

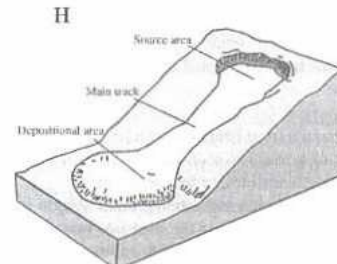
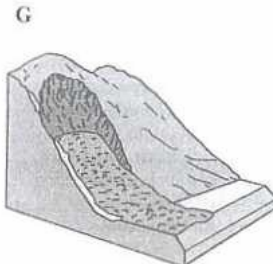
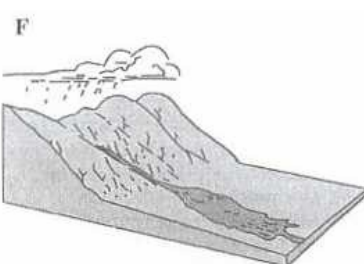
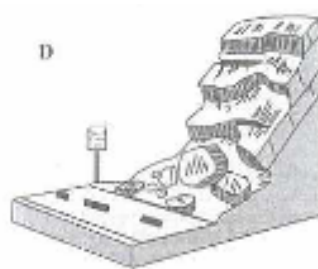
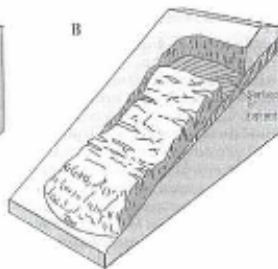
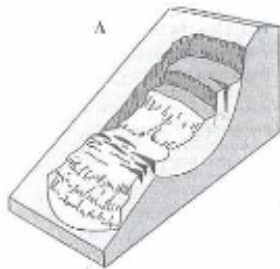
1. A basic law of Geomorphology is “Whatever the Earth builds up, the Earth destroys. What does this mean (5pts)?
2. _____ is downhill movement of masses of bedrock, rock debris or soil, driven by the pull of _____.
3. _____ have been far more costly in the U.S., in terms of both lives and dollars, than all other geologic and weather hazards combined.
4. Mass wasting is, with proper planning, perhaps the most easily _____ of all major geologic hazards.
5. The types of mass wasting are based on what three factors?

- a.
- b.
- c.

6. Name the situation that would cause a mass wasting episode based on the following contributing factors:

- a. Slope angle
- b. Local relief
- c. Thickness of soil over bedrock
- d. Orientation of planes of weakness in bedrock
- e. Ice in ground
- f. Water in soil or debris
- g. Precipitation
- h. Vegetation

7. Label the following images with the type of mass wasting depicted.



8. _____ is the slowest-moving form of mass wasting. Major contributing factors include water in soil and daily freeze-thaw cycles.

9. Name three types of damage caused by the mass wasting named in number 8 (3pts).

- a.
- b.
- c.

10. Match the type of mass wasting with its correct definition.

_____ Debris flow	a. Earth moves downslope as a viscous fluid. Slow or rapid.
_____ Mudflow	b. A very rapidly moving, turbulent mass of broken-up bedrock.
_____ Debris avalanche	c. Very slow, downslope movement of soil. A few centimeters per year.
_____ Rockfall	d. The descending mass moves along a plane parallel to the slope.
_____ Rockslide	e. A flow involving soil in which coarse materials (gravel, boulders) move.
_____ Rock avalanche	f. A flowing mixture of soil (sand, silt, clay) and water moving downslope.
_____ Creep	g. The descending mass moves along a curved surface (slump).
_____ Rotational Slide	h. A very rapidly moving, turbulent mass of debris, air, and water.
_____ Transitional Slide	i. The rapid sliding of a mass of bedrock along a plane of weakness.
_____ Earthflow	j. A block of bedrock breaks off and falls freely through the air.

11. _____ is the flow of water-saturated soil over impermeable material.

12. Case Study. Answer the following questions in regards to the “Disaster in the Andes” Landslide (10 pts).

- a. When did the landslide happen?
- b. What was the most probable cause?
- c. What triggered the landslide?
- d. Approximately how much material moved?
- e. How far did the debris travel?
- f. How fast did the debris move?
- g. What three cities were buried?
- h. How many people died in the landslide?
- i. Was this the first landslide to strike this area?
- j. How can Geology aid in preventing another disaster such as this one?

13. What type of mass wasting episode destroyed the “Old Man of the Mountain” in New Hampshire?

14. Name three different ways to prevent mass wasting from occurring (3pts).

- a. _____
- b. _____
- c. _____

15. How is mass wasting different from erosion (5pts)?

16. What control does the size of the material have on mass wasting (5pts)?

17. Explain the effect of water on mass movement (5pts).

18. How has our understanding of mass wasting been used to interpret the landscapes of Mars (5pts)?

19. How does human activity promote mass wasting events (5pts)?

20. Why isn't the land surface of Earth flat after millions of years of erosion and mass wasting (5pts)?