

NATS101 (44) S05 Quiz 1**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question and fill in the corresponding "bubble" on the attached sheet. There are two Extra Credit questions on every quiz.

- _____ 1. Since the turn of this century, CO₂ in the atmosphere has
a. disappeared entirely. b. been decreasing in concentration. c. remained at about the same concentration from year to year. d. been increasing in concentration.
- _____ 2. The order of the layers of the atmosphere from lowest to highest is
a. troposphere, stratosphere, mesosphere, thermosphere. b. stratosphere, troposphere, thermosphere, mesosphere. c. mesosphere, stratosphere, troposphere, thermosphere. d. thermosphere, stratosphere, mesosphere, troposphere.
- _____ 3. The earth's atmosphere is most often divided into LAYERS based on changes in the vertical profile of
a. air temperature. b. air pressure. c. air density. d. wind speed.
- _____ 4. Meteorology is the study of
a. landforms. b. the oceans. c. the atmosphere. d. outer space. e. extraterrestrial meteoroids that enter the atmosphere.
- _____ 5. The heat energy released when water vapor changes to a liquid is called
a. latent heat of evaporation. b. latent heat of fusion. c. latent heat of fission. d. latent heat of condensation.
- _____ 6. One micrometer is a unit of length equal to
a. one million meters. b. one millionth of a meter. c. one tenth of a millimeter. d. one thousandth of a meter.
- _____ 7. Without the atmospheric greenhouse effect, the average surface temperature would be
a. higher than at present. b. lower than at present. c. the same as it is now. d. much more variable than it is now.
- _____ 8. At noon on June 22, the sun will be directly overhead at
a. the Arctic circle. b. the Equator. c. the Tropic of Cancer. d. the North Pole.
- _____ 9. The only substance near the earth's surface that is found naturally in the atmosphere as a solid, liquid, and a gas.
a. carbon dioxide b. water c. molecular oxygen d. ozone e. methane
- _____ 10. Which of the following processes acts to remove carbon dioxide from the atmosphere?
a. lightning b. deforestation c. photosynthesis d. burning fossil fuels
- _____ 11. The most abundant greenhouse gas in the earth's atmosphere is
a. carbon dioxide (CO₂). b. nitrous oxide (N₂O). c. water vapor (H₂O). d. methane (CH₄).
e. chlorofluorocarbons (CFCs).
- _____ 12. The primary source of the oxygen in the earth's atmosphere during the past half billion years or so appears to be
a. volcanic eruptions. b. photosynthesis. c. photodissociation. d. exhalations of animal life.
e. transpiration.

Name: _____

ID: A _____

- _____ 13. Much of Tibet lies at altitudes over 18,000 feet where the pressure is about 500 mb. At such altitudes, the Tibetans live above roughly
a. 10% of the air molecules in the atmosphere. b. 25% of the air molecules in the atmosphere. c. 50% of the air molecules in the atmosphere. d. 75% of the air molecules in the atmosphere.
- _____ 14. At jet aircraft cruising altitude (33,000 ft. or about 10 km) you are
a. near the top of the stratosphere. b. near the top of the troposphere. c. above the ozone layer. d. in the ionosphere.
- _____ 15. Almost all of the earth's weather occurs in the
a. exosphere. b. stratosphere. c. mesosphere. d. thermosphere. e. troposphere.
- _____ 16. Which of the following provides a measure of the average speed of air molecules?
a. pressure b. temperature c. density d. heat
- _____ 17. The temperature scale where 0° represents the freezing point and 100° the boiling point of water.
a. Fahrenheit b. Celsius c. Kelvin d. absolute
- _____ 18. The transfer of heat by molecule-to-molecule contact is
a. conduction. b. convection. c. radiation. d. ultrasonic.
- _____ 19. A heat transfer process in the atmosphere that depends upon the movement of air is
a. conduction. b. reflection. c. convection. d. radiation.
- _____ 20. The term "latent" means
a. late. b. hot. c. hidden. d. dense.
- _____ 21. **EXTRA CREDIT**
The proper order from shortest to longest wavelength is
a. visible, infrared, ultraviolet. b. infrared, visible, ultraviolet. c. ultraviolet, visible, infrared.
d. visible, ultraviolet, infrared. e. ultraviolet, infrared, visible.
- _____ 22. **EXTRA CREDIT**
The earth emits radiation with greatest intensity at
a. infrared wavelengths. b. radio wavelengths. c. visible wavelengths. d. ultraviolet wavelengths.

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Answer Section

MULTIPLE CHOICE

1. D
2. A
3. A
4. C
5. D
6. B
7. B
8. C
9. B
10. C
11. C
12. B
13. C
14. B
15. E
16. B
17. B
18. A
19. C
20. C
21. C
22. A