

Science 1206
Weather Test



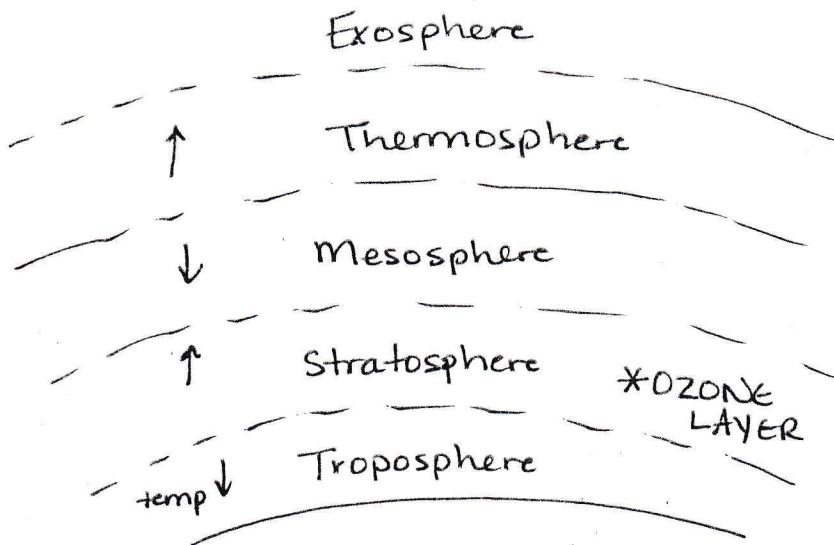
Name: Key

- Over 70% of the earth is covered by ___?
a. land b. clouds c. oceans d. volcanoes
- ___ is a set of environmental conditions averaged over many years.
a. Weather c. Rain
b. Storms d. Climate
- ___ is the angle measured east or west from the 0° line.
 a. Longitude c. Latitude
c. Equator d. Meridian
- The transfer of energy by means of waves is called ___?
a. Convection c. Radiation
b. Conduction d. Advection
- The transfer of energy through the collision of particles is called ___?
a. Convection c. Radiation
 b. Conduction d. Advection
- Any object that absorbs energy and becomes warmer is called a(an) ___?
a. receptacle c. thermometer
 b. heat sink d. magnifier
- The ___ is the blanket of air and moisture that covers the earth.
 a. atmosphere c. ionosphere
b. cloud cover d. warm front
- The pressure the air exerts as gravity pulls it towards the center of the earth is called ___?
a. hydrostatic pressure c. atmospheric pressure
b. pressure gradient d. osmotic pressure
- Winds that affect large areas are called ___?
a. global winds c. local winds
b. regional winds d. prevailing winds
- The apparent change of the direction of a moving object in a rotating system is called the ___?
 a. coriolis effect c. pressure effect
b. frontal effect d. wind effect
- The Coriolis Effect affect wind blowing from South to North in the Northern Hemisphere. Which direction will the wind appear to be coming from?
a. the northeast b. the northwest
c. the southeast d. the southwest
- ___ are responsible for coastal regions being cooler in the summer and warmer in the winter than regions several kilometers inland.
 a. Ocean currents c. Wind currents
b. Coriolis effect d. Temperature gradient
- Which is the S.I. unit for measuring pressure?
a. Degree Celcius b. Knots c. Joules d. Kilopascals
- The method by which energy is transferred from the earth to outer space is ___?
a. convection c. radiation
b. conduction d. advection
- The correct order of the layers of the atmosphere from the surface of Earth upwards is:
a. mesosphere, stratosphere, troposphere
b. stratosphere, mesosphere, troposphere
 c. troposphere, stratosphere, mesosphere
d. troposphere, mesosphere, stratosphere

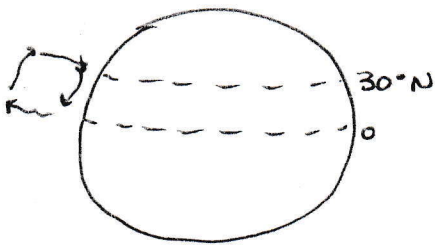
16. Which set of conditions could you find in a continental polar air mass?
 a. cold, dry b. warm, moist c. cool, moist d. dry, warm
17. Which of the following is not a form of precipitation?
 a. rain b. hail c. snow d. fog
18. In the Northern Hemisphere, a low-pressure system:
 a. rotates in a clockwise direction and brings cloudy, stormy weather
 b. rotates in a counterclockwise direction and brings cloudy, stormy weather;
 c. rotates in a clockwise direction and brings clear skies and calm winds;
 d. rotates in a counterclockwise direction and brings clear skies and calm winds.
19. In the Northern Hemisphere what is the significance of June 21st?
 a. It is Summer Solstice and the longest day in the year
 b. It is Winter Solstice and the shortest day in the year
 c. It is the Vernal Equinox and day and night are equal length
 d. It is the Autumnal Equinox and day and night are equal length
20. A ___ is a set of temperature, wind, pressure and moisture conditions for a certain region.
 a. pressure system c. weather system
 b. water system d. wind system
21. A(an) ___ is a large body of air in which the temperature and moisture content is known.
 a. water mass c. pressure mass
 b. wind mass d. air mass
22. A boundary between cold and warm air masses is called a(an) ___.
 a. front c. barrier
 b. barrier d. weather system
23. A thermal that forms near the sea, an ocean, or a lake is called a(an) ___.
 a. sea breeze c. land breeze
 b. mountain breeze d. desert breeze
24. A warm gentle wind that occurs in western Canada is called a(an) ___.
 a. Alpes wind c. Indian breeze
 b. Pacific wind d. Chinook wind
25. Which BEST describes cirrus clouds?
 a. Always found at mid-latitudes. b. Billowing and rounded in shape.
 c. Low, uniform sheet clouds. d. Thin, wispy and made of ice crystals.
26. What name is given to the true rain clouds which are very dark and exist at an altitude of less than 2000m?
 a. nimbostratus b. cirrostratus
 c. altocumulus d. cirrus
27. Which of the following substances has the highest albedo?
 a. dark clouds b. rocks
 c. clean snow d. forests
28. A ___ is a helium filled balloon used to gather weather data.
 a. atmospheric balloon c. capsule
 b. kite hydrometer d. weather balloon
29. Why does the temperature in the stratosphere increase as altitude increases?
 a. the atmosphere gets less dense as altitude increases
 b. more energy reflected by clouds in the troposphere is being absorbed
 c. ozone gas is absorbing ultraviolet light from the sun
 d. convection causes warm air to rise from the earth's surface
30. Why do coastal regions of Newfoundland have cooler summers and warmer winters than inland regions?
 a. they receive less direct sunlight
 b. the albedo of the coastal regions is higher
 c. the ocean nearby warms up slowly but also cools down slowly
 d. the ocean absorbs the sun's energy in winter but not in summer

31. Draw and label a diagram of the earth's atmosphere. Include: (7 marks)

- i. the name of each layer
- ii. a line to show how temperature changes as altitude increases in each layer
- iii. indicate where the Ozone Layer is located



32. Explain the development of the Northeast Trade Winds in the northern hemisphere. You may use a diagram to aid your explanation. (4 marks)



- ① Warm air above equator rises.
- ② Air is pushed northward and cools.
- ③ Cool air sinks.
- ④ Air is pushed back toward the equator. (cooler air replaces warm air).

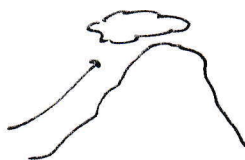
33. List and describe the three methods of cloud formation. (6 marks)

1) Convective



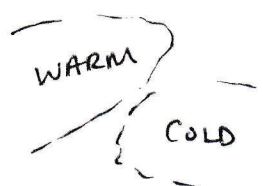
→ Warm air rises, cools and condenses.

2) Orographic



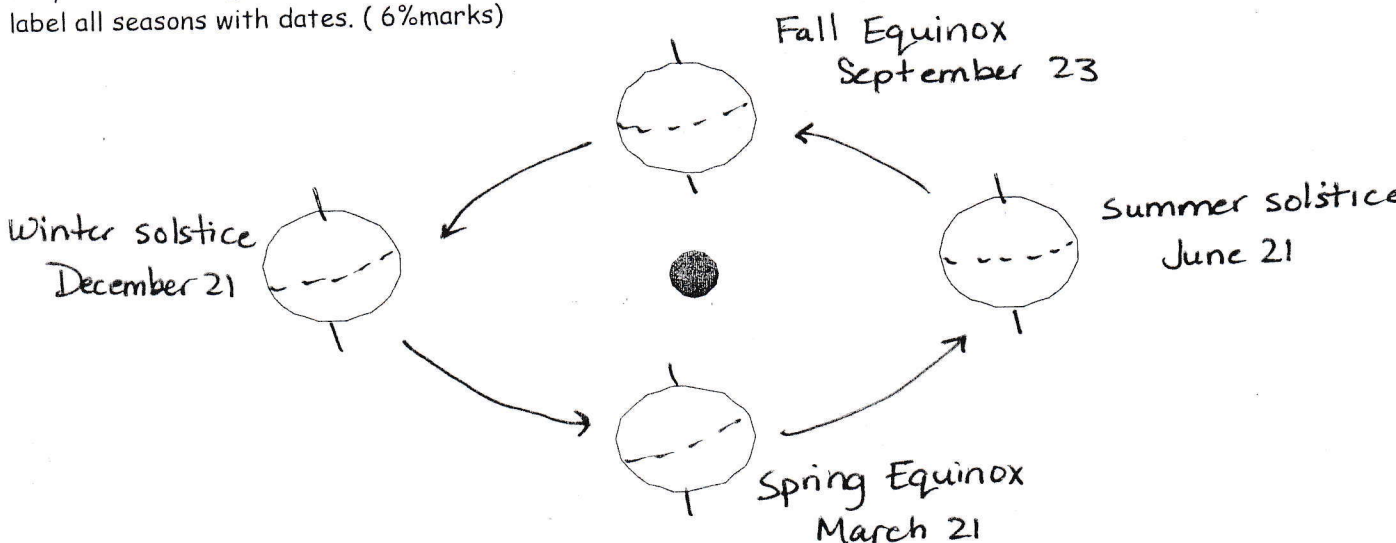
→ air rises over a mountain, cools and condenses

3) Frontal



→ warm air mass rises over colder air mass, cools and condenses.

34. Fully label the diagram of the seasons. Include direction of motion, tilt of the axis, equator and label all seasons with dates. (6%marks)



35. With the aid of a well labeled diagrams explain how a warm and cold fronts form.
(6 marks)

Symbols for Fronts...

