

## ***Intro to Earth Science and Mapping***

*Intro (Ch 1); Mapping (Ch 3)*



1. Name and define the 4 branches of **Earth Science**.
2. What is the **scientific method**? Steps?
3. Difference between an **observation** and an **inference**?
4. Define **latitude**:
5. Define **longitude**:
6. Where is the **equator**? the **prime meridian**?
7. Define **scale**. How is scale shown on a map?
8. What is **topography**? What is a **topographic map**? Know these terms: **contour**, **contour interval**, **MSL**, **relief**, **legend**.
9. What does it mean when contour lines are close together? far apart?

## ***Meteorology***

*The Atmosphere (Ch 22); Water in the Atmosphere (Ch 23); Weather (Ch 24)*

10. Why do we have seasons?

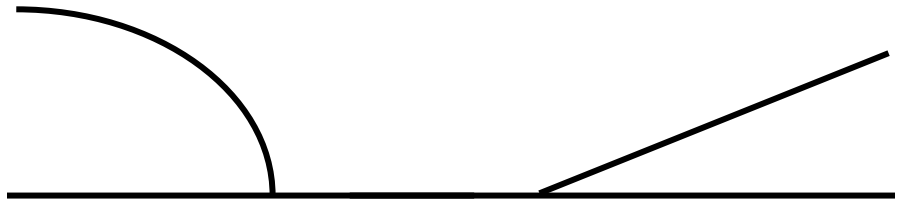
### **11. Seasons**

<i>Name of Season (1<sup>st</sup> day)</i>	<i>Date</i>	<i>Rays are vertical or direct</i>
Summer Solstice		

12. When is Earth closest to the SUN? \_\_\_\_\_
13. Define **Radiation**, **conduction**, **convection**

14. Why do we have **weather**?
15. List 3 reasons why the earth is heated unevenly:
16. What is the **greenhouse effect**? Is it a good or bad thing? Explain
17. Name two greenhouse gas (hint: burning fossil fuels and H<sub>2</sub>O)
18. Composition of the atmosphere from highest percentage to lowest?
19. Name the 4 layers of the atmosphere from earth's surface to the top.
20. What do we use to define these layers?
21. How and why does temperature change in each of these layers
22. What is **ozone**? Where is it found? Why important?
23. What is atmospheric pressure? Why do we have it? How do we measure it?
24. Warm air \_\_\_\_\_ = \_\_\_\_\_ pressure = \_\_\_\_\_ weather.
25. Cool air \_\_\_\_\_ = \_\_\_\_\_ pressure = \_\_\_\_\_ weather
26. Explain how a **sea breeze** during the day can change to a **land breeze** at night?
27. How are winds named? Locate by latitude the **trade winds** and **westerlies**.
28. What is the **Coriolis Effect**? Why do we have it? How are winds and ocean currents affected?

29. What is the **water cycle**? *Evaporation, condensation, precipitation, runoff, ground water?*
30. Define **relative humidity**.
31. Explain the relationship between **air temp** and **capacity** to hold water vapor.
32. What is **dew point**? Explain what the temperature-dew point spread tells us.
33. What are the 3 requirements for clouds to form? Forms of clouds...**stratus, cumulus, cirrus, nimbo**?
34. What is an **adiabatic** change?
35. How does **radiation fog** occur?
36. **Hail** is associated with what type of cloud?
37. What is an **air mass**? Describe **mT, mP, cT, cP**
38. What is a **front**? Label and describe (clouds, air masses) the profile of a **cold front** and a **warm front**.



39. What is an **isobar**? How does wind circulate around a **cyclone** and **anticyclone**?

## **Oceanography**

*Ocean Basins (Ch19.1/19.2); Ocean Water (Ch 20); Ocean Motion (Ch 21)*



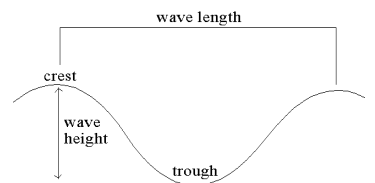
40. Name the 5 oceans.
41. Describe how scientists explore the oceans and map the ocean floor
42. Describe the main features of the **continental margins** and the **ocean floor**

43. Describe the chemical properties of ocean water; composition and structure of water molecule
  
44. Describe the physical properties of ocean water: **temperature**, **salinity**, density, pressure, color
  
45. Explain the two major controls on ocean salinity
  
46. Explain how temperature and salinity affect density
47. Explain how global wind patterns affect surface currents.
48. What is the difference between surface and deep currents
49. Explain how **coriolis** affects the flow of surface currents
50. Explain the pattern in ocean surface currents
  
51. Explain the important role **currents** play in the “unequal heating of Earth’s surface”
52. Explain why the moon goes through phases. Name the phases



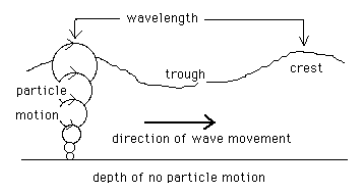
53. Explain when and why eclipses occur. Draw the positions of the Sun, Earth and Moon for a **solar eclipse** and a **lunar eclipse**.

54. Describe the formation of waves and the factors that affect their size



55. Describe the motion of water in a wave

56. Describe the forces that cause tides and that affect tidal patterns



57. What and when (which phase of the moon?) are **spring tides** and **neap tides**?

PLUS... **Layers of the Earth** and **Continental Drift** from our most recent test