

## DISCIPLINES CHART

Discipline Name	A person who studies this discipline is called a/an	If I was a/an _____, I would study...	What questions would I ask?	What resources do I need to use? What do I need to research?	The evidence I would collect includes...	Disciplines that help me are...
Agriculture	Agriculturalists/ Agricultural Scientists	...farming and work to increase productivity and improve crop quality.	When and where did agriculture farming begin? How did agriculture change human development? How does the availability or lack of food crops contribute to the growth or fall of a civilization? How did agriculture increase collective learning?	Domesticated animals Fertilizers/Pesticides Tractors/Mechanical Reapers, etc. Historical climate data Irrigation systems	Soil types/samples Weather forecasts/history Ecosystem health Crop development Plant germination	Archaeology Anthropology Biology Mathematics Chemistry Physics Genetics Soil science
Anthropology	Anthropologist	...human language, culture, and societies all around the world and throughout time.	When, where, and how did humans evolve? How do people adapt to different environments? How have societies developed and changed from the past to the present?	Observations Primary and secondary sources Artifacts; i.e. tools, foods, clothing, etc.	Bones, fossils Human remains and artifacts First observations of living individuals and groups Written accounts of events and interpretations.	Sociology Linguistics Economics Political Science Archaeology Earth Science Behavioral Science Life Science Humanities
Archeology	Archaeologist	...ancient people and the world they lived in.	What is driving human evolution? Why did it happen? What role does technology play in evolution? How much does hunting have to do with it? Or larger social groups? How can artifacts help us understand the past and influence our future?	Excavation tools; i.e. hammers, chisels, brushes Maps (physical, political, topographic, etc.) Primary sources	Artifacts from ancient settlements Bones and burial remains Soil deposits from previous settlement sites	History Anthropology Botany Geology Soil Science
Astronomy	Astronomer	...the universe, including stars, solar systems, galaxies.	How long will it take for our sun to “die”? What is inside a black hole? How quickly is the universe expanding? Is our galaxy unique?	Telescope Camera Spectrogram Computer imaging	Space debris Doppler Effect Observational data from telescopes Computer monitoring and images from space craft	Cosmology Astrophysics Physics Mathematics
Astrophysics	Astrophysicist	...how the laws of physics can be applied to the natural world and space itself.	How did the universe begin? Is it evolving? Is there more than one dimension to the universe? What’s the universe made of?	Mathematical models Telescopes Experiments Observational data Computer modeling Scientific method	Observations Proven mathematical equations Computer models	Physics Chemistry Astronomy Cosmology Mathematics



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Biochemistry	Biochemist	...the molecules that make up all living things.	What are the causes and cures of diseases? How do genes mutate over time? How can we develop medications to cure diseases?	Electron microscopes Lasers Laboratory instruments Computer-generated modeling programs Scientific method	DNA, enzymes, and protein samples Examples of gene mutations	Biology Chemistry Genetics Pharmacology Nutrition Agriculture
Biology	Biologist	...living organisms; their structure, behavior and distribution.	How do human brains work? How does language impact us? How can we remember what we hear? How do we learn?	Samples of living things Microscope Slides, test tubes, petri dishes Bunsen burner Beakers Scientific method	Samples of organisms Environmental impact reports Soil samples	Biochemistry Botany Ecology Genetics Physiology Zoology Engineering Biophysics Astrobiology Sociology
Chemistry	Chemist	...what everything is made of (matter) and how it changes.	How do the properties of an element determine its use? What affects the behavior of matter? How, why and where were chemical elements formed?	X-rays Models Microscopes Spectroscopy/Mass spectrometer Computer modeling Scientific method	Matter samples Diagrams/models Water/soil samples Observations about chemical reactions	Physics Mathematics Geology Astrophysics Astronomy Oceanography Geology Biology
Conservation/ Environmental Science	Conservation/ Environmental Scientist	...the integration of natural resources in both the physical and biological sciences.	How do we survive through the Anthropocene? What are some ways that we can lessen the human impact on the environment? How do we make sure we do not exhaust nature? What are appropriate trade-offs that need to be made to support both human and environmental needs?	Environmental impact reports Water quality testing supplies Maps (physical, topographical, political, etc.) Weather patterns	Endangered species numbers/ reports Population density maps Statistics about refuse production and distribution Water/ozone quality	Ecology Biology Physics Chemistry Agriculture Zoology Mineralogy Oceanography Soil Science Geology Geography Atmospheric science



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Cosmology	Cosmologist	...the origin and evolution of the universe from the earliest possible time to today.	What was there before the Big Bang? Are we alone in the universe? Why did the Big Bang happen? What is dark matter/dark energy?	Telescope Satellites Spectrographs Scientific method	Speed of light CMBR data Radio/infrared rays Satellite images	Astronomy Astrophysics Particle Physics Mathematics
Economics	Economist	...how governments, businesses, and individuals produce and consume goods and the impact of those decisions.	What should be produced? How should it be produced? For whom should it be produced? Who owns and controls the factors of production?	Law of supply and demand Mathematic models and projections Statistics Stock market data	Statistics about particular companies, nations, individuals GDP/GNP Stock Market reports	Humanities History Political Science Sociology Geography Anthropology
Engineering	Engineer	...science and math to create solutions to real-world problems.	How can people be protected from natural hazards and climate change? How can humans work in concert with natural Earth systems? What will the world look like in the future? How can computers solve everyday problems?	Hand tools Computers Programming software Maps Simple machines Mathematics	Models Simulations Computer-based testing Environmental and safety reports technical data Design analysis	Mathematics Physics Chemistry Biology Mechanics
Genealogy	Genealogist	...families, tracing their lineages throughout history.	Who are the members in the family? What impact has this family had on history? How does this family fit into the larger story of a group of people?	DNA testing Computer modeling Internet databases Primary sources (birth, marriage, and death records)	Oral interviews Historical records Genetic analysis Family trees Diaries Letters Emigration/immigration/naturalization records Photographs	History Geography Anthropology Ethnology Sociology
Geology	Geologist	...the makeup of the Earth and its processes.	How does the Earth work? How did the Earth get here? What drives plate movement? What is inside the Earth? What will happen on the Earth in the distant future?	Pick and axe Brushes Ice/rock core samples Electron microscope Spectrometers	Chemical analyses of rocks and minerals Soil/rock samples Maps Satellite images	Physics Chemistry Biology
History	Historian	...the past as it relates to individuals and societies.	How do things change over time and what factors contribute to those changes? What elements of an institution or a society persist despite change? What is the narrative of people who lived in the past?	Primary and secondary sources Artifacts; i.e. weaponry, clothing, pottery, etc. Interviews Journals	Artifacts First-hand accounts (journals, letters, etc.) Public/private records Visual materials	Psychology Economics Sociology Mathematics

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Nutrition	Nutritionist	...how food can be used to increase the health and well-being of patients.	How does food impact human development? How has the relationship between humans and food changed over time? How does food and food production play a role in culture?	Body mass index Weight/height measurements Food models Recipes	Experiments (controlled and trial) Observational studies Peer-reviewed journals Evidence-based systematic reviews Weight loss measurements Food journals	Archaeology Anthropology Biology Chemistry Environmental Sci. Ecology Genetics Soil science
Oceanography	Oceanographer	... marine life and ecosystems. They also focus on the health of the sea and the geologic processes that occur on the ocean floor.	How do processes in the ocean impact the rest of the Earth? How do species adapt to changes in the ocean? How do waves, storms, tides, and currents affect human movement around the globe?	Nets Water sampling supplies Satellites Boats Moors/buoys Sonar Computer tracking programs Seafloor sampling	Salinity measures Animal sensors/"tags" Computer generated current measures Seafloor mapping	Biology Chemistry Geology Physics Engineering
Paleontology	Paleontologist	...the record of life on Earth left as fossils and determine the relationships between extinct animals and plants and their living relatives.	How have animals and plants evolved? Are we experiencing normal levels of extinction, or are we experiencing a mass extinction? How have mass extinction events helped push evolution forward?	GPS Chisel Rock Hammer Brushes Tape measure Plastic/paper bags Walkie-talkie Markers	Fossils DNA Biological remains Amber	History Biology Geology Ecology Anthropology Archaeology Computer Science
Physics	Physicist	...matter and energy and the interaction between them.	Can we ever travel back in time? What is dark matter/dark energy? How do stars produce elements? How does gravity affect the Earth?	Balances and mass sets Glassware Calculators Computer models Mathematics Scientific method	Particle colliders Observational data Mathematical models Satellite imagery Research reports	Astronomy Biophysics Quantum chemistry Mathematics Philosophy
Political Science	Political Scientist	...how political systems are created and change over time.	How do power relations among countries create tension in the world? Is war a permanent part of political life? What is justice and how is it carried out in a society? What is the relationship between power and justice? How does resource distribution impact power?	Public opinion survey Economics data Data analysis essays Election results	Historical documents Polling Academic research Expert opinions Social media Newspapers Laws/government documents	History Sociology Law Geography Economics Philosophy Psychology Anthropology



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Psychology	Psychologist	...the human brain and experience; how people behave, think and feel.	<p>What do people think or feel about a situation or event?</p> <p>How do our feelings impact our behavior?</p> <p>What do our reactions tell us about our feelings?</p>	<p>Research on mental illnesses</p> <p>Personality/behavioral testing</p> <p>Observational data</p> <p>Holistic/prescription medicine</p>	<p>Observations</p> <p>Medical history</p> <p>Letters/journals</p> <p>Lab experiments</p> <p>Interviews</p> <p>Personality Tests</p> <p>Behavioral Tests</p>	<p>Sociology</p> <p>Anthropology</p> <p>Behaviorism</p>
Theology	Theologian	...religions, religious history, and the current role of religion in today's world.	<ul style="list-style-type: none"> <li>• Why do humans exist? What is a human being? What is the meaning of life?</li> <li>• What happens to a person at death?</li> <li>• How do we know what is right and wrong?</li> </ul>	<ul style="list-style-type: none"> <li>• Religious texts</li> <li>• Artifacts; i.e. relics, scriptures, symbols, etc.</li> <li>• Primary sources</li> <li>• Interviews</li> </ul>	<ul style="list-style-type: none"> <li>• Sacred books, (i.e. the Bible)</li> <li>• Artifacts</li> <li>• Sacred sites</li> <li>• Observations of religious ceremonies</li> </ul>	<p>History</p> <p>Anthropology</p> <p>Humanities</p> <p>Philosophy</p> <p>Psychology</p> <p>Sociology</p>