

# Idaho Content Standards Common Core Grid - MTCHS Earth Science

GOALS		Obj	Objective 1	Obj	Objective 2	MTCHS Competency Expectation	Competency Assessment	UNIT TITLE	Common-Core Standards
1.6 (649)	Scientific Inquiry	649.01	Understand scientific inquiry and develop critical thinking skills.	649.01a-g	Identify questions and concepts that guide scientific investigations. Know the differences among observations, <del>hypotheses and</del>	<i>Student can write a structured Lab Report that includes: Hypothesis, Observations, Conclusions and Theory.</i>	<i>Students will complete Unit Lab activities throughout the Earth Science course with 70% score or higher..</i>	<i>Applications of Scientific Study</i>	CCSS.ELA-Literacy.RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
1.2 (648.02)	Unifying Science Concepts	648.02	Understand scientific inquiry and develop critical thinking skills.	648.02.a:	Know that observations and data are evidence on which to base scientific explanations.	<i>Students can create and interpret different graphs to communicate and convey scientific data.</i>	<i>Students will complete Earth Science Graph Packet</i>	<i>Applications of Scientific Study</i>	
1.2 (648.02)	Unifying Science Concepts	648.02	Understand scientific inquiry and develop critical thinking skills.	648.02.c	Develop scientific explanations based on scientific knowledge, logic, and analysis	<i>Students will be able to calculate the Earth Diameter by collecting data about solar observations and distance.</i>	<i>Students will complete Earth Science Graph Packet</i>	<i>Applications of Scientific Study</i>	
1.4 (654)	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02.e	Know that global climate is determined by energy transfer from the sun.	<i>Students will be able to explain the relationship between the Sun's position in the sky and the change of seasons related to Lat/Long.</i>	<i>Students will complete write an essay describing the change of Earth's seasons. FALL POST COMP</i>	<i>Applications of Scientific Study</i>	CCSS.ELA-Literacy.RST.9-10.5 Analyze the structure of the relationships among concepts in a text, including relationships among key terms
1.4 (654)	Earth and Space Systems	654.01	Understand scientific theories of origin and subsequent changes in the Universe and Earth.	654.01.c	Know that interactions among the solid earth, the oceans, the atmosphere, and organisms have on the Earth System.(Such as Volcanism and Earthquakes)	<i>Students can articulate the relationship between the movements of the Earth's plates and the current shape of the continents.</i>	<i>Students will construct a model of Pangea and write a 100 word essay about the development of the current shape of the Earth's continents.</i>	<i>Active Earth</i>	CCSS.ELA-Literacy.RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
1.4 (654)	Earth and Space Systems	654.01	Understand geochemical cycles and energy in the earth system.	654.02.c	Know that global climate is determined by energy transfer from the sun at and near the Earth's surface.	<i>Students can illustrate a model of the Earth's structure and relate the movement of the crust through the Plate Tectonic process.</i>	<i>Earthquake and Subduction Lab activity.</i>	<i>Active Earth</i>	

650	Earth's Lithosphere	650.05	Understand that the total energy in the universe is constant.	650.05.d	Energy is transferred by various types of waves and by electrons flowing through matter.	<i>Students can identify the three types of seismic waves and calculate the epicenter of an Earthquake.</i>	<i>Students will complete Test on Earthquakes with a 70% or higher grade.</i>	Active Earth	
1.2 (648.02)	Unifying Science Concepts	648.02	Understand scientific inquiry and develop critical thinking skills.	648.02.c	Develop scientific explanations based on scientific knowledge, logic, and analysis	<i>Students will be able to utilize GPS units to locate and navigate to points on the Earth.</i>	<i>Students will complete the GPS field Trip experience in the Fall Semester Earth Science.</i>	Applications of Scientific Study	
4.1 (654)	Earth's Lithosphere	654.02	Understand geochemical cycles and energy in the earth	654.02.c	Know that the outward transfer of the Earth's energy in the mantle propels the plates and	<i>Students will describe the process of volcanism and its relation to the Earth's structure.</i>	<i>Students will complete Volcanism Lab activity with a grade of 70% or higher.</i>	Active Earth	CCSS.ELA-Literacy.RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing
650	Earth's Lithosphere	650.04	Understand concepts of motion and forces.	650.04a	Know that gravitational force and electrical force are universal forces.	<i>Students will illustrate the different views of the Solar system throughout history. Geocentric/Helocentric</i>	<i>Students will create an illustration depicting the Geocentric and Heliocentric solar system model. FALL POST</i>	Space Science	
655	Technology	655.01	Understand the relationship between Science and Technology	655.01.a	Know the ways that science advances technology and technology advances Science.	<i>Students can articulate the development of the US space program and the technological steps that took place.</i>	<i>Students will develop an artistic time line of the "Space Race"</i>	Space Science	
1.2 (648)	Unifying Science Concepts	648.02	Understand Concepts and processes of evidence, models and explanation.	648.02.b	Use Models to explain how things work.	<i>Students will know the nine planets and their orbital paths around the Sun.</i>	<i>Students will create a scale illustration of the Solar System complete with all eight planets using metric scaled data.</i>	Space Science	CCSS.ELA-Literacy.RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words
4.2 (654/658)	Earth and Space Systems	654.01/658.02.a	Understand scientific theories of origin and subsequent changes in the Universe and Earth.	654.01.c/d / 658.02.a	Know that life reflects a drastic change in a planet's atmosphere, and interaction of a planets sytems causes change.	<i>Students understand that the Planet Mars is a Dead Planet because its systems are inactive when compared to Earth's</i>	<i>Students will write a research paper about the Planet Mars and its comparisons to Earth. THE MARS PROJECT</i>	Space Science	
657	Historical Concepts	657.01	Understand the significants of major scientific milestones	657.01.a	Understand the social and economical impact of historical scientific events.	<i>Students will research the Apollo 13 Moon Mission and be able to articulate the events and causes of the failure of the mission.</i>	<i>Students will create a front page newspaper depicting the events of the Apollo 13 Moon Mission.</i>	Space Science	

4.2 (654)	Earth and Space Systems	654.02	Understand geochemical cycles and energy	654.02.a	Know that the Earth systems have internal and external energy	Students will study the Sun's energy and its cycles as in Sun Spots and Solar Flares	Students will complete the Sun Spot Lab activity with a 70% grade or higher.	Space Science	
4.2 (654)	Earth and Space Systems	654.01	Understanding scientific theories of origin and subsequent changes in the universe and earth systems.	654.01.f	Know the life history of stars and galaxies.	Students will be able to describe the life cycles of stars with three different initial masses.	Students will complete the Star Cycle Book Page with 70% or higher.	Space Science	
4.2 (654)	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02.a	Know that the Earth systems have internal and external energy sources. Both which create heat.	Students will be able to articulate the development of the H-R Diagram and explain the meaning of the plotted stars.	Students will create a H-R diagram complete with plotted stars and groupings that demonstrate the different stellar progressions.	Space Science	
4.2 (654)	Earth and Space Systems	654.01	Understanding scientific theories of origin and subsequent changes in the universe and earth systems.	654.01.a / e	Know that the current scientific theory suggests that the Sun, Earth and solar system formed from a cloud of dust/gas	Students will understand the development of the current universe in terms of the beginning Big Bang hypothesis.	Students will complete the Galaxy Book Page. Answering questions with a 70% OR higher.	Space Science	
4.2 (654)	Earth and Space Systems	654.01	Understanding scientific theories of origin and subsequent changes in the universe and earth systems.	654.01.c	Know that interactions among the solid earth, the oceans, the atmosphere, and organisms have on the Earth System.(Such as Volcanism and Earthquakes.)	Students will be able to articulate the interactions between the different layers of the Earth's atmosphere and understand their roles.	Students will complete a diagram of the Earths Atmosphere with all layers correctly labeled.	Earths Atmosphere	
656	Social Perspectives	656.04	Understand different uses of technology in society.	656.04.a	Identify examples of technology used in scientific fields.	students will be able to construct weather maps by using Isotherms, Isolines and Isobars.	Students will complete Weather Map Activities I - V with a 70% grade on all.	Earths Atmosphere	
4.2 (654.02)	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02.d	Know that the heating of the Earths atmosphere by the sun drives convection within the Atmosphere and Oceans.	Students can explain the development of an Hurricane System and its possible effects on the Earth	Completion of the Hurricane Tracking Lab with 70% or higher grade.	Earths Atmosphere	

654	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02.a	Know that the Earth systems have internal and external energy sources. Both which create heat.	Students can relate that the Sun is earths primary source of external energy.	Students will create an essay to explain the relationship between the Sun and Earths weather. POST competency	Earths Atmosphere	
650	Concepts of Physical Science	650.02	Understand geochemical cycles and energy in the earth system.	650.02.c	Understand the structure and physical function of matter/molecular arrangements.	Students will understand the formation of minerals and gemstones	Students will participate in the Dry Land Mineral Dig. Students will catalog all minerals found.	Rocks and Minerals	
4.2 (654)	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02.f	Movement of matter through the solid Earth ,oceans and atmosphere is accompanied by changes chemically and physically.	Students will identify the characteristics of minerals and the conditions which they form.	Students will complete the Mineral Identification Lab with a grade of 70% or higher.	Rocks and Minerals	
4.2 (654)	Earth and Space Systems	654.01	Understanding scientific theories of origin and subsequent changes in the universe and earth systems.	654.01.c	Know that interactions among the solid earth, the oceans, the atmosphere, and organisms have on the Earth System.(Such as Volcanism and Earthquakes.)	Students will understand and articulate the processes that shape the earth over time. Erosional and Weathering.	Students will complete and present a team WeathOsion project to the class. Each student must present 5 min of information.	Weathering/Erosion	
4.2 (654)	Earth and Space Systems	654.02	Understand geochemical cycles and energy in the earth system.	654.02f	Movement of matter through the solid Earth ,oceans and atmosphere is accompanied by changes chemically and physically.	Students will observe the process of erosion and land transformation in a model of ground water.	Student will write a 100 word essay about the role of aquifers and water supplies in relation to polutions and water resources in the USA.	Weathering/Erosion	CCSS.ELA-Literacy.RST.9-10.9 Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
4.2 (654)	Earth and Space Systems	654.01	Understanding scientific theories of origin and subsequent changes in the universe and earth systems.	654.01.c	Know that interactions among the solid earth, the oceans, the atmosphere, and organisms have on the Earth System.(Such as	Students will observe the process of erosion and land transformation in a model of a river system.	Students will participate in the River Simulation Activity where they play the role of an Insurance Adjuster for a river valley community.	Hydrology System	

650	Earth and Space Systems	650.05	Understanding that the total energy in the Universe is constant	650.05.b	Energy can be classified as Potential or Kinetic	Students will identify the continental Divide and major US rivers	Students will complete the US River & Geomorphology Map	Hydrology System	
652	Interdependence of Organisms	652.02	Understanding the interdependency of organisms.	652.02.e	Know that human beings live within the world's ecosystem, and they modify the ecosystem through population, growth, and consumption.	Students will understand that humans affect the environment.	Students will complete the Depth Net Ground Water Lab activity.	Hydrology System	
650	Concepts of Physical Science	650.01	Understand the Structure of atoms	650.01.c	Know the characteristics of isotopes	Students will understand how carbon dating is used to date rocks/fossils	Students will complete the Online Carbon 14 Lab Activity	GeoTime/Fossils	
652	Interdependence of Organisms	652.01	Understanding the interdependency of organisms.	652.01.a	Know the theory of evolution explains how some species evolved or become extinct.	Students will know several theories related to the death of the dinosaurs.	Students will complete the Dino-Death Activity Lab with 70% or higher	GeoTime/Fossils	