

## Assignment #1

name:

### El Nino

There are over 40 assignments in this course. Go to <http://formontana.net> and then click on picture # 25. Look at the image and read the explanation below the image.

1. According to the information provided above the map, how many strong El Nino events were there from 1895 to 1997?
2. What have the winters been like during El Nino years for those places that are shown in brown?
3. What three states tend to be drier than normal during El Nino winters?
4. What state tends to be wetter than normal during those years?
5. Why do storms tend to miss Montana during strong El Nino winters?
6. Select the Hot Link titled "El Nino Demonstration". Read through the description/explanation. What does the box of water represent? Be specific.
7. Why would you expect the water near the surface to be warmer? Think about what causes the water near the surface in a lake to be warmer than the deeper water during the summer.
8. In normal years (not El Nino) what causes the warm surface water near Peru to move toward Indonesia?
9. Why is the fishing so good in Peru during normal years?
10. List two things that would be different in Peru during a strong El Nino year?

## Warm Air and Cold Air

Go to <http://formontana.net> and then click on picture # 104. Look at the image, watch the short video (there is no sound or narration), and read the explanation below the image.

11. Watch both short videos. How is ice in the cave south of Lewistown (Big Snowy Mountains) different from ice in the cave located in the Pryor Mountains? Describe two differences.
  
12. What must be true of a cave in order for it to earn the right to be called an “ice cave”?
  
13. Cold air enters the cave during the winter. Why does cold air tend to sink to the lowest place?
  
14. What is it about the shape of an ice cave that does not let the cold air escape, even during the summer?
  
15. Why do “freezer chests” use less electricity to keep food cold than other types of freezer compartments?
  
16. Why might the really bad road to Big Ice Cave actually be a “good thing”?

### **NOTE**

Remember, you need to score at least 85% on each assignment to get credit for it. If your score is less than 85% on any assignment, you will have to make corrections (“Fix it”), and then turn it back in.