Geol 101 Field Trip: Fall 2007

Name: _____
Favorite rock: _____

Stop 1: Palouse Hills Overlook

What are the four main elements of the geology? (from oldest to youngest)

1.

2.

3.

4.

Draw a geologic cross section view across the Palouse region:

Stop 2: Granite Point

Identify the type of rock that makes up Granite Point: _____

What minerals do you see (at least three)? _____

Did this rock form at the Earth's surface? If not, how did it get here? _____

_____

What type of boundary or **contact** exists between the Columbia River basalt and the underlying rocks? _____

What do we call the ancient soil horizon along this boundary? _____

What does this ancient soil horizon tell us about what was happening here 16 million years ago?

_____

Stop 3: Basalt, basalt everywhere!

What does the layering of the basalt across the river indicate?

_____

The boundary between lava flows is marked by basalt with lots of gas bubble holes in it. What do we call this type of basalt? _____

What other type of feature is visible in the lava flow? _____

What does this feature tell us about the environment in which these basalts were extruded? _____

Stop 4: Somethin' funky is goin' on here!

What do we call basalt with lots of vertical fractures in it? _____

How do these fractures form? _____

What other type of geologic feature forms in a similar way? _____

What has happened to the basalt lava flows along the Snake River here that is different to further downstream? _____
_____

What do we call this type of structure? _____

When must have the Lewiston fold have formed? _____

Stop 5: Whence the mysterious white layer??

What is the white layer exposed across the gulch? _____

How was the white layer produced and when did this happen? _____

_____

LUNCH BREAK

Stop 6: Lewiston is goin' DOWN!!

What evidence is there to indicate that there is a landslide across the river?

_____

What do we call this type of landslide? _____

Stop 7: The Riddle of the Snake River Island

What evidence supports the idea that the island in the Snake River was formed by an unusually large flood? _____

_____

What was this flood called? _____

When did the flood occur? _____

Why did the flood occur? _____

When did the Missoula flood occur? _____

What caused the Missoula flood? _____

_____

What was unusual about the Missoula flood water when it flowed along this canyon?

_____

Stop 8: Anyone got an ark?

What deposited these sediments way above the river valley? _____

What type of sediment is it (look at the grain size)? _____

What type of sedimentary structures can you see? _____

How can we tell that the Missoula flood must have happened AFTER the Bonneville flood? _____

Stop 9: Once upon a time….

Describe the geological development of this region, from oldest to youngest events.

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Let's head on home!