Name: _____ Weather

Date: _____ Period: _____ The Physical Setting: Earth Science

Atmosphere and Clouds

CLASS NOTES

- Troposphere - the lowest portion of the atmosphere where temperature _____ and where _____ occurs
- Stratosphere - a region of the atmosphere where temperature _____ and is the layer that contains _____
- Mesosphere - a region of the atmosphere where temperature decreases and meteors burn up
- Thermosphere - a region of the atmosphere where temperature _____ and high-energy _____ and _____ radiation are absorbed
- Exosphere - the outer most shell of the atmosphere where temperature _____ and _____ slowly “leak” out

- Weather - _____

  _____
- Cloud - _____

  _____
- Cloud Formation - _____

  _____

  _____
  - R.E.C.C - Rises - Expands - Cools - condenses

- Generally, clouds are classified on the basis of form and height [from cloud base]
  - High-level clouds [above 6,000 m]
  - Mid-level clouds [2,000 – 6,000 m]
  - Low-level clouds [below 2,000 m]
  - Vertically developed clouds [range]

Atmosphere and Clouds

- Three types of clouds:
    - Cirrus - meaning “curl” or “filament”
    - Cumulus - meaning “heap”
    - Stratus - meaning “later”

- Cirrus Clouds:
    - Most common high level clouds
    - Occur in _____ weather
    - Point in the direction of air motion
    - Made of _____ crystals
- Cirrostratus Clouds:
    - High level clouds
    - Nearly transparent
    - Produces a _____ around the Sun
    - Made of ice crystals
- Cirrocumulus Clouds:
    - High level clouds
    - Appear as white patches of small cells or _____
    - Made of ice crystals
- Altostratus Clouds:
    - Mid level clouds
    - Precedes _____
    - Sun seen as if shining through glazed glass
- Altocumulus:
    - Mid level clouds
    - Rounded Masses or parallel bands
- Stratus Clouds:
    - Low level clouds
    - Frequently covers most of the sky and may produce light _____

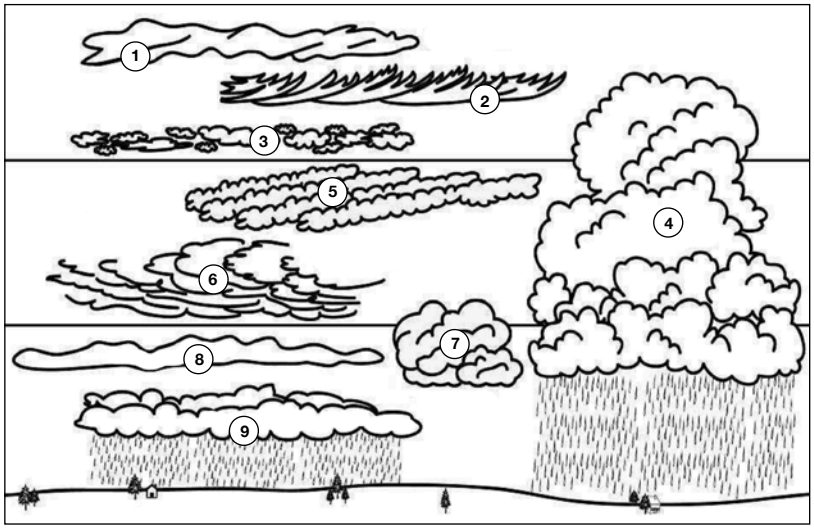
Atmosphere and Clouds

- Stratocumulus Clouds:
    - Low level clouds
    - May appear as _____ masses with breaks of clear sky
- Nimbostratus Clouds:
    - Low level clouds
    - _____ and _____ clouds with no Sun
    - Accompanied by _____
- Cumulus Clouds:
    - Vertically developed
    - Form on clear days when unequal surface heating
    - Appear as _____
- Cumulonimbus Clouds:
    - Vertically developed
    - Source of _____, _____ and _____
    - Exist as individual towers, or a line of towers and spread out like an _____

High Level

Mid Level

Low Level



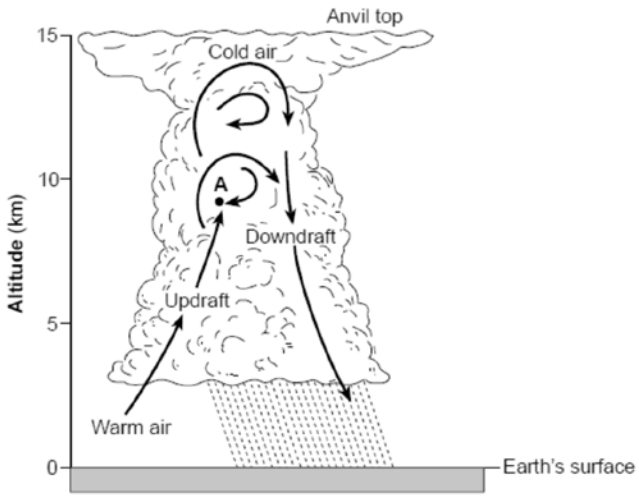
Name the Cloud:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Atmosphere and Clouds

PART I QUESTIONS: MULTIPLE CHOICE

Base your answer to the question on the diagram below and on your knowledge of Earth science. The arrows in the diagram show air movement in a thunderstorm cloud. Point *A* is a location in the atmosphere.



1. The updrafts and downdrafts represented within this cloud are primarily caused by differences in
    a. altitude above sea level
    b. air density
    c. relative humidity
    d. specific heat

2. Which layer of the atmosphere does the top on the anvil reach?
    a. Troposphere
    b. Stratosphere
    c. Mesosphere
    d. Thermosphere

3. What is the approximate temperature at point A?
    a. -90° C
    b. -45° C
    c. 0° C
    d. 15° C

4. What type of cloud does is shown in the diagram?
    a. Stratus
    b. Cumulous
    c. Cumulonimbus
    d. Cirrus