamorphic rocks are any rocks exposed to magma causing heat and pressure.

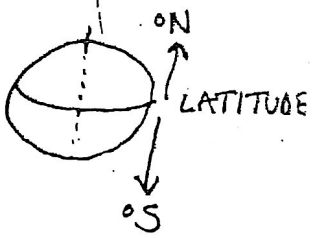
61. The rock cycle shows how any rock can be turned into any rock.



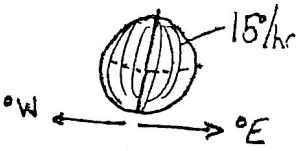
62. Rules for sequencing the history of rock layers are:

Layers form horizontally. If not overturned, the oldest is on the bottom and the youngest on the top. A wavy line indicates erosion.

63. Latitude lines are North and South and never touch. Longitude lines are east and west and meet at the poles. They also separate time zones which equals 15° per hour.



64. Contour lines connect equal points of elevation. The rules for contour maps are: the contour interval is the space between contours lines, the closer the lines the steeper the slope, hachure lines indicate a depression or hole, when a line crosses a body of water it points uphill, sea level is 0 , lowest elevation ends with a 1 and highest elevation ends with a 5 or 9.



65. A profile is a side view of a contour map.

66. As you increase elevation or altitude, air pressure decreases.