Lesson 1

1) From the consequences when a planet has no atmosphere:

The choice	At falling the solar radiation on it	when the sun is absent with its cycle
A	the temperature of the planet rises slightly	It cools very slowly
B	the temperature of the planet rises slightly	It cools very quickly
C	the temperature of the planet rises greatly	It cools very slowly
D	the temperature of the planet rises greatly	It cools very quickly

2) Which of the following choices correctly describes the Earth's atmosphere?

A	A layer of gases that surrounds the planet Earth	protects it from most of the radiation and objects coming from spa	maintains the balance of temperatures on its surface	Earth's gravity keeps the Earth's atmosphere in place
B	A layer of liquids that surrounds the planet Earth	protects it from most of the radiation and objects coming from space	maintains the balance of temperatures on its surface	Earth's gravity keeps the Earth's atmosphere in place
C	A layer of gases that surrounds the planet Earth	protects it from most of the radiation and objects coming from space	maintains the balance of temperatures on its surface	Earth's magnetic field keeps the Earth's atmosphere in place
D	A layer of liquids that surrounds the planet Earth	protects it from most of the radiation and objects coming from space	maintains the balance of temperatures on its surface	Earth's magnetic field keeps the Earth's atmosphere in place

3) The most abundant gas in Earth's atmosphere is:

A. Oxygen B.Argon C. Nitrogen D.Carbon dioxide

4) Nitrogen gas represents about ..... of the volume of Earth's atmosphere.

A. 0.1 % B.0.9 % C. 21 % D. 78 %

5) Oxygen gas represents about.....of the volume of Earth's atmosphere.

A. 0.04 % B.0.93 % C. 21 % D. 78 %

6) Argon gas represents about .....of the volume of Earth's atmosphere.

A. 0.04 % B. 0.93% C. 21 % D. 78 %

7) Carbon dioxide gas represents about .....of the volume of Earth's atmosphere.

A. 0.04 % B. 0.93 % C. 21 % D.78 %

8) The…….Layer has the ability to absorb short-wave ultraviolet radiation.

A. Argon B. ozone C. nitrogen D. oxygen

9) ……is a component of the atmosphere where its percentage varies in the near layer of the atmosphere, and plays an important role in weather and climate phenomena.

A. Carbon dioxide B.Oxygen C.Water vapor D.Nitrogen

10) The ozone layer is found at an altitude of approximately …… from The Earth's surface

A. 10 km - 25 km B. 15 km - 35 km C. 15 km - 45 km D.10 km - 55 km

11) .....is the closest layer to the Earth's surface.

A. Ionosphere B. Mesosphere C. Stratosphere D. Troposphere

12) The thickness of the troposphere:

The choice	At the two poles is about ….	At the equator is about ….
A	8 km	18 km
B	18 km	8 km
C	5 km	30 km
D	30 km	5 km

13) If the air temperature at a certain location on Earth's surface is 20 °C. What is its temperature at the top of a mountain of a height 1760 m from that location?

A)0 °C B) 10 °C C) 20 °C D)30 °C

14) ..... is used to measure the atmospheric pressure.

A.Thermometer B. Hydrometer C. Barometer D. Hygrometer

15) If the atmospheric pressure at the top of a mountain is 750 mm.Hg, it is equivalent to ……..

A. 99967.11 N/m^2 B. 89967.11 N/m^2 C. 101300 N/m^2 D.1013 N/m^2

16) The ozone layer is found……..

Ionosphere B. Mesosphere C. Stratosphere D. Troposphere

17) ……is the lowest layer of the atmosphere with the lowest temperature (-90 ^oC).

A.Ionosphere B. Mesosphere C. Stratosphere D. Troposphere

18) Most meteors falling from space burn up as they pass through the …….. layer, which protects the Earth from them.

A. Troposphere B. Stratosphere C. Mesosphere D. Ionosphere

Essay

1] Compare between Oxygen gas, carbon dioxide and water vapor concerning

1- its percentage in Earth's atmosphere 2- its importance

P.O.C	Oxygen	Carbon dioxide	Water vapor
Its percentage in the atmosphere			
Its importance			

2] <u>Give reason:</u>

1) The nitrogen gas's oxides are very small in the air.
2) The importance of carbon dioxide gas for plants.
3) The troposphere layer is thicker at the equator.
4) The air temperature decreases with height in the troposphere.
5) The lower part of the stratosphere is preferred for airplane flights.

6) The temperature starts to rise as we go above 20 Km through the upper part of the stratosphere.
7) The ionosphere is an electrically charged layer.
8) The ionosphere is used in long-distance wireless communications.

3] Correct the underlined word:

1- The ozone layer is found at an altitude of approximately **5 km – 30 km** from The Earth's surface.
2- **Oxygen** gas is the most abundant gas in the atmosphere.
3- **Argon** gas is essential for plant photosynthesis.
4- **Mesosphere** is the closest layer to the Earth's surface.
5- The temperature **increases** through the stratosphere layer until an altitude of 20 km
6- The airplanes flight is preferred through the **ionosphere**.
7- The ozone layer is found in **mesosphere**.
8- **Ionosphere** is the lowest layer of the atmosphere with the lowest temperature -90 ◦C

4] If the air temperature at a certain location on Earth's surface is 20 °C. What is its temperature at the top of a mountain of a height 1760 m from that location?

……

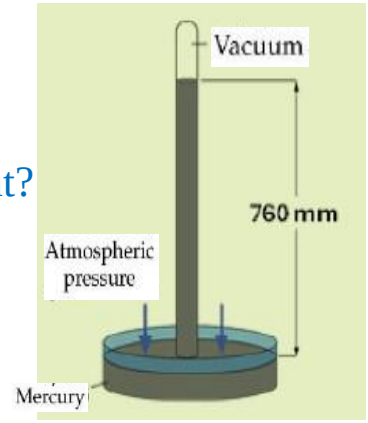
5] The figure shows one of the scientific devices:

First: What is the name of that device?

Second: What is its use?

Third: What does the height (760 mm) shown in the diagram represent?

Explain your answer



……

……

6] If the atmospheric pressure at a certain location is 950 millibar.
What is its equivalent value in the following measuring units:
First: Bar Second: Pascal Third: N/m^2 Forth: mm.Hg

……

……

Lesson 2

1) The atmosphere is a dynamic system in which several physical factors interact that:
A. influence the weather and climate only
B. influence the distribution of organisms only
C. influence both the weather, climate and the distribution of organisms
D. don't influence both the weather, climate and the distribution of organisms

2) ……..is one of the most important climatic factors as it affects other factors.
A. Heat B.Atmospheric pressure C. Humidity D.Wind

3) The main source of heat and light on Earth is……..

A. Sun B. Moon C. Volcanoes D. Electric bulbs

4) When the sun's rays reach the earth:

I The temperature of the gaseous envelope begins to rise.

II The heat is transferred to the gaseous envelope surrounding the earth. The

III earth's surface of land and water heats up more.

Which of the following is the correct arrangement for the above processes?

A. I then II then III B. III then II then I

B. II then I then III D. I then III then II

5) Which of the following statements is correct?

A. All areas of the Earth's surface reach the same temperature.

B. All areas of the Earth's surface gain the same heat from the sun.

C. The sun's rays heat all areas of the Earth's surface at the same rate.

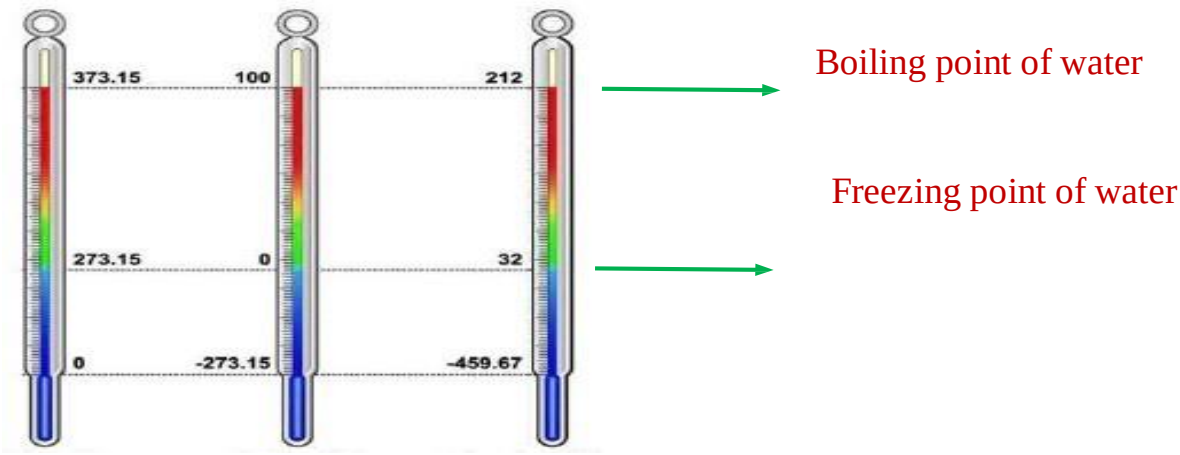
D. The sun's rays do not heat all areas of the Earth's surface at the same rate.

6) Areas where the sun's rays fall ……(1)……. receive heat energy per unit area ……(2)…… those where the sun's rays are ……(3)…….

The choice	(1)	(2)	(3)
A	vertically or nearly vertically	less than or equal	inclined
B	inclined	more than	vertically or nearly vertically
C	vertically or nearly vertically	more than	inclined
D	inclined	Equal to	vertically or nearly vertically

7) The figure shows three temperature scales in Celsius, Fahrenheit and Kelvin

Scale (X) Scale (Y) Scale (Z)



By analyzing the data shown in the figure. What is the type of each scale?

The choice	Scale (X)	Scale (Y)	Scale (Z)
A	Celsius	Fahrenheit	Kelvin
B	Kelvin	Celsius	Fahrenheit
C	Kelvin	Fahrenheit	Celsius
D	Fahrenheit	Kelvin	Celsius

8) The freezing point of the pure water equal to …….

A.0 °F B. 0 K C. 32 °F D. 32 K

9) The boiling point of the pure water equal to …….

A. 100 °F B. 212 K C. 373 °F D. 373 K

10) If the temperature of an object is 283 K, then its equivalent temperature on Fahrenheit scale is

A. 10 °F B. 30 °F C. 50 °F D. 70 °F

11) Which of the following choice correctly describes the mechanism of heat transfer by conduction through solids?

The choice	The direction of heat transfer from	Particles transfer
A	one particle of the body in the region of higher temperature to neighboring particles in regions of lower temperature	Particles don't transfer
B	one particle of the body in the region of lower temperature to neighboring particles in regions of higher temperature	Particles don't transfer
C	one particle of the body in the region of higher temperature to neighboring particles in regions of lower temperature	Particles transfer at the same direction of heat
D	one particle of the body in the region of lower temperature to neighboring particles in regions of higher temperature	Particles transfer at the same direction of heat

12) Which of the following choice correctly describes the mechanism of heat transfer by convection through fluids?

The choice	The density of the fluid parts	The transfer of the fluid parts (Convection Currents)
A	the higher-temperature parts of the fluid are less dense than the lower-temperature parts	the lower- density parts of the fluid begin to rise upwards and are replaced by denser parts.
B	the higher-temperature parts of the fluid are less dense than the lower-temperature parts	the higher- density parts of the fluid begin to rise upwards and are replaced by lower-density parts.
C	the higher-temperature parts of the fluid are more dense than the lower-temperature parts	the lower- density parts of the fluid begin to rise upwards and are replaced by denser parts.
D	the higher-temperature parts of the fluid are more dense than the lower-temperature parts	the higher- density parts of the fluid begin to rise upwards and are replaced by lower-density parts.

13) The transfer of heat in the form of electromagnetic waves is ……

A) Conduction B) Convection C) Radiation D) All the previous

14) Which of the following choices correctly represents the effect of the atmospheric pressure on weather and climate?

The choice	In low-pressure areas	In high-pressure areas
A	windy and rainy	stable and not rainy
B	stable and not rainy	windy and rainy
C	windy and rainy	windy and rainy
D	stable and not rainy	stable and not rainy

15) Which of the following choices correctly represents the effect of the atmospheric pressure on the amount of oxygen available for breathing?

A	Less in low-pressure areas
B	More in low-pressure areas
C	Equal in all areas of different pressure
D	In low-pressure areas, the oxygen levels available in the atmospheric air are lower than or equal to that in high-pressure areas

16) The humidity measured by …….

A. Thermometer B. hydrometer C. barometer D. hygrometer

17) What are the consequences when the relative humidity of the air surrounding the plant increases?

A	the rate of transpiration decreases	the rate of lifting water and salts from the root to the leaves decreases
B	the rate of transpiration increases	the rate of lifting water and salts from the root to the leaves increases
C	the rate of transpiration decreases	the rate of lifting water and salts from the root to the leaves increases
D	the rate of transpiration increases	the rate of lifting water and salts from the root to the leaves decreases

18) What are the consequences when the relative humidity of the air surrounding the animals increases?

A	the rate of evaporation of sweat decreases	the efficiency of lowering their body decreases
B	the rate of evaporation of sweat increases	the efficiency of lowering their body increases
C	the rate of evaporation of sweat decreases	the efficiency of lowering their body increases
D	the rate of evaporation of sweat increases	the efficiency of lowering their body decreases

19) The chemical formula of ozone gas is …..

A. O_2 B. O_3 C. H_2O_2 D. H_3O

Lesson 3&4

1) In recent times, an increase in summer temperatures has been observed year after year. What is the main reason for that?

A. global warming phenomenon C. Natural climate cycles
B. Solar radiations D. Volcanic activities

2) …… is the main cause of global warming phenomenon.

A. Volcanic explosion C. Atmospheric air pollution
B. Nuclear radiation D. Factories smoke

3) Global Warming causes…….

A. major changes in climate B. melting polar ice
C. rising sea levels D. All the above

4) ……is defined as the continuous rise in the temperature of the air surrounding the Earth's surface due to the pollution of air

A. Thermal equilibrium B. Thermal activity C. Global warming D. Greenhouse gases

5) Continuous changes in the composition of the atmosphere leads to:

I reduce its ability to maintain the Earth's surface at a suitable temperature

II increase its ability to maintain the Earth's surface at a suitable temperature

III reduce its ability to protect the Earth from harmful solar radiation.

Which of the previous consequences is /are correct?

A. I and III C . II and III

B. I and II and III D. none of the above

6) All the following from the greenhouse gases that cause global warming **EXCEPT** .....

A. carbon dioxide B. methane C. chlorofluorocarbons D.oxygen

7) From the solutions to air pollution and climate change:

A. expand the use of renewable energy B. planting

C. reduce the use of chlorofluorocarbons D. all the above

8) why the Earth retains its gaseous envelope?

As the effective velocity of the gas molecules is ..... the escape velocity from the planet's gravity.

A. less than B. greater than C. equal to or greater than D. equal to or less than

Essay

1] In recent times, an increase in summer temperatures has been observed year after year. What is the main reason for that?

.....

2] Write two from the consequences of the continuous changes in the composition of the atmosphere.

.....

3] Write two from the consequences of the global warming phenomenon.

.....

4] Increasing the percentage of greenhouse gases in the atmosphere works on the same basis as a greenhouse. **Explain**

.....

5] What are some possible solutions to climate change and air pollution?

.....

6] What are the positive impacts from each of the following? **With explanation**

First: Expand use of renewable energy

.....

Second: Planting

.....

7] Explain: **planting is one of the most important ways to reduce global warming.**

.....

8] Why does Earth's gravity hold the atmosphere and not let go?

.....