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GSM 1: Earth Science
Sample Syllabus (Flexible Learning)

This three-unit course deals with the fundamentals of Earth science and physical geology. Geologic processes such as rock formation, minerals and soil, weathering, erosion and mass movement, seismology, volcanism, and plate tectonics will be emphasised. Issues concerning the importance, exploration, use, and conservation of mineral resources will also be dealt with.

Desired Learning Outcomes	Course Content	Outcomes-Based Teaching and Learning	Assessment of Learning Outcomes
By the end of this unit, the students must be able to: 1. differentiate rocks from minerals based on set criteria; 2. explain the properties of minerals and the different mineral groups; 3. argue for or against the practices of mineral ore mining in the Philippines and its impact on sustainable development; 4. demonstrate the rock formation and transformation processes through multimedia and traditional instructional materials; and 5. identify rock samples based on the three basic rock groups.	**Earth Materials** A. Minerals 1. Major Mineral Groups 2. Mineral Identification B. Rock Cycle C. Igneous Rocks 1. Igneous Textures 2. Naming Igneous Rocks D. Sedimentary Rocks 1. Types of Sedimentary Rocks 2. Sedimentary Features E. Metamorphic Rocks 1. Agents of Metamorphism 2. Textural and Mineralogical Changes 3. Common Metamorphic Rocks	Video and picture analysis on the major mineral groups and mineral identification Graphical analysis of the rock cycle Interactive simulations of the rock formation and transformation processes Poster on renewable and nonrenewable energy sources in the Philippines Debate paper on the importance and practices of mineral ore mining in the Philippines and its impact on sustainable development Independent reading tasks (module-based online and printed resources) Interactive online discussions (synchronous and asynchronous)	Multimodal Model for Online Education Self-paced modules Local mineral and rock identification authentic assessment Portfolio on the common minerals and rocks in the Philippines and their industrial uses Schematic diagram of the rock cycle Graphic organisers Debate papers and essays Research papers Online Learning Model Online or printed assessments Online group discussions Online Collaborative Learning

Multimodal Model for Online Education
Online Collaborative Learning through Google Classroom and Meet

*Data privacy protocols and remote learning etiquette are laid out at the start of class, through a post in Google Classroom.