Worksheet
Flour vs. Bread:
How Soil Aggregate Structure Influences Water Flows

Flour and Water

1. When rainwater runs off the land, where does the water go?

2. If soil erodes, and the particles get washed away, where do the particles end up?

3. Why do you think the "soil" moved with the flow of water?

4. What would need to be different in order for the particles to stay in place?

5. What would need to be different in order for the water to soak in to the flour?

Bread and Water

6. Why do you think the water entered the "soil" (bread) more easily this time?

7. Why do you think the "soil" stayed put this time?

8. What is different with the structure of the particles?

9. If you compare the bread and the flour, which one reminds you more of living tissue (such as that found in an animal or plant)? In what ways is it similar?

Comparing Flour and Bread

10. If you lived in a place where it rained a lot every year, and there was a lot of flooding, which kind of landscape would you rather have around your house, the flour or the bread? Why?

11. Let's say you lived in area where it only rained a few inches every year, and you were trying to grow food, which kind of land would you want to be farming on, the flour or the bread? Why?

12. What if you got your water from a well? Which would fill the well better? Why?

13. What if you lived somewhere very hot and dry, would the bread or flour hold water better without it evaporating? Why?

14. What if you lived somewhere VERY windy—like the prairie was during the dust storms—what kind of land would you want around you, the flour or the bread? Why?

15. What if you lived somewhere prone to earthquakes, and you were trying to build roads and bridges and railroad tracks? Would you rather be building them on the flour or the bread? Why?

16. What if you were a fish in a lake, and people were using chemicals that were poisonous to you on the farms that surrounded the lake, would those chemicals be more likely to be filtered out through the flour or the bread? Why?

17. If the water or soil became polluted with something hazardous, which landscape would be more likely to clean the water before it reached a well, stream or lake? Why?

18. Is there any situation where you think the flour would be better? Why?

Outdoors:

If soil that is like flour is all the way on the left, and soil that is like bread is all the way on the right, write down each place you tried "raining" on, somewhere along the following scale:

More Like Flour More Like Bread