

Latitude & Longitude, ability to read & understand bathymetric charts

Boundary between oceanic & continental crust: 2 types of locations & characteristics

2 types of continental margins, properties, & how they originate

Submarine canyons, location & origin

Differences between seamounts, guyots, abyssal hills

Difference between mid-ocean ridges & rises & explanation

Size classes of sediments & their significance

3 major types of sediments by source: origins & basic characteristics of each, examples of each, processes controlling global distributions of each with depth & distance from shore

Interpretation of a sediment core to explain history of the sea floor from which it was taken

How we classify basalt, granite, andesite: identifying criteria, what they represent, & how they are used to assign rocks to classifications

Layers of the Earth and basic properties

How we know properties of subsurface layers

Relationships among lithosphere, crust types, mantle layers

3 types of plate boundaries, properties, & how they originate

Association of earthquakes & volcanism with types of plate boundaries & continental margins, & explanations

Volcanism in rift valleys: origin, properties, sediments created

Stages in coral reef progression & explanation

Relationship & differences between transform fault, fracture zone, rift valley

Explain isostasy and its significance

Several lines of evidence that helped develop & confirm the plate tectonic theory

3 types of subduction zones & their properties & differences

Plates: N. American, S. American, Eurasian, African, Indian/Australian, Juan de Fuca, Gorda, Pacific, Cocos, Farallon

Ridges & rises: Mid-Atlantic, E. Pacific, Juan de Fuca, Gorda, Mid-Indian/Carlsberg

Origin of Atlantic Ocean

Origin of Baja California & San Andreas Fault

Presence of trench/rise along Washington coast & explanation

Properties of Northwest volcanoes as representatives of a certain type of volcanoes (type of rock & origin of this type of rock, cause of volcanism, explosiveness or lack & why)

Properties of Hawaiian volcanoes as representatives of a certain type of volcanoes (type of rock & origin of this type of rock, cause of volcanism, explosiveness or lack & why)

3 types of Northwest quakes & their characteristics (depth, potential magnitude, causes, locations & relationships to plates)

Multiple types of evidence for past quakes & tsunamis in Puget Sound region

Multiple types of evidence for past quakes & tsunamis in Washington coastal region

Relative danger of coastal & Puget Sound quakes & reasons for differences

Origin of today's tectonic situation on U.S. West Coast

Generic causes of tsunami

Examples & descriptions of landslide-caused tsunami

Indian Ocean tsunami: cause, relationships to plates

Causes of tsunami in Puget Sound & Washington coastal region

Wave properties of tsunami: length, height, period, speed

Factors affecting tsunami height offshore & onshore

Factors controlling tsunami speed (simple calculation, formula & coefficient provided)

Technology & procedures used for detecting tsunami & sending warnings

Vocabulary (not included above)

Abyssal plain

Asthenosphere

Calcareous

Calcium carbonate

Carbon dating

Cascadia

Celerity

Coccolithoporids

Continental slope & rise

Convection cells

Diatoms

Fault

Foraminifera

Hot spot

Hydrothermal metallic sulfides

Hydrothermal vents

Lahar

Lava

Magma

Magnetic reversals/stripping

Manganese nodules

Moho

Ooze

Pangaea

Pteropod

Radiolaria

Rift valley

Seismic

Shallow-water wave

Shield volcano

Siliceous

Snow line

Stratovolcano

Strike-slip

Subsidence

Transform fault

Trench

Turbidity current

Uplift