

Table 4.2

Overall Perspectives of Natural Sciences, Social Sciences, and Humanities
Disciplines Stated in General Terms

Discipline	Overall Perspective
Natural Sciences	
Biology	While the other natural sciences focus on the principles that govern the nonliving physical world, biology studies the behavior of the living physical world. When biologists venture into the world of humans, they look for physical, deterministic explanations of behavior (such as genes and evolution) rather than the mental ones (such as the decisions of individuals or groups based on free will or norms) on which the social sciences focus.
Chemistry	Chemistry focuses on the distinctive properties of the elements, individually and in compounds, and their interactions. Chemistry sees larger-scale objects, organic as well as inorganic, in terms of their constituent elements and compounds.
Earth Science	Earth science focuses on the large-scale physical processes of planet Earth and is concerned with both the details and functions of the four subsystems and their interactions: the lithosphere (the Earth's hard, outermost shell), the atmosphere (the mixture of gases that envelop the Earth), the hydrosphere (the subsystems that contain the Earth's water), and the biosphere (the realm of all living things, including humans).
Mathematics	Mathematics is interested in abstract quantitative worlds mathematicians create with postulates, assumptions, axioms, and premises and then explore by proving theorems.

Table 4.2 (Continued)

Discipline	Overall Perspective
Music and Music Education	Music educators believe that a critical component of culture past and present cannot be adequately understood without understanding the music produced by the culture.
Philosophy	Philosophy recognizes a variety of limits to human perceptual and cognitive capabilities. Philosophy views reality as situational and perspectival. Reality is not a collection of imperfect representations that reflect an "absolute reality" that transcends all particular situations. Rather, these representations are the reality that is the world.
Religious Studies	Religious studies views faith and faith traditions as human attempts to understand the significance of reality and cope with its vicissitudes through beliefs in a sacred realm beyond everyday life.

Discipline	Overall Perspective
Physics	Physics studies the basic physical laws connecting objects (atoms and subatomic particles, quanta) and forces (gravity, electromagnetic, strong, weak) that often cannot be directly observed but that establish the underlying structure of observable reality, and cosmology (the form, content, organization, and evolution of the universe).
Social Sciences	
Anthropology	Cultural anthropology sees individual cultures as organic integrated wholes with their own internal logic and culture as the set of symbols, rituals, and beliefs through which a society gives meaning to daily life. Physical anthropology seeks to understand former cultures through the artifacts it uncovers.
Economics	Economics emphasizes the study of market interactions, with the individual functioning as a separate, autonomous, rational entity, and perceives groups (even societies) as nothing more than the sum of individuals within them.
Political Science	Political science views the world as a political arena in which individuals and groups make decisions based on the search for or exercise of power. Politics at all levels and in all cultures is viewed as a perpetual struggle over whose values, not just whose interests, will prevail in setting priorities and making collective choices.
Psychology	Psychology sees human behavior as reflecting the cognitive constructs individuals develop to organize their mental activity. Psychologists also study inherent mental mechanisms, both genetic predisposition and individual differences.
Sociology	Sociology views the world as a social reality that includes the range and nature of the relationships that exist between people in any given society. Sociology is particularly interested in voices of various subcultures, analysis of institutions, and how bureaucracies and vested interests shape life.
Humanities	
Art and Art History	Art history views art in all of its forms as reflecting the culture in which it was formed and therefore providing a window into a culture. Art, and thus art history, has a place for universal aesthetic tastes.
History	Historians believe that any historical period cannot be adequately appreciated without understanding the trends and developments leading up to it, that historical events are the result of both societal forces and individual decisions, and that a picture or narrative of the past can be no better than the richness of its details.
Literature (English)	Literature believes that cultures, past and present, cannot be adequately understood without understanding and appreciating the literature produced by the culture.

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Table 4.3 Disciplines and Their Illustrative Phenomena

Category	Discipline	Phenomena
The Natural Sciences	Biology	Biological taxonomies of species; the nature, interrelationships, and evolution of living organisms; health; nutrition; disease; fertility
	Chemistry	The periodic table of chemical elements that are the building blocks of matter—their composition, properties, and reactions
	Earth Science	Planet Earth's geologic history, processes, and structures; soil types; topography and land forms; climate patterns; resource availability; water availability; natural disasters
	Mathematics	The logic of numbers, statistics, mathematical modeling, computer simulations, theoretical counterpoint to sensitivity analysis
	Physics	Subatomic particles, the nature of matter and energy and their interactions
The Social Sciences	Anthropology	The origins of humanity, the dynamics of cultures worldwide
	Economics	The economy: total output (price level, unemployment, individual goods and services), income distribution, economic ideology, economic institutions (ownership, production, exchange, trade, finance, labor relations, organizations), the impact of economic policies on individuals
	Political Science	The nature and practice of systems of government and of individuals and groups pursuing power within those systems
	Psychology	The nature of human behavior as well as the internal (psychosociological) and external (environmental) factors that affect this behavior
	Sociology	The social nature of societies and of human interactions within them
The Humanities	Art and Art History	Nonreproducible art—painting, sculpture, architecture, prose, poetry—and reproducible art— theater, film, photography, music, dance

Category	Discipline	Phenomena
	History	The people, events, and movements of human civilizations past and present
	Literature	Development and examination (i.e., both traditional literary analysis and theory as well as more contemporary culture-based contextualism and critique) of creative works of the written word
	Music and Music Education	Development, performance, and examination (i.e., both traditional musicological analysis and theory as well as more contemporary culture-based contextualism and critique) of creative works of sound
	Philosophy	The search for wisdom through contemplation and reason using abstract thought
	Religious Studies	The phenomena of humans as religious beings and the manifestations of religious belief such as symbols, institutions, doctrines, and practices