

Geology 171 – Earth Science

Exam 3 study guide

You should do fine on Exam 3 if you study factual information on the following:

biggest source of fresh liquid water on Earth.

what the term “base level” means.

three ways to move sediment in a stream.

two main controls on stream erosion, transportation, and deposition.

processes in and features formed from meandering streams.

facts about the four types of streams (mountain, braided, meandering, rejuvenated).

difference between porosity and permeability.

why streams continue to flow even during times of draught.

definition of zones of aeration & saturation; flow direction of water in zones of aeration & saturation.

impact of a pumping well on the water table, controls on shapes of cones of depression.

how the water table elevation is measured, contoured, & used to determine groundwater flow direction.

Darcy’s Law and what each variable means.

three controls on wave height, length, & period.

motion of water inside a wave and its variation with depth, concept of wave base.

headland erosion; landforms characteristic of headland erosion.

concept of longshore drift and why a beach is a “river of sand.”

what defines the limits of the “river of sand.”

landforms resulting from longshore drift.

why beach sediment is so well sorted.

how a beach responds to human-built beach structures (e.g. jetties, groins, breakwaters).

the two principal glacial erosion mechanisms.

movement of the glacial front and why it occurs.

various types of moraines and how each forms.

alpine and continental glacial landforms and how they originate (if known).

facts about the Pleistocene “Ice Age” (e.g. Wisconsinan advance, center of accumulation)

five most abundant gases in the Earth’s atmosphere and the structure of their molecules.

basic understanding of Kinetic theory of gases.

what happens to air pressure when: a container is expanded, compressed, heated or cooled.

relationship between air pressure and altitude.

what causes wind on Earth.

coriolis effect on winds in both hemispheres.

air flow patterns on Earth, our best “cell” model, facts about Hadley cells.

names we assign to each prevailing wind.