

SUPER QUIZ™
AN INTRODUCTION
TO GEOLOGY

I. UNDERSTANDING THE EARTH SYSTEM35%

A. BASIC PRINCIPLES OF GEOLOGY

- 1. The Scientific Method and Geological Principles
- 2. Planetary Origins and Plate Tectonics as a Unifying Theory

B. BUILDING A PLANET

- 1. Formation of Rocks
 - a. *Minerals, building blocks of rocks*
 - b. *Rocks and geological processes: rock types and the rock cycle*
 - c. *Igneous rocks and volcanism: solids from melts*
 - d. *Weathering and erosion*
 - e. *Sediments and sedimentary rocks*
 - f. *Metamorphic rocks*
- 2. The rock record and the geological time scale
 - a. *The age of the Earth*
 - b. *Using relative dating to reconstruct geologic history*
 - c. *Radiometric dating*

II. PROCESSES ON THE SURFACE OF THE EARTH35%

A. THE IMPORTANCE OF WATER

- 1. The Hydrologic Cycle and Groundwater
 - a. *Hydrology and climate*
 - b. *Groundwater and water sources from aquifers*
 - c. *Water quality*
- 2. Rivers: Transport to the Oceans
 - a. *Flow of streams and transport of sediment*
 - b. *Stream erosion, channels, and floodplains*

c. *Deltas*

3. The Oceans

a. *The edge of the sea: waves, tides, and shorelines*

b. *Sensing the floor of the ocean*

c. *Differences in the geology of oceans and continents*

B. WIND AND GRAVITY

1. Mass Wasting

a. *The origins of mass movements*

2. Winds and Deserts

a. *Wind as an agent of erosion*

b. *Case study: the Dust Bowl*

III. EARTH'S INTERNAL PROCESSES 15%

A. PLATE TECTONICS: THE UNIFYING THEORY

1. From Controversial Hypothesis to Accepted Theory

2. The Driving Mechanism of Plate Tectonics

3. Plate Reconstruction and Assembly

IV. THE EARTH AND ITS RESOURCES 15%

A. MINERALS AND ENERGY RESOURCES

1. Earth's Energy Resources

a. *Resources and reserves*

2. Minerals from the Earth

a. *Minerals as economic resources*

b. *Ore deposits and plate tectonics*

B. GLOBAL CHANGE

1. Earth Systems and Cycles

a. *Human activity and global change*