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Nota di contenuto	Cover; Contents; Preface; Acknowledgements; 1Introduction; 2Materials and the materials cycle; 2.1 Natural resources; 2.2 Materials, goods and services; 2.3 The material groups; 2.3.1 Biomass; 2.3.2 Plastics; 2.3.3 Metals and alloys; 2.3.4 Silicates and other inorganic compounds; 2.4 The materials cycle; 2.5 The recyclability of materials; 2.6 Quantifying the materials cycle; 2.6.1 Materials and energy balances; 2.6.2 Material flow analysis; 2.7 References; 2.8 Useful sources of information; 3An introduction to Earth; 3.1 The crust; 3.2 The hydrosphere and biosphere; 3.2.1 Life on Earth 3.2.2 The Earth's biomes3.2.3 Ecosystem services; 3.3 Some implications of the basic laws of science; 3.3.1 Thermal energy flows to the biosphere and hydrosphere; 3.3.2 The greenhouse effect; 3.3.3 The Sun as driver of both change and order; 3.4 The biogeochemical cycles; 3.4.1 The carbon and oxygen cycles; 3.4.2 The water cycle; 3.4.3 The nitrogen cycle; 3.4.4 The phosphorus cycle; 3.4.5 The sulfur cycle; 3.5

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4.1.3 The tragedy of the commons4.2 A brief history of the idea of sustainability; 4.2.1 The rising public awareness; 4.2.2 International developments; 4.2.3 Corporate developments; 4.3 The concepts of sustainable development and sustainability; 4.3.1 Alternative definitions of sustainability; 4.3.2 Interpretations of sustainability; 4.3.3 Responses to the challenge of sustainability; 4.4 Sustainability frameworks; 4.4.1 Triple bottom line; 4.4.2 Eco-efficiency; 4.4.3 The Natural Step; 4.4.4 Natural Capitalism; 4.4.5 Biomimicry; 4.4.6 The five capitals model
4.4.7 Green chemistry and green engineering4.4.8 Putting the frameworks into context; 4.5 A model of sustainability; 4.6 References; 4.7 Useful sources of information; 5Mineral resources; 5.1 Formation of the Earth; 5.2 The geological time scale; 5.3 Formation of the crust; 5.3.1 Continental crust; 5.3.2 Oceanic crust; 5.3.3 The distribution of elements; 5.4 Minerals and rocks; 5.4.1 Mineral classes; 5.4.2 Rock classes; 5.4.3 The rock cycle; 5.5 Mineral deposits; 5.5.1 Formation of mineral deposits; 5.5.2 Common forms of mineral deposits
5.5.3 The distribution of base and precious metal deposits5.6 Resources and reserves; 5.7 Extracting value from the crust; 5.7.1 Physical separation; 5.7.2 Chemical separation; 5.7.3 The effect of breakage on the surface area of materials; 5.7.4 By-products and co-products; 5.7.5 The efficiency of extraction; 5.8 References; 5.9 Useful sources of information; 6The minerals industry; 6.1 Mineral commodities; 6.1.1 Traded commodities; 6.1.2 Mineral commodity statistics; 6.1.3 Reserves and resources of mineral commodities; 6.2 How mineral commodities are traded; 6.2.1 Mineral and metal markets
6.2.2 The complexities of trading mineral commodities

Sommario/riassunto

Examines the role of minerals in modern society and the implications of sustainable development for the minerals industry.
