1. **Earth Systems and Resources (10%–15%)**
   1. Earth Science Concepts (Geologic time scale; plate tectonics, earthquakes, volcanism; seasons; solar intensity and latitude)
   2. The Atmosphere (Composition; structure; weather and climate; atmospheric circulation and the Coriolis effect; atmosphere-ocean interactions; ENSO)
   3. Global Water Resources and Use (Freshwater/saltwater; ocean circulation; agricultural, industrial, and domestic use; surface and groundwater issues; global problems; conservation)
   4. Soil and Soil Dynamics (Rock cycle; formation; composition; physical and chemical properties; main soil types; erosion and other soil problems; soil conservation)
2. **The Living World (10%–15%)**
   1. Ecosystem Structure (Biological populations and communities; ecological niches; interactions among species; keystone species; species diversity and edge effects; major terrestrial and aquatic biomes)
   2. Energy Flow (Photosynthesis and cellular respiration; food webs and trophic levels; ecological pyramids)
   3. Ecosystem Diversity (Biodiversity; natural selection; evolution; ecosystem services)
   4. Natural Ecosystem Change (Climate shifts; species movement; ecological succession)
   5. Natural Biogeochemical Cycles (Carbon, nitrogen, phosphorus, sulfur, water, conservation of matter)
3. **Population (10%–15%)**
   1. Population Biology Concepts (Population ecology; carrying capacity; reproductive strategies; survivorship)
   2. Human Population
4. **Land and Water Use (10%–15%)**
   1. Agriculture
   2. Forestry (Tree plantations; old growth forests; forest fires; forest management; national forests)
   3. Rangelands(Overgrazing; deforestation; desertification; rangeland management; federal rangelands)
   4. Other Land Use
   5. Mining (Mineral formation; extraction; global reserves; relevant laws and treaties)
   6. Fishing (Fishing techniques; overfishing; aquaculture; relevant laws and treaties)
   7. Global Economics (Globalization; World Bank; Tragedy of the Commons; relevant laws and treaties)
5. **Energy Resources and Consumption (10%–15%)**
   1. Energy Concepts (Energy forms; power; units; conversions; Laws of Thermodynamics)
   2. Energy Consumption
   3. Fossil Fuel Resources and Use (Formation of coal, oil, and natural gas; extraction/purification methods; world reserves and global demand; synfuels; environmental advantages/disadvantages of sources)
   4. Nuclear Energy (Nuclear fission process; nuclear fuel; electricity production; nuclear reactor types; environmental advantages/disadvantages; safety issues; radiation and human health; radioactive wastes; nuclear fusion)
   5. Hydroelectric Power (Dams; flood control; salmon; silting; other impacts)
   6. Energy Conservation (Energy efficiency; CAFE standards; hybrid electric vehicles; mass transit)
   7. Renewable Energy (Solar energy; solar electricity; hydrogen fuel cells; biomass; wind energy; small-scale hydroelectric; ocean waves and tidal energy; geothermal; environmental advantages/disadvantages)
6. **Pollution (25%–30%)**
   1. Pollution Types
   2. Impacts on the Environment and Human Health
   3. Economic Impacts (Cost-benefit analysis; externalities; marginal costs; sustainability)
7. **Global Change (10%–15%)**
   1. Stratospheric Ozone (Formation of stratospheric ozone; ultraviolet radiation; causes of ozone depletion; effects of ozone depletion; strategies for reducing ozone depletion; relevant laws and treaties)
   2. Global Warming (Greenhouse gases and the greenhouse effect; impacts and consequences of global warming; reducing climate change; relevant laws and treaties)
   3. Loss of Biodiversity