

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Properties of Substances 1	Sorting Objects	Sorts objects according to self-chosen criteria.	●	●	●	●						1
Science	Physical Properties of Substances 1	Sorting Objects by Material	Sorts objects according to the materials from which they are made (e.g., wood, metal and plastic).	●	●	●	●						2
Science	Physical Properties of Substances 1	Sorting: Natural or Manufactured	Sorts objects according to whether they are natural or manufactured.		●	●	●						3
Science	Physical Properties of Substances 1	Sorting: Hard or Soft	Sorts objects according to whether they are hard or soft.		●	●	●						4
Science	Physical Properties of Substances 1	Sorting: Vocabulary	Talks with adult or other children about sorting activities and practices appropriate vocabulary.		●	●	●						5
Science	Physical Properties of Substances 2	Solid, Liquid, Gas	Explores properties of matter by working with and classifying materials according to solid/liquid/gas.		●	●	●						6
Science	Physical Properties of Substances 2	Pouring Air	Explores one of the properties of air by immersing an apparently empty pitcher upside down into a tank of water and then gently tilting to release the air.		●	●	●						7
Science	Physical Properties of Substances 2	Magnetic/Non-Magnetic	Explores the effects of magnetism on various materials through working with the Magnets Activity.		●	●	●						8
Science	Physical Properties of Substances 2	Exploring Mixtures	Explores how something can be changed by adding something else. After observing and discussing the experiment, the child is able to either replicate the process alone or present it to another child (mixing ingredients [e.g., water and corn starch]) that results in notable change of state).		●	●	●	R					9
Science	Physical Properties of Substances 2	Introduction to Temperature and Different States of Matter	Explores how something can be changed by changing the temperature. After observing and discussing the experiment, the child is able to either replicate the process alone or present it to another child (freezing water, watching ice melt, etc.).		●	●	●	R					10

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Properties of Substances 2	Introduction to Viscosity	Explores viscosity by dropping a marble into jars containing syrup, vegetable oil, and water: After observing and discussing the experiment, the child is able to either replicate the process alone or present it to another child.		●	●	●	R					11
Science	Physical Properties of Substances 2	Conservation of Volume	Explores conservation of volume by pouring a constant volume of water into different-shaped containers.		●	●	●	R					12
Science	Physical Properties of Substances 2	Introduction to Rigidity and Elasticity	Explores properties of rigidity and elasticity by working with and classifying according to rigidity and elasticity. After observing and discussing the experiment, the child is able to either replicate the process alone or present it to another child.		●	●	●	R					13
Science	Physical Properties of Substances 2	Vocabulary of Properties of Substances 2	Reads cards relating to the various properties explored and places cards next to objects, images, or materials that represent the property.		●	●	●	R					14
Science	Physical Properties of Substances 2	Vocabulary of Properties of Substances 2	Reads definitions of various properties of substances and pairs with corresponding vocabulary labels.		●	●	●	R					15
Science	Physical Properties of Substances 2	Properties of Substances: Command Cards	Reads simple Command Cards relating to various properties of substances, carries out the experiments, and places the adjective cards to correspond with the substance/ material that corresponds to the word.		●	●	●	R					16
Science	Physical Properties of Substances 2	Observation of Physical Properties of Substances	Notifies and comments on the physical properties of substances in various contexts.		●	●	●	R					17
Science	Physical Principles 1	Introduction to Friction	Creates heat by means of friction, rubbing hands together, and practices using the appropriate vocabulary.	●	●	●	●	R					18
Science	Physical Principles 1	Physical Science: Introduction to Thermometer	Uses a safety thermometer to measure the temperature of hands before and after rubbing together.		●	●	●	R					19

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Principles 1	Introduction to Static Electricity	Explores static electricity by rubbing an inflated balloon against own hair; creating static electricity by rubbing a balloon on a wooly sweater; noticing and commenting on static electricity sparks, which occur naturally in cold, dry weather.										20
Science	Physical Principles 1	Introduction to Simple Circuits	Explores electrical current through work with a simple circuit, either closing the circuit using a switch or by closing the circuit using various conductive and non-conductive materials.										21
Science	Physical Principles 1	Introduction to Bridges	Explores types of forces by building “bridges” with straight, arched, and corrugated card materials and testing the load-bearing capacities of each; forms and communicates hypotheses.										22
Science	Physical Principles 1	Introduction to Structural Integrity	Explores structural integrity of structures built with triangular or rectangular shapes.										23
Science	Physical Principles 1	Introduction to Magnetic Polarity	Explores magnetic polarity working with two bar magnets with N and S clearly marked.										24
Science	Physical Principles 1	Introduction to Ring Magnets	Explores magnetic force working with Ring Magnets on a dowel.										25
Science	Physical Principles 1	Sink and Float	Explores effects of density on buoyancy through working with the Sink and Float activity.										26
Science	Physical Principles 2	Introduction to Viscosity 2	Explores how oil and water will not mix by making a simple “lava lamp” with colored water and cooking oil.										27
Science	Physical Principles 1	Introduction to Viscosity 3	Explores how different liquids do not mix but form distinct layers through placing syrup, oil, and water in a jar and observing how they always settle into different layers; extending experiment by dropping different objects (berries, pasta, small stones) into the container, observing where they settle; forms hypotheses regarding density based on observations.										28

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Principles 1	Introduction to Density and Buoyancy	Notices and comments on the effects of density and buoyancy in different contexts and asks relevant questions (e.g., “Why does ice float?”).		●	●	●	R					29
Science	Physical Principles 3	Color Paddles	Uses Color Paddles, held up to a light source, to explore color mixing.	●	●	●	●	R					30
Science	Physical Principles 3	Prisms	Uses a glass prism to split a beam of white light.	●	●	●	●	R					31
Science	Physical Principles 3	Introduction to Refraction	Explores concept of refraction through placing a stick in a bowl of water and observing from different angles to notice that the stick appears broken and/or placing an object in a bowl that is first empty and then filled with water to observe refraction.		●	●	●	R					32
Science	Physical Principles 3	Introduction to Reflection	Uses a safety mirror to explore reflection and the related concepts of symmetry.		●	●	●	R					33
Science	Physical Principles 3	Introduction to Refraction	Notices and comments on the effects of looking through a goldfish bowl; why magnifying glasses make things appear larger, etc.		●	●	●	R					34
Science	Physical Principles 3	Introduction to Light and Shadow	Notices and comments on the effects of light and shadow in different contexts and asks relevant questions.		●	●	●	R					35
Science	Physical Principles 4	Introduction to Sound Waves 1	Uses a “singing bowl” or bell to explore the idea that sound is a wave and relates to the movement of air (child rings bell or sets up vibration in the bowl and feels the vibration with fingers), continues exploration through experiments.		●	●	●	R					36
Science	Physical Principles 4	Introduction to Sound Waves 2	Explores types of waves using a rope (longitudinal wave) and a slinky (transverse wave).		●	●	●	R					37
Science	Physical Principles 4	Observing different types of waves: sound, light, ripples in water, etc.	Notices and comments on different types of waves and begins to ask which kind of wave it is (e.g., child may notice ripples in a pond or the sound of thunder being heard after a lightning bolt is seen).		●	●	●	R					38

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Measuring: Physical Science	Using a dropper or pipette to transfer one drop	Uses a dropper or pipette to transfer liquid one drop at a time.	●	●	●	●	R					39
Science	Measuring: Physical Science	Observing with magnifying glass	Uses a magnifying glass carefully and appropriately to make observations in relation to physical science explorations.	●	●	●	●	R					40
Science	Measuring: Physical Science	Physical Science: Initial exploration with simple microscope	Uses a microscope carefully and appropriately to make observations in relation to physical science explorations.		●	●	●	R					41
Science	Measuring: Physical Science	Initial exploration with binoculars	Uses binoculars carefully and appropriately to make observations in relation to physical science explorations.		●	●	●	R					42
Science	Measuring: Physical Science	Physical Science: Using a Thermometer in Life Science 1	Uses a thermometer carefully and appropriately in classroom experiments.		●	●	●	R					43
Science	Measuring: Physical Science	Physical Science: Introduction to a Scientific Scale	Uses scientific scales (and other instruments for measuring mass) carefully and appropriately.		●	●	●	R					44
Science	Measuring: Physical Science	Physical Science: Rulers and Measuring Tapes	Uses various simple rulers and measuring tapes carefully and appropriately to make observations in relation to physical science explorations.		●	●	●	R					45
Science	Observing and Recording: Physical Science 1	Describing what we have observed 1	Verbally communicates observations using common vocabulary.		●	●	●	R					46
Science	Observing and Recording: Physical Science 1	Describing what we have observed 2	Verbally communicates observations using increasingly accurate scientific vocabulary.		●	●	●	R					47
Science	Observing and Recording: Physical Science 2	Recording observations by drawings	Records observations using drawings.		●	●	●	R					48
Science	Observing and Recording: Physical Science 2	Recording observations using paint and other media	Records observations from light and color experiments using various art media.		●	●	●	R					49
Science	Observing and Recording: Physical Science 2	Written descriptions of what has been observed - hand writing	Records observations in writing.		●	●	●	R					50

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Observing and Recording: Physical Science 2	Written descriptions of what has been observed - using a computer or digital device	Records observations using digital media (text or image).		●	●	●	R					51
Science	Observing and Recording: Physical Science 2	Using graphs to describe what has been observed	Records observations using various graphing techniques.		●	●	●	R					52
Science	Observing and Recording: Physical Science 2	Cards that name scientific instruments	Reads cards relating to the various instruments used and places labels next to the corresponding instrument.		●	●	●	R					53
Science	Observing and Recording: Physical Science 2	Three-part cards that illustrate, name, and define scientific instruments	Reads definitions of various instruments used and pairs with corresponding vocabulary labels.		●	●	●	R					54
Science	Being a Scientist 1	Setting up classroom science activities and experiments	Collaborates in finding and setting up temporary classroom science activities and experiments.	●	●	●	●	R					55
Science	Being a Scientist 1	Learning to investigate 1	Uses various books, media, and other classroom resources to learn more about topics explored in class.		●	●	●	R					56
Science	Being a Scientist 2	Setting up simple experiments	Sets up experiments and tests hypotheses using a variety of materials and in different scenarios.	●	●	●	●	R					57
Science	Being a Scientist 2	Simple experiments: hypothesis and results	Communicates reasons for hypotheses and displays an interest in exploring why hypotheses were supported or disproved by experiments.		●	●	●	R					58
Science	Being a Scientist 2	Introduction to recording results of simple experiments	Displays an interest in recording findings in various ways (see “recording” for more details).		●	●	●	R					59
Science	Being a Scientist 2	Applying principles to practical situations 1	Applies principles to practical situations: e.g., sorts iron filings from another material (such as sand or rice) using a magnet.		●	●	●	R					60
Science	Being a Scientist 2	Applying principles to practical situations 2	Works on projects which apply principles: e.g., builds a simple circuit (such as making a flashlight or model lighthouse) using an AA cell, flashlight bulb, and a switch.		●	●	●	R					61
Science	Exploring Nature	Observing the garden over the seasons	Observes and discusses changes in school garden over the seasons.	●	●	●	●	R					62

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Exploring Nature	Introduction to life cycles in the garden	Observes and discusses life cycles of plants and animals in school garden, noticing how living things grow, reproduce, die, and decay in a continues cycle of life.	●	●	●	●	R					63
Science	Exploring Nature	Life Science: Collecting for the class nature center	Collects various natural items, which are added to classroom collections; discusses and explores, either alone or in a small group; uses scientific instruments, such as magnifiers, microscopes, etc., as well as various measuring tools; observes live animals and then releases them back into the place where they were found.	●	●	●	●	R					64
Science	Exploring Nature	Further investigations into specimens found for the class nature center	Uses a variety of classroom resources to learn more about specimens that are brought into the classroom.		●	●	●	R					65
Science	Classifying: First Classifications	Describing specimens in class nature center	Explores natural objects in Discovery Basket or on Nature Table, describes their characteristics, and communicates findings with others.	●	●	●	●	R					66
Science	Classifying: First Classifications	Sorts and classifies specimens in class nature center	Sorts objects in Discovery Basket according to various observed characteristics and communicates the criteria for grouping.	●	●	●	●	R					67
Science	Classifying: First Classifications	Classifying: Living and nonliving	Sorts images into sets of living and non-living.	●	●	●	●	R					68
Science	Classifying: First Classifications	Sorting: Plant, fungus, and animal	Sorts images into sets of plant, fungus, and animal.	●	●	●	●	R					69
Science	Classifying: First Classifications	Sorting: Vertebrates and non-vertebrates	Sorts images of animals into sets of vertebrates and non-vertebrates.	●	●	●	●	R					70
Science	Classifying: First Classifications	Sorting: Families of vertebrates	Sorts images of vertebrates into five major groups: ray-finned fish, amphibians, mammals, squamates, and birds.	●	●	●	●	R					71
Science	Classifying: First Classifications	Classifying Vertebrates: Simple branching diagram	Relates vertebrate groups to a simple branching diagram, showing lineage.		●	●	●	R					72
Science	Classifying: First Classifications	Classifying Vertebrates: Simple nesting diagram	Relates vertebrate groups to a simple nesting diagram, showing derived characteristics.		●	●	●	R					73

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Classifying: First Classifications	Classifying Plants: major groups of plant kingdom	Sorts images according to major lineages of the plant kingdom.		●	●	●	R					74
Science	Classifying: First Classifications	Classifying Plants: simple branching diagram	Sorts images of plants according to branching diagram, showing lineage.		●	●	●	R					75
Science	Classifying: First Classifications	Classifying Vertebrates: simple nesting diagram	Sorts images of plants according to nesting diagram of five important characteristics (lives on land, vascular tissues, true leaves, seeds, flowers, and fruit).		●	●	●	R					76
Science	Classifying: Knowledge of Animals	Classified Card Material: Names of animals within major groups of vertebrates	Works with Classified Card materials to discover and learn the names of animals within each of the five major groups of vertebrates (e.g., types of fish; types of reptiles, etc.).	●	●	●	●	R					77
Science	Classifying: Knowledge of Animals	Classified Card Material: Names of species or breeds	Works with Classified Card materials to discover and learn the names of species or breeds within the larger classifications (e.g., types of ungulates or breeds of dog).		●	●	●	R					78
Science	Classifying: Knowledge of Animals	Classified Card Material: Reading names of animals within major groups of vertebrates	Works with Classified Card Materials to read the names of animals within each of the five major groups (e.g., types of fish; types of reptiles; etc.).	●	●	●	●	R					79
Science	Classifying: Knowledge of Animals	Classified Card Material: Reading names of species or breeds within major groups of vertebrates	Works with Classified Card Materials to read the names of species or breeds within the larger classifications (e.g., types of ungulates or breeds of dog).		●	●	●	R					80
Science	Classifying: Knowledge of Animals	Classified Card Material: Matching labels to descriptions	Works with Classified Card Materials, matching labels to corresponding descriptions.		●	●	●	R					81
Science	Classifying: Knowledge of Animals	Classified Card Material: Learning names of kinds of plants within major groups	Works with Classified Card Materials to discover and learn the names of kinds of plants within each of the major lineages (e.g., kinds of flowering plants).	●	●	●	●	R					82
Science	Classifying: Knowledge of Plants	Classified Card Material: Learning names of kinds of plants grouped by important characteristics	Works with Classified Card Materials to discover and learn the names of kinds of plants grouped by important characteristics (e.g., kinds of trees, herbs, etc.).	●	●	●	●	R					83

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Classifying: Knowledge of Plants	Classified Card Material: Reading names of kinds of plants within major groups	Works with Classified Card Materials to read the names of plants within each of the major lineages of flowering plants.		●	●	●	R					84
Science	Classifying: Knowledge of Plants	Classified Card Material: Reading names of plants grouped by important characteristics	Works with Classified Card Materials to read the names of plants grouped by important characteristics (e.g., kinds of trees; kinds of herbs; etc.).		●	●	●	R					85
Science	Classifying: Knowledge of Plants	Classified Card Materials: Matching labels and descriptions.	Works with Classified Card Materials, matching labels to corresponding descriptions.		●	●	●	R					86
Science	Observing and Recording: Life Science 1	Describing what we have observed 1	Verbally communicates observations using common vocabulary.	●	●	●	●	R					87
Science	Observing and Recording: Life Science 1	Describing what we have observed 2	Verbally communicates observations using increasingly sophisticated scientific vocabulary.		●	●	●	R					88
Science	Observing and Recording: Life Science 1	Recording observations by drawings	Records observations using drawings.		●	●	●	R					89
Science	Observing and Recording: Life Science 1	Recording observations using art	Records observations from light and color experiments using various art media.		●	●	●	R					90
Science	Observing and Recording: Life Science 2	Recording observation in writing 1	Records observations in writing.		●	●	●	R					91
Science	Observing and Recording: Life Science 2	Recording observations using a computer or digital device	Records observations using digital media (text or image).		●	●	●	R					92
Science	Observing and Recording: Life Science 2	Using graphs to describe what has been observed	Records observations using various graphing techniques.		●	●	●	R					93
Science	Measuring: Life Science	Uses a magnifying glass	Uses a magnifying glass carefully and appropriately to make observations in relation to Life Science explorations (e.g., insects, seeds etc.).	●	●	●	●	R					94
Science	Measuring: Life Science	Life Science: Initial exploration with simple microscope	Uses a microscope carefully and appropriately to make observations in relation to Life science Explorations (e.g., life in pond water).		●	●	●	R					95

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Measuring: Life Science	Initial exploration with binoculars	Uses binoculars carefully and appropriately to make observations in relation to life science explorations (e.g., watches birds in school garden).		●	●	●	R					96
Science	Measuring: Life Science	Life Science: Using a thermometer in life science 2	Uses a thermometer carefully and appropriately in classroom experiments.		●	●	●	R					97
Science	Measuring: Life Science	Life Science: Introduction to a Scientific Scale	Uses scientific scales (and other instruments for measuring mass) carefully and appropriately.		●	●	●	R					98
Science	Measuring: Life Science	Life Science: Rulers and measuring tapes	Uses various simple rulers and measuring tapes carefully and appropriately to make observations in relation to physical sciences explorations.		●	●	●	R					99
Science	Parts of Plants 1	Introduction to parts of a plant	Examines the parts of a living plant.	●	●	●	●	R					100
Science	Parts of Plants 1	Parts of a plant	Identifies and names the parts of a plant.	●	●	●	●	R					101
Science	Parts of Plants 1	Botany Puzzles	Explores the parts of a plant by working with the Botany Puzzles.	●	●	●	●	R					102
Science	Parts of Plants 2	Botany Cabinet: Leaf shapes as puzzles	Traces the borders of the leaf shapes in the Botany Cabinet and replaces them in the corresponding frames to learn the various leaf shapes.	●	●	●	●	R					103
Science	Parts of Plants 2	Botany Cabinet: Matching leaf shapes to cards	Matches the insets from the Botany Cabinet to the three series of cards that correspond to the leaf shapes.	●	●	●	●	R					104
Science	Parts of Plants 2	Botany Cabinet: Matching leaf shapes to plants outside	Finds leaves around the school grounds that correspond to the shapes in the Botany Cabinet.	●	●	●	●	R					105
Science	Parts of Plants 2	Botany Cabinet: Names of the leaf shapes	Identifies and names leaf shapes.		●	●	●	R					106
Science	Parts of Plants 2	Botany Cabinet: Reading and matching labels of leaf shapes to puzzle pieces	Reads labels relating to leaf shapes and matches the labels to the corresponding images.		●	●	●	R					107

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Parts of Plants 3	First series of Botany Cards: Naming parts of a plant	Identifies parts of a plant by means of first series of Botany Cards (tree, leaf, flower, root).		●	●	●	R					108
Science	Parts of Plants 3	First series of Botany Cards: Labeling the parts of a plant	Reads labels relating to parts of a plant and matches the labels to the corresponding images.		●	●	●	R					109
Science	Parts of Animals 1	Introduction to the names of the external body parts of animals	Examines the external body parts of a real animal.	●	●	●	●	R					110
Science	Parts of Animals 1	Naming the external body parts of familiar animals	Identifies and names the external body parts of familiar animals.	●	●	●	●	R					111
Science	Parts of Animals 1	External body parts of vertebrates: Animal puzzles	Explores the external body parts of vertebrates by working with the Animal Puzzles.	●	●	●	●	R					112
Science	Parts of Animals 2	External body parts of vertebrates: Nomenclature Cards	Identifies and names the external body parts of various animals by means of separate sets of Nomenclature Cards.		●	●	●	R					113
Science	Parts of Animals 2	External body parts of animals: Matching labels to images	Reads labels relating to various animals, and matches the labels to the corresponding images.		●	●	●	R					114
Science	Physical Properties of Substances 3	Introduction to Atoms	Explains and works with the Bohr Model, developing a knowledge of the basic structure of atoms.					●	●	●	●	●	115
Science	Physical Properties of Substances 3	Introduction to the structure of an atom	Differentiates between the nature of protons, electrons, and neutrons in atomic structure.					●	●	●	●	●	116
Science	Physical Properties of Substances 3	Introduction to physical change	Demonstrates that in physical change, matter changes in form, but not in substance.					●	●	●	●	●	117
Science	Physical Properties of Substances 3	Introduction to chemical change	Demonstrates that in chemical change, matter changes in substance, as well as form.					●	●	●	●	●	118
Science	Physical Properties of Substances 3	Introduction to expansion and contraction of materials at different temperatures	Demonstrates that different temperatures cause materials to expand or contract.					●	●	●	●	●	119

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Properties of Substances 3	Introduction to chemical mixtures	Demonstrates that a mixture is composed of individual substances that retain their identity when mixed and can be recovered in their original form by ordinary means.					●	●	●	●	●	120
Science	Physical Properties of Substances 3	Introduction to chemical compounds	Demonstrates that elements can be combined to form compounds with properties different from those of the combining elements.					●	●	●	●	●	121
Science	Physical Properties of Substances 3	Difference between chemical mixtures and compounds	Differentiates between chemical elements and compounds.					●	●	●	●	●	122
Science	Physical Properties of Substances 3	Introduction to molecules	Explains that molecules are the smallest particles of a compound that still have all their properties.					●	●	●	●	●	123
Science	Physical Properties of Substances 3	Molecules in motion: Different states of matter	Describes matter as being composed of molecules that are in constant motion; has a working knowledge of the different states of matter.					●	●	●	●	●	124
Science	Physical Properties of Substances 3	Initial investigation of common elements	Investigates and gathers information about common elements from the encyclopedia, classroom materials, and other resources.						●	●	●	●	125
Science	Physical Properties of Substances 3	Initial work on chemical symbol and atomic structure of elements using the Bohr (Atomic) Model	Gives the chemical symbol and atomic structure of specified elements and is able to build these on the Bohr Model.						●	●	●	●	126
Science	Physical Properties of Substances 3	Introduction to chemical formulas for familiar compounds	Identifies the chemical formulas for specified familiar compounds.						●	●	●	●	127
Science	Physical Properties of Substances 3	Simple research reports on how we use different elements and compounds	Prepares research reports on the nature and use of elements and compounds.						●	●	●	●	128
Science	Physical Properties of Substances 3	Designing an experiment to illustrate physical and chemical change	Distinguishes between physical and a chemical changes and is able to demonstrate this through experimentation.						●	●	●	●	129

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Physical Properties of Substances 3	Designing an experiment to illustrate that matter is not lost during a chemical or physical change	Explains that the total amount of matter is not changed during a chemical or physical change and is able to demonstrate this through experimentation.						●	●	●	●	130
Science	Physical Properties of Substances 3	Density and flotation	Demonstrates that density determines whether an object sinks or floats.						●	●	●	●	131
Science	Physical Properties of Substances 3	Introduction to fire and combustion	Explains the basic principles of fire and combustion and has participated in demonstrations that relate to this concept.						●	●	●	●	132
Science	Physical Properties of Substances 3	Introduction to acids and bases	Differentiates between acids and bases; performs experiments that relate to this concept.						●	●	●	●	133
Science	Physical Properties of Substances 3	Solutions and mixtures	Prepares solutions and mixtures.						●	●	●	●	134
Science	Physical Properties of Substances 3	Physical properties of liquids	Explains the basic physical properties of liquids; knowledge is derived from participating in demonstrations.						●	●	●	●	135
Science	Physical Properties of Substances 3	Physical properties of gases	Explains the basic physical properties of gases; knowledge is derived from participating in demonstrations.						●	●	●	●	136
Science	Physical Properties of Substances 3	Physical properties of solids	Explains the basic physical properties of solids; knowledge is derived from participating in demonstrations.						●	●	●	●	137
Science	Physical Properties of Substances 3	Basic principles of water pressure	Explains the basic principles of water pressure; knowledge is derived from participating in demonstrations.						●	●	●	●	138
Science	Physical Properties of Substances 3	Basic principles of air pressure	Explains the basic principles of air pressure; knowledge is derived from participating in demonstrations.						●	●	●	●	139
Science	Physical Properties of Substances 3	Principles of water displacement	Demonstrates understanding of the principles of water displacement, using an overflow basin to measure the volume of irregular solids.						●	●	●	●	140
Science	Energy	Introduction to energy transformations	Recognizes and identifies common energy transformations; knowledge is derived from participation in demonstrations.						●	●	●	●	141

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Energy	Introduction to relative motion	Describes the relative motion of an object with respect to the position or motion of another object; knowledge is derived from participation in demonstrations (d=vt).						●	●	●	●	142
Science	Energy	Closed electrical circuits	Sets up a closed electrical circuit.					●	●	●	●	●	143
Science	Energy	Opaque, semi-opaque, and transparent materials	Distinguishes among materials that: completely block the passage of light; allow some light to pass through; and pass light completely, identifying them as opaque, semi-opaque, and transparent.					●	●	●	●	●	144
Science	Energy	Light and shadow: relative position of object and light source	Demonstrates that changing an object's position in relationship to a light source changes the appearance of its shadow.					●	●	●			145
Science	Energy	Conductors and non-conductors	Distinguishes between conductors and non-conductors; knowledge comes from participation in demonstrations.						●	●	●	●	146
Science	Energy	How can electromagnetic energy create motion?	Demonstrates that energy in the form of electromagnetism can create motion.						●	●	●	●	147
Science	Energy	Introduction to fossil fuels	Identifies types of fossil fuels, how they were formed, and how they are used.						●	●	●	●	148
Science	Energy	Solar Energy	Identifies the Sun as a type of fuel, how it's captured, and how it's used; knowledge comes from participation in demonstrations.						●	●	●	●	149
Science	Energy	Introduction to conservation of resources	Describes ways to conserve natural resources: knowledge comes from research and demonstrations.						●	●	●	●	150
Science	Energy	How can water pressure create movement?	Demonstrates that water pressure can cause objects to move.				●	●	●				151
Science	Energy	How can air pressure create movement?	Demonstrates that air pressure can cause objects to move.						●	●	●	●	152
Science	Energy	Introduction to sound waves as a form of energy	Identifies sound waves as a form of energy; knowledge comes from demonstrations.						●	●	●	●	153

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Energy	Sound waves travel through solids, liquids, and gases	Demonstrates that sound waves travel through solids, liquids, and gases.						●	●	●	●	154
Science	Energy	Light travels in straight lines	Demonstrates that light travels only in straight lines.						●	●	●	●	155
Science	Energy	Reflected light makes objects visible	Demonstrates that objects become visible only when light is reflected from them.						●	●	●	●	156
Science	Energy	How light bends when it enters a new medium	Demonstrates that light bends when it passes from one medium to another.						●	●	●	●	157
Science	Energy	Light is a form of energy	Identifies light as a form of energy: knowledge comes from participation in demonstrations.						●	●	●	●	158
Science	Energy	Darker colors absorb more light energy than light ones	Demonstrates that darker colors absorb more light energy than light colors.						●	●	●	●	159
Science	Energy	Highly reflective materials absorb almost no light energy	Demonstrates that mirrors and other highly reflective materials absorb almost no light energy.						●	●	●	●	160
Science	Energy	Why do objects appear to be reversed in a mirror?	Explains why objects reflected in a mirror appear to be reversed; knowledge comes from participation in demonstrations.						●	●	●	●	161
Science	Energy	Why do the Sun and Moon appear so much larger or orange colored when they are very low on the horizon?	Explains why the Sun or the Moon appears to be so much larger or orange colored when it/they are very low on the horizon.						●	●	●		162
Science	Energy	Introduction to the electromagnetic spectrum	Describes the forms of radiation on the electromagnetic spectrum.						●	●	●	●	163
Science	Energy	Characteristics of different physical states of matter	Describes the characteristics of the physical states of matter: plasma, gas, liquid, solid, Bose Einstein Condensate.								●	●	164
Science	Energy	Temperature and molecular movement	Explains the link between temperature and molecular movement; knowledge comes from participation in demonstrations.								●	●	165

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Energy	Change in motion is caused by unbalanced forces	Demonstrate that any change in motion is caused by unbalanced forces.						●	●	●	●	166
Science	Energy	Gravitational pull gives an object its weight	Infers that gravitational pull gives an object its weight; inferences come from participation in demonstrations.						●	●	●	●	167
Science	Energy	Explaining friction	Explains and demonstrates the force of friction.						●	●	●	●	168
Science	Energy	Gravity and friction will eventually cause an object in motion to stop	Explains and demonstrates that gravity and friction will eventually cause an object in motion to stop.						●	●	●	●	169
Science	Energy	Newton's First Law of Motion: Inertia makes objects remain at rest or continue in motion	Explains and demonstrates that the property of inertia makes objects remain at rest or continue in motion.								●	●	170
Science	Energy	Electrical currents flow through a conducting material	Demonstrates and offers a simple explanation of the flow of an electrical current through a conducting material.								●	●	171
Science	Energy	Build a simple electromagnet	Constructs a simple electromagnet and demonstrates that the number of coils of wire determine its magnetic attraction.						●	●	●	●	172
Science	Energy	Transformation of energy from one form to another	Demonstrates the transformation of energy from one form to another.						●	●	●	●	173
Science	Energy	Newton's Third Law of Motion: Every motion creates a force equal and opposite	Demonstrates that every motion creates a force equal and opposite to it (Newton's Third Law).								●	●	174
Science	Technology	Introduction to the principles of levers	Demonstrates through experimentation and hands-on experiences the principles of levers.				●	●	●	●	●	●	175
Science	Technology	Introduction to the principles of inclined planes	Demonstrates through experimentation and hands-on experiences the principles of inclined planes.				●	●	●	●	●	●	176
Science	Technology	Introduction to the principles of wheels and axles	Demonstrates through experimentation and hands-on experiences the principles of a wheel and axle.				●	●	●	●	●	●	177

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Technology	Introduction to the principles of pulleys	Demonstrates through experimentation and hands-on experiences the principles of pulleys.				●	●	●	●	●	●	178
Science	Technology	Introduction to the principles of wedges	Demonstrates through experimentation and hands-on experiences the principles of wedges.				●	●	●	●	●	●	179
Science	Technology	Introduction to the principles of screws	Demonstrates through experimentation and hands-on experiences the principles of screws.				●	●	●	●	●	●	180
Science	Technology	The technologies behind simple machines and structures	Experiences through demonstrations, hands-on activities and research various simple technologies used in constructing a Chinese balance and models of several simple machines and structures, such as a water wheel, a windmill, sail boat, igloo, grass hut, log home, stone hut, and a simple wood frame home.				●	●	●	●	●	●	181
Science	Technology	Simple technologies used by early humans and civilizations	Experiences through demonstrations, hands-on activities, and research various simple technologies used to: build a brick mold to make bricks; make primitive cutting implements; make a pit kiln for firing pots and vessels from clay. (Correlates with ancient history)				●	●	●	●	●	●	182
Science	Technology	Roman Arches	Constructs a Roman Arch accurately.				●	●	●	●	●	●	183
Science	Technology	Early human and animal sources of power	Explains, through demonstrations and research, how people used their own power to accomplish heavy work and how the use of domesticated animal provided a more efficient source of power.						●	●	●	●	184
Science	Technology	How different types of power sources and engines operate: Windmills	Explains, through demonstrations, research, and constructing a model, how a windmill operates and can be used.						●	●	●	●	185
Science	Technology	How different types of power sources and engines operate: Watermills	Explains, through demonstrations, research, and constructing a model, how a watermill operates and can be used.						●	●	●	●	186

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Technology	How different types of power sources and engines operate: Sail boats	Explains, through demonstrations, research, and constructing a model, how a sail boat operates and can be used.						●	●	●	●	187
Science	Technology	How different types of power sources and engines operate: Steam engines	Explains, through demonstrations, research, and using a model, how a steam engine operates and can be used.						●	●	●	●	188
Science	Technology	How different types of engines operate: Gasoline motors	Explains, through demonstrations, research, and using a model, how a gasoline motor operates and is used.						●	●	●	●	189
Science	Technology	How different types of engines operate: Diesel motors	Explains, through demonstrations, research, and using a model, how a diesel motor operates and is used.						●	●	●	●	190
Science	Technology	How different types of engines operate: Electric motors	Explains, through demonstrations, research, and using a model, how a electric motor operates and is used.						●	●	●	●	191
Science	Technology	How different types of engines operate: Aviation motors	Explains, through demonstrations, research, and using a model, how an aviation motor operates and is used.						●	●	●	●	192
Science	Technology	How different types of engines operate: Jet engines	Explains, through demonstrations, research, and using a model, how a jet engine operates and is used.						●	●	●	●	193
Science	Technology	How different types of engines operate: Rocket engines	Explains, through demonstrations, research, and using a model, how a rocket engine operates and is used.						●	●	●	●	194
Science	Technology	Sources of Power	Explain, through demonstrations and experimentation, the different sources of power, and how they generate power for human consumption.						●	●	●	●	195
Science	Technology	How batteries work	Explains how a battery stores power through demonstration and experimentation.						●	●	●	●	196
Science	Technology	Building a simple electric motor	Constructs a simple, working electric motor.						●	●	●	●	197

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Technology	How traditional electric light bulbs work	Through demonstration and experimentation, explains and understands how an electric light bulb operates.						●	●	●	●	198
Science	Technology	Radio and Television	Through demonstration and experimentation, explains and understands the principles involved in radio and television.						●	●	●	●	199
Science	Technology	Introduction to microchips and computer technology	Through demonstration and experimentation, explains and understands the principles involved in microchips and computers.						●	●	●	●	200
Science	Technology	Principles of Flight	Explains and understands the principles of flight through demonstration and experimentation.						●	●	●	●	201
Science	Technology	Introduction to Lasers	Through demonstration and experimentation, explains and understands the principles of lasers and their various uses.						●	●	●	●	202
Science	Technology	Introduction to Microwaves	Through demonstration and experimentation, explains and understands the principles of microwaves and their uses.						●	●	●	●	203
Science	Astronomy	Gravity and its role in the formation of a star and nebula	Through demonstration and experimentation, explains gravity's role in the formation of protogalactic nebula and the formation of the first stars.			●	●	●	●	●	●	●	204
Science	Astronomy	How stars are formed	Through demonstration and experimentation, explains the current understanding of how stars are formed.						●	●	●	●	205
Science	Astronomy	Introduction to stellar nucleosynthesis	Through demonstration and experimentation, explains the fundamentals of stellar nucleosynthesis.						●	●	●	●	206
Science	Astronomy	Life cycle of stars	Through demonstration and experimentation, explains the current understanding of the life cycle of stars.						●	●	●	●	207
Science	Astronomy	What causes the differences in apparent brightness of stars?	Through demonstration and experimentation, explains the apparent brightness of stars, being related to size, distance from Earth, and temperature.						●	●	●	●	208
Science	Astronomy	Why do the stars appear to move?	Through demonstration and experimentation, explains that the apparent movement of stars is related to the rotation of the Earth on its axis.						●	●	●	●	209

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Astronomy	Introduction to the concept of a light year	Through demonstration and experimentation, understands and explains the concept of a light year.						●	●	●	●	210
Science	Astronomy	Calculating the distance from Earth in miles or kilometers when given distance in terms of light years	Calculates the distance from Earth of a cosmic object located X-light years away.									●	211
Science	Astronomy	Introduction to black holes	Through demonstration and experimentation, explains the currently held scientific theory about black holes.						●	●	●	●	212
Science	Astronomy	Introduction to the telescope	Uses an optical telescope.						●	●	●	●	213
Science	Astronomy	Optical telescopes, radio telescopes, and spectrographs.	Through demonstration, experimentation, and research, demonstrates an understanding about: optical telescopes, radio telescopes, and spectrographs.						●	●	●	●	214
Science	Astronomy	What a star's spectrum can tell us	Through demonstration, experimentation, and research, explains how a star's spectrum is used to determine its chemical composition.						●	●	●	●	215
Science	Astronomy	Introduction to galaxies	Through demonstration, experimentation, and research, explains galaxies.						●	●	●	●	216
Science	Astronomy	Our solar system	Through demonstration, experimentation and research, demonstrates in-depth understanding about the various planets and satellites in our solar system.						●	●	●	●	217
Science	Astronomy	Day and night, the seasons, and length of daylight	Through demonstration, experimentation, and research, demonstrates an understanding about day and night, the seasons, and changes in the length of day light.			●	●	●	●	●	●	R	218
Science	Astronomy	Solstices and equinoxes	Through demonstration, experimentation, and research, demonstrates an understanding about solstices and equinoxes.						●	●	●	R	219
Science	Astronomy	Perihelions and aphelions	Through demonstration, experimentation, and research, demonstrates an understanding about perihelions and aphelions.						●	●	●	R	220

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Astronomy	Introduction to tides on Earth	Through demonstration, experimentation, and research, demonstrates an understanding of Earth/Moon relationships and the resulting tides on Earth.						●	●	●	●	221
Science	Astronomy	Solar and lunar eclipse	Through demonstration, experimentation, and research, demonstrates an understanding of solar and lunar eclipses.						●	●	●	●	222
Science	Astronomy	Meteorites and comets	Through demonstration, experimentation, and research, demonstrates an understanding of meteorites and comets.						●	●	●	●	223
Science	Earth Science: Geology Preparation	Layers of the Earth	Through demonstration, experimentation, and research, demonstrates an understanding of the layers of the Earth.						●	●	●	●	224
Science	Earth Science: Geology Preparation	The eight basic elements of the Earth	Through demonstration, experimentation, and research, demonstrates an understanding of the eight basic elements of the Earth.						●	●	●	●	225
Science	Earth Science: Geology Preparation	How weather shapes the land	Through demonstration, experimentation, and research, demonstrates an understanding of the forces of weather on Earth.						●	●	●	●	226
Science	Earth Science: Geology Preparation	How grains of sand are formed	Through demonstration, experimentation, and research, demonstrates an understanding of grains of sand in relation to weathering on Earth.						●	●	●	●	227
Science	Earth Science: Geology - Plate Tectonics	Tectonic plates	Through demonstration, experimentation, and research, demonstrates an understanding that the Earth's crust is made of plates.						●	●	●	●	228
Science	Earth Science: Geology - Plate Tectonics	What happens at the edges of tectonic plates?	Through demonstration, experimentation, and research, demonstrates an understanding about what happens at the edges of Earth's Plates.						●	●	●	●	229
Science	Earth Science: Geology - Plate Tectonics	Convergent and divergent movement in Earth's tectonic plates	Through demonstration, experimentation, and research, demonstrates an understanding of convergent and divergent movement in Earth's plates.						●	●	●	●	230
Science	Earth Science: Geology - Plate Tectonics	Convergent plates' subduction and mountain building	Through demonstration, experimentation, and research, demonstrates an understanding regarding Convergent Plates' Subduction and Mountain Building.						●	●	●	●	231

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Earth Science: Geology - Plate Tectonics	New land is formed when tectonic plates move apart (Divergent Boundaries)	Through demonstration, experimentation, and research, demonstrates an understanding that when Tectonic Plates move apart (Divergent Boundaries), molten material moves to the surface and new land is formed.						●	●	●	●	232
Science	Earth Science: Geology - Plate Tectonics	Parallel movement of the Earth's tectonic plates	Through demonstration, experimentation, and research, demonstrates an understanding that the Earth's Tectonic Plates also move parallel to each other.						●	●	●	●	233
Science	Earth Science: Geology - Plate Tectonics	The Ring of Fire	Through demonstration, experimentation, and research, demonstrates an understanding about the Ring of Fire.						●	●	●	●	234
Science	Earth Science: Geology - Plate Tectonics	Volcanoes	Demonstrates an understanding about types of volcanoes through demonstration, experimentation, and research.						●	●	●	●	235
Science	Earth Science: Geology - Rocks & Minerals	Classifying rocks	Through demonstration, experimentation, and research, demonstrates an understanding about classifying rocks by grading, color, types of rocks.						●	●	●	●	236
Science	Earth Science: Geology - Rocks & Minerals	Igneous (including Extrusive and Intrusive Igneous rocks); Sedimentary; and Metamorphic Rocks	Through demonstration, experimentation, and research, demonstrates an understanding about the different types of rocks: Igneous (including Extrusive and Intrusive Igneous rocks); Sedimentary; and Metamorphic.						●	●	●	●	237
Science	Earth Science: Geology - Rocks & Minerals	The Rock Cycle	Through demonstration, experimentation, and research, demonstrates an understanding of the Rock Cycle.						●	●	●	●	238
Science	Earth Science: Geology - Rocks & Minerals	Clastic Sedimentary Rocks	Through demonstration, experimentation, and research, demonstrates an understanding of how Clastic Sedimentary rocks are formed.						●	●	●	●	239
Science	Earth Science: Geology - Rocks & Minerals	How chemical processes form Sedimentary rocks	Through demonstration, experimentation, and research, demonstrates an understanding of how chemical processes form solids and, at times, these are Sedimentary rocks.						●	●	●	●	240
Science	Earth Science: Geology - Rocks & Minerals	How living organisms can create Biogenetic Sedimentary rocks	Through demonstration, experimentation, and research, demonstrates an understanding of how, at times, living organisms can create Sedimentary rocks called Biogenetic Sedimentary rocks.						●	●	●	●	241

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age	3	Age	4	KG	1st	2nd	3rd	4th	5th	6th	ID #	
Science	Earth Science: Geology - Rocks & Minerals	Extrusive and Intrusive Igneous rocks	Through demonstration, experimentation, and research, demonstrates an understanding of how Igneous rock is formed; explains the different characteristics of both Extrusive and Intrusive Igneous rocks.												242	
Science	Earth Science: Geology - Rocks & Minerals	Foliated and Non-foliated Metamorphic rocks	Through demonstration, experimentation, and research, demonstrates an understanding of how heat and pressure within the Earth create Metamorphic rocks and the difference between Foliated and Non-foliated Metamorphic rocks.												243	
Science	Earth Science: Geology - Rocks & Minerals	Differences between rocks and minerals	Through demonstration, experimentation, and research, demonstrates an understanding of the differences between rocks and minerals.												244	
Science	Earth Science: Geology - Rocks & Minerals	How mineral crystals are formed	Through demonstration, experimentation, and research, demonstrates an understanding of how to create Mineral crystals.												245	
Science	Earth Science: Geology - Rocks & Minerals	Why the size of Mineral Crystals varies as a result of fast and slow evaporation	Through demonstration, experimentation, and research, demonstrates an understanding of how the crystals in Minerals will vary in size as a result of fast and slow evaporation.												246	
Science	Earth Science: Geology - Rocks & Minerals	Tests used to identify Minerals and their properties	Discusses, understands, and performs some of the tests mineralogists use to identify Minerals and their properties.												247	
Science	Earth Science: Weather	How wind is created	Discusses, understands, and explains Wind.											R	R	248
Science	Earth Science: Weather	Weather Vanes	Discusses, understands, constructs, and uses a Weather Vane.											R	R	249
Science	Earth Science: Weather	Anemometers	Discusses, understands, and explains the use of an Anemometer.													250
Science	Earth Science: Weather	The Beaufort Wind Scale	Discusses, understands, and explains the Beaufort Wind Scale.													251
Science	Earth Science: Weather	Wind and how it reshapes the landscape	Discusses, understands, and explains how the wind helps to reshape the landscape.													252

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Earth Science: Weather	The world's major wind systems	Discusses, understands, and explains the World's Winds: Polar Easterlies, Trade Winds, Prevailing Westerlies.								●	●	253
Science	Earth Science: Weather	Hydrologic Cycle	Discusses, understands, and explains the Hydrologic Cycle.						●	●	●	●	254
Science	Earth Science: Weather	Introduction to cloud study	Discusses, understands, and explains Clouds: how they are formed, kinds of clouds, and the types of precipitation they produce.						●	●	●	●	255
Science	Earth Science: Weather	Weather fronts	Discusses, understands, and explains different types of weather fronts and the relating types of weather that can occur as a result of these.						●	●	●	●	256
Science	Earth Science: Weather	Symbols on a weather map	Interprets symbols from a weather map.						●	●	●	●	257
Science	Earth Science: Weather	How mountain ranges can affect weather	Discusses, understands, and explains how mountain ranges can affect weather.						●	●	●	●	258
Science	Earth Science: Weather	Introduction to major types of storms	Discusses, understands, and explains different kinds of storms and the relating weather: Tornadoes, Waterspouts, Hurricanes, Tropical Depressions, Tropical Storms, Blizzards.						●	●	●	●	259
Science	Earth Science: Weather	Why changing air pressure can help us predict storms	Discusses, understands, and explains air pressure and how changing air pressure helps predict when a storm will occur.						●	●	●	●	260
Science	Earth Science: Weather	Introduction to the Barometer	Discusses, understands, and explains the use of a Barometer.						●	●	●	●	261
Science	Earth Science: Weather	Introduction to lightning	Discusses, understands, and explains Lightning: types, properties, effects, interesting facts, and safety.						●	●	●	●	262
Science	Earth Science: Weather	Thunder and lightning	Discusses, understands, and explains the relationship between Thunder and Lightening.						●	●	●	●	263
Science	Earth Science: Meteorology	The role of a Meteorologist	Discusses, understands, and explains the role of a Meteorologist.			●	●	●	●	●	●	R	264

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Earth Science: Meteorology	How Meteorologists obtain data	Discusses, understands, and explains the various ways a Meteorologist obtains data.						●	●	●	●	265
Science	Earth Science: Meteorology	Weather instruments	Discusses, understands, and explains the various instruments used in monitoring the atmosphere.						●	●	●	●	266
Science	Earth Science: Climate	Differences between Weather and Climate	Discusses, understands, and explains the differences between Weather and Climate.						●	●	●	●	267
Science	Earth Science: Climate	Factors that make up Climate	Discusses, understands, and explains the many factors that make up Climate.						●	●	●	●	268
Science	Earth Science: Climate	How climate affects the way people live	Discusses, understands, and explains how Climate affects: people's clothing, housing, and types of food grown.				●	●	●	●	●	●	269
Science	Earth Science: Climate	How climate determines what plants and animals will thrive	Discusses, understands, and explains how Climate determines the types of vegetation and animals that thrive.						●	●	●	●	270
Science	Earth Science: Climate	Climate and pollution	Discusses, understands, and explains how Climate is thought to be affected by a variable, such as pollution (Greenhouse Effect).						●	●	●	●	271
Science	Being a Scientist: Measurement	Precise scientific measurement: mass	Uses scientific scales (and other instruments for measuring mass) carefully and appropriately and can do so in both measurement systems.				●	●	●	●	●	●	272
Science	Being a Scientist: Measurement	Physical science: Rulers and measuring tapes	Uses various rulers and measuring tapes carefully and appropriately to make observations in relation to physical science explorations and can do so in both measurement systems.				●	●	●	●	●	●	273
Science	Being a Scientist: Measurement	Life science: Using a thermometer in life science 3	Uses a thermometer carefully and appropriately in classroom experiments and earth-science related activities.				●	●	●	●	●	●	274
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Classification by physical or chemical properties	Groups and classifies objects or data according to physical or chemical properties.				●	●	●	●	●	●	275
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Using more powerful hand magnifiers	Uses a hand magnifier carefully and appropriately to investigate objects on a larger scale.				●	●	●	●	R	R	276

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Parts of the microscope and correct use 1	Understands the various parts of the microscope, their functions and how to use a microscope carefully and appropriately.						●	●	●	●	277
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Parts of the microscope and correct use 2	Uses various microscopes carefully and appropriately to analyze specimens.						●	●	●	●	278
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Microscope: preparing slides	Prepares own slides, using either dry or wet mount.						●	●	●	●	279
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Precise descriptions of objects being studies	Demonstrates objective observational skills by accurately describing the physical properties of objects.					●	●	●	●	●	280
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Gathering data samples	Demonstrates at least two techniques for obtaining samples of data.						●	●	●	●	281
Science	Being a Scientist: Observation - Gathering & Analyzing Data	Classification of objects with precision	Classifies objects correctly.						●	●	●	●	282
Science	Being a Scientist: Scientific Experimentation 1	The Scientific Method	Describes accurately the steps of the Scientific Method.						●	●	●	●	283
Science	Being a Scientist: Scientific Experimentation 1	Defining and testing a Scientific Hypothesis	Understands the meaning of a Hypothesis and conducts a simple experiment to prove or disprove a Scientific Hypothesis.						●	●	●	●	284
Science	Being a Scientist: Scientific Experimentation 1	Reporting outcomes of a scientific experiments and drawing conclusions	Accurately records findings from a science experiment/project and draws objective conclusions from the data.						●	●	●	●	285
Science	Being a Scientist: Scientific Experimentation 1	Preparing and interpreting graphs and charts that display the result of an experiment	Accurately records findings from a science experiment/project and draws objective conclusions from the data, using graphs or charts.						●	●	●	●	286

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Being a Scientist: Scientific Experimentation 1	Distinguishes between observations and inferences	Distinguishes between observations and inferences in science experiments or investigative experiences.						●	●	●	●	287
Science	Being a Scientist: Scientific Experimentation 2	Demonstrations and experiments	Explains the difference between a demonstration and an experiment.						●	●	●	●	288
Science	Being a Scientist: Scientific Experimentation 2	Designing a science experiment	Designs own science experiment (understands the concept of variables), conducts the experiment, records observations and data, and draws conclusion from the results.						●	●	●	●	289
Science	Classifying: Taxonomy 1	Differences among the kingdoms of life	Observes differences in various specimens representing the different kingdoms.				●	●	●	●	●	●	290
Science	Classifying: Taxonomy 1	Rationale behind the classification scheme for plants and animals	Discusses and understands the rationale of why the different life forms on Earth are classified.						●	●	●	●	291
Science	Classifying: Taxonomy 1	The Six Kingdoms and their subdivisions	Discusses the Six Kingdoms or the Three- Domain System and the subdivisions within these; is aware that scientists are continually making discoveries that might change this structure.						●	●	●	●	292
Science	Classifying: Taxonomy 2	Introduction to the Chinese Boxes	Works with the Chinese Boxes to develop an understanding of one type of classification system.						●	●	●	●	293
Science	Classifying: Taxonomy 2	Investigating using the Chinese Boxes	Uses the Chinese Boxes to spark investigations within any classification area.						●	●	●	●	294
Science	Classifying: Taxonomy 3	Difference between living and non-living organisms	Discovers and explains the differences between different living and non-living organisms.			●	●	R					295
Science	Classifying: Taxonomy 3	The differences between plants and animals	Discovers and explains the differences between plants and animals.			●	●	R					296
Science	Classifying: Taxonomy 3	The differences between plant and animal cell structures	Discovers and explains the differences between plant and animal cell structures.						●	●	●	R	297

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Classifying: Taxonomy 3	Differences between plants, animals, and prokaryotic organisms	Discovers and explains the differences between plants, animals, and prokaryotic organisms.								●	●	298
Science	Classifying: Taxonomy 3	The functions of different cells within an organism	Identifies and understands that there are different cells within an organism, which perform different functions.								●	●	299
Science	Classifying: Taxonomy 3	The differences between the cell structures of plants, animals, and prokaryotic organisms	Discovers and explains the differences between the cell structures of plants, animals, and prokaryotic organisms.								●	●	300
Science	Study of Animals 1	Similarities and differences in various mammals	Discovers, identifies, and explains (in different ways) the similarities and differences in various Mammals.				●	●	●	R			301
Science	Study of Animals 1	Similarities and differences in various fish	Discovers, identifies, and explains (in different ways) the similarities and differences in various Fish.				●	●	●	R			302
Science	Study of Animals 1	Similarities and differences in various birds	Discovers, identifies, and explains (in different ways) the similarities and differences in various birds.				●	●	●	R			303
Science	Study of Animals 1	Similarities and differences in various amphibians	Discovers, identifies, and explains (in different ways) the similarities and differences in various amphibians.				●	●	●	R			304
Science	Study of Animals 1	Similarities and differences in various reptiles	Discovers, identifies, and explains (in different ways) the similarities and differences in various reptiles.				●	●	●	R			305
Science	Study of Animals 1	Similarities and differences between vertebrates and invertebrates	Discovers, identifies, and explains (in different ways) the similarities and differences between vertebrates and invertebrates.				●	●	●	R			306
Science	Study of Animals 1	Similarities and differences in various insects	Discovers, identifies, and explains (in different ways) the similarities and differences in various Insects.				●	●	●	R			307
Science	Study of Animals 1	Similarities and differences in various molluscs	Discovers, identifies, and explains (in different ways) the similarities and differences in various Molluscs.				●	●	●	R			308
Science	Study of Animals 1	Similarities and differences in various crustaceans	Discovers, identifies, and explains (in different ways) the similarities and differences in various Crustaceans.				●	●	●	R			309

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Study of Animals 2	Needs of different animals for food	Discovers, identifies, and explains (in different ways) the needs of different animals regarding food.				●	●	●	R			310
Science	Study of Animals 2	The Food Web	Discovers, identifies, and explains (in different ways) the role of different animals in the Food Web.				●	●	●	●	●	R	311
Science	Study of Animals 2	Different nutritional needs of herbivores, carnivores, and omnivores	Discovers, identifies, and explains (in different ways) the different nutritional needs of herbivores, carnivores, and omnivores.						●	●	●	R	312
Science	Study of Animals 3	The different adaptations of herbivores, carnivores, and omnivores	Discovers, identifies, and explains (in different ways) the different adaptations of herbivores, carnivores, and omnivores.						●	●	●	●	313
Science	Study of Animals 3	Adaptations of animals to specific biome environments	Discovers, identifies, and explains (in different ways) the adaptations of animals to specific biome environments.						●	●	●	R	314
Science	Study of Animals 4	How different animals reproduce	Discovers, identifies, and explains (in different ways) how different animals reproduce.						●	●	●	●	315
Science	Study of Animals 4	Reproduction of microscopic organism	Discovers, identifies, and explains (in different ways) how microscopic organisms reproduce.						●	●	●	●	316
Science	Study of Animals 5	Role of camouflage as a defense mechanism	Discovers, identifies, and explains (in different ways) the role of camouflage as a defense mechanism and other defense strategies animals use.				●	●	●	R			317
Science	Study of Animals 6	Internal anatomy of different animals	Discusses and understands the internal anatomy of different animals.						●	●	●	●	318
Science	Study of Animals 6	Introduction to human anatomy 1	Explains, in simple terms, the functions of the major organs of our bodies: brain, heart, lungs, stomach, intestines.	I	●	●	●	●	●	●			319
Science	Study of Animals 6	Introduction to human anatomy 1	Explains, in simple terms, the functions of the major organs of our bodies: brain, heart, lungs, stomach, intestines, as well as our skin.	I	●	●	●	●	●	●			320
Science	Study of Animals 6	Introduction to human anatomy 2	Can name some of the major bones found in the human skeletal system, including the skull, spinal column, jaw, pelvis, ribs, and shoulder blades.						●	●	●	●	321

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Study of Animals 6	Introduction to human anatomy 2	Discusses and understands the internal anatomy and functions of the different systems in the human body: including skin, muscles, organs (including the kidneys, liver, eyes, sense of taste, and sense of smell), the endocrine system, and the nervous system.						●	●	●	●	322
Science	Study of Animals 6	Introduction to human anatomy 2	Can name the major bones found in the human skeletal system, including the skull, spinal column, vertebrae, jaw, pelvis, ribs, sternum, shoulder blades/clavicles, humerus, ulna, radius, femur, tibia, fibula.						●	●	●	●	323
Science	Study of Animals 7	Relationship between people and animals	Discusses and explains (in different ways) the varied relationships humans have with animals: food, pets, entertainment, sport.						●	●	●	●	324
Science	Study of Animals 7	How humans have affected animal habitats	Discusses and explains (in different ways) the effects humans have had on animals in their natural habits.						●	●	●	●	325
Science	Study of Animals 7	Animal husbandry	Discusses and explains (in different ways) the different aspects of animal husbandry.						●	●	●	●	326
Science	Botany 1	Identifying local plants, trees, and flowers	Identifies common trees, flowers, and classroom plants around the school.				●	●	●	R			327
Science	Botany 1	Identifies common trees and flowers by specific criteria	Uses specific criteria and identifies common trees and flowers.				●	●	●	R			328
Science	Botany 1	Introduction to Field Guides	Uses a field guide to assist in identifying various plants.						●	●	●	●	329
Science	Botany 1	The parts of a flower	Identifies and explains (in different ways) the parts of a flower.			I	●	●	●	●	R		330
Science	Botany 1	The parts of a seed	Identifies and explains (in different ways) the parts of a seed.				●	●	●	●	R		331
Science	Botany 1	The parts of a tree	Identifies and explains (in different ways) the parts of a tree.			I	●	●	●	●	R		332

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Botany 1	The parts of a leaf	Identifies and explains (in different ways) the parts of a leaf.			I	●	●	●	●	R		333
Science	Botany 1	Botanical names for leaf shapes	Identifies and explains (in different ways) the botanical names for leaf shapes.						●	●	●	R	334
Science	Botany 1	Botanical terms for leaf margins	Identifies and explains (in different ways) the botanical terms for leaf margins.						●	●	●	R	335
Science	Botany 1	Botanical terms for leaf venation	Identifies and explains (in different ways) the botanical terms for leaf venation.						●	●	●	R	336
Science	Botany 1	Botanical terms for root types	Identifies and explains (in different ways) the botanical terms for root types.						●	●	●	R	337
Science	Botany 2	Monocots and dicots	Discovers, identifies, differentiates, and explains (in different ways) the characteristics of monocots and dicots.						●	●	●	●	338
Science	Botany 2	Bryophytes and tracheophytes	Discovers, identifies, differentiates, and explains (in different ways) the characteristics of bryophytes and tracheophytes.						●	●	●	●	339
Science	Botany 2	Angiosperms and gymnosperms	Discovers, identifies, differentiates, and explains (in different ways) the characteristics of angiosperms and gymnosperms.						●	●	●	●	340
Science	Botany 3	The function of roots	Discovers, identifies, and explains (in different ways) the function of roots.						●	●	●	●	341
Science	Botany 3	The function of flowers	Discovers, identifies, and explains (in different ways) the function of flowers.						●	●	●	●	342
Science	Botany 3	The function of fruits	Discovers, identifies, and explains (in different ways) the function of fruit.						●	●	●	●	343
Science	Botany 3	Different types of fruits	Discovers, identifies, and explains (in different ways) the different types of fruits.						●	●	●	●	344
Science	Botany 3	The function of seeds	Discovers, identifies, and explains (in different ways) the function of a seed.						●	●	●	●	345

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Botany 3	How seeds are dispersed	Discovers, identifies, and explains (in different ways) how seeds have adapted to disperse themselves.						●	●	●	●	346
Science	Botany 3	Function of the plant stem	Discovers, identifies, and explains (in different ways) the function of the plant stem.						●	●	●	●	347
Science	Botany 3	The circulatory system of the plant stem	Discovers, identifies, and explains (in different ways) the circulatory system of the plant stem.						●	●	●	●	348
Science	Botany 3	The function of leaves and process of Photosynthesis	Discovers, identifies, and explains (in different ways) the function of leaves and the process of Photosynthesis.						●	●	●	●	349
Science	Botany 4	Why plants need to carry out the function of Photosynthesis	Discovers, identifies, and explains (in different ways) the basic needs of plants to carry out Photosynthesis.						●	●	●	●	350
Science	Botany 4	The basic needs of plants	Discovers, identifies, and explains (in different ways) the basic needs of plants.						●	●	●	●	351
Science	Botany 4	Plants contain water	Discovers, identifies, and demonstrates that plants contain water.						●	●	●	●	352
Science	Botany 4	How plants adapt to the environment	Discovers, identifies, and demonstrates that plants adapt to their environment.						●	●	●	●	353
Science	Botany 4	Plants grow in predictable patterns	Discovers, identifies, and demonstrates that plants grow in predictable patterns.						●	●	●	●	354
Science	Botany 5	How people use plants	Discovers, identifies, explains, and demonstrates the varied relationships between humans and plants: food, clothing, furniture, housing, medicinal, and so on.						●	●	●	●	355
Science	Care of Plants	Caring for indoor plants	Actively participates in the appropriate care of indoor classroom plants.	I	●	●	●	●	●	●	●	●	356
Science	Care of Plants	Root cuttings	Actively researches and/or participates in performing root cuttings of classroom plants for proliferation.				●	●	●	●	●	●	357
Science	Care of Plants	Plants' need for light and water	Actively researches and demonstrates knowledge of different plants' needs regarding water and light.						●	●	●	●	358

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Care of Plants	How seeds should be planted	Actively researches and demonstrates knowledge of how to plant seeds and the differing requirements needed for different seed varieties.						●	●	●	●	359
Science	Care of Plants	Cold frames and their use in seed germination	Actively researches and demonstrates knowledge of cold frames and their use in seed germination.						●	●	●	●	360
Science	Care of Plants	Growing vegetables	Actively researches and demonstrates knowledge of raising a crop of vegetables.						●	●	●	●	361
Science	Care of Plants	Plant needs and designing the layout of a garden	Actively researches and demonstrates knowledge of the needs of a variety of plants in designing the layout of a garden.						●	●	●	●	362
Science	Care of Plants	Container gardens	Demonstrates appropriate knowledge in designing and caring for container gardens, including either flowering plants, herbs, or vegetables.						●	●	●	●	363
Science	Care of Plants	Stakes and trellises	Actively researches and demonstrates knowledge of when and how to use stakes and trellises.						●	●	●	●	364
Science	Care of Plants	Chemical and organic fertilizers	Actively researches and demonstrates knowledge of chemical and organic fertilizers, the pros and cons of each, and the use of these.						●	●	●	●	365
Science	Care of Plants	Chemical versus organic pest control	Actively researches and demonstrates knowledge of chemical versus organic pest control and pros and cons of each.						●	●	●	●	366
Science	Care of Food	Food preservation: Why food spoils and how we can preserve it	Actively researches and demonstrates understanding of preventing food from being spoiled by insects, rodents, micro-organisms.						●	●	●	●	367
Science	Care of Food	Storing food to prevent spoilage	Actively researches and demonstrates understanding of how to store food to prevent spoilage.						●	●	●	●	368
Science	Care of Food	Cleaning fruits and vegetables	Actively researches and demonstrates understanding of how to clean fruits and vegetables to prevent contamination.						●	●	●	●	369
Science	Care of Food	Methods to extend the shelf-life of food	Actively researches and demonstrates understanding of different methods of extending the shelf-life of food.						●	●	●	●	370

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Ecosystems 1	Food chains and food webs	Demonstrates and explains (using different methods) the difference between a food chain and a food web.						●	●	●	●	371
Science	Ecosystems 1	Roles of different organisms in a food web	Demonstrates and explains (using different methods) the roles of the different organisms in a food web.						●	●	●	●	372
Science	Ecosystems 1	Roles of the different organisms in a food web according to type of environment	Demonstrates and explains (using different methods) the roles of the different organisms in a food web within a given environment.						●	●	●	●	373
Science	Ecosystems 1	Predators and prey	Demonstrates an understanding (by explaining using different methods) the role of predator and a prey.						●	●	●	●	374
Science	Ecosystems 1	Population balance and overpopulation	Demonstrates and explains (using different methods) population balance and the concept of overpopulation within a food web.						●	●	●	●	375
Science	Ecosystems 1	Scavengers	Demonstrates an understanding (by explaining using different methods) the role of scavengers in an ecosystem.						●	●	●	●	376
Science	Ecosystems 1	The role of saprotrophs (decomposers) in an ecosystem	Demonstrates an understanding (by explaining using different methods) the role of saprotrophs (decomposers) in an ecosystem.						●	●	●	●	377
Science	Ecosystems 1	Bio-degradable, recyclable, and non-degradable	Demonstrates an understanding (by explaining using different methods) the differences between bio-degradable, recyclable, and non-degradable.								●	●	378
Science	Ecosystems 1	Introduction to ecological relationships	Demonstrates an understanding (by explaining using different methods) the ecological relationships among all living organisms within a specific environment.								●	●	379
Science	Ecosystems 2	Adaptation and survival	Demonstrates an understanding (by explaining using different methods) that the survival and success of living organisms over time depends on their ability to adapt.								●	●	380
Science	Ecosystems 2	How animals have adapted to survive	Demonstrates an understanding (by explaining using different methods) of some adaptations that have occurred in living organisms that have impacted their survival.								●	●	381

Montessori Foundation Curriculum Scope and Sequence: Ages 3 to 12

Commonly, by the end of the span of age or grade levels indicated below, students will be able to demonstrate the following skills, knowledge, and/or understanding:

Area	Strand	Lesson/Material	Curriculum Element	Age 3	Age 4	KG	1st	2nd	3rd	4th	5th	6th	ID #
Science	Ecology	What causes water pollution?	Actively researches and explains the different forms of water pollution.						●	●	●	●	382
Science	Ecology	Impact of pollution on the oceans	Actively researches and explains issues pertaining to water pollution and solutions within the world's oceans.								●	●	383
Science	Ecology	Acid rain	Actively researches and explains issues pertaining to acid rain and the effects it has on living organisms.								●	●	384
Science	Ecology	Has water pollution affected our local community?	Actively researches and explains issues pertaining to water pollution with special attention to the local environment's different bodies of water and their specific issues and concerns.								●	●	385
Science	Ecology	How does water pollution affect human beings?	Actively researches and explains issues pertaining to water pollution with special attention to the effects this has on human needs.								●	●	386
Science	Ecology	Water treatment plants	Actively researches and explains the role of water treatment plants and the variety of different modern technologies being used to purify water for human needs.								●	●	387
Science	Ecology	Indoor and outdoor air pollution	Actively researches and explains the different forms of indoor and outdoor air pollution.						●	●	●	●	388
Science	Ecology	What causes air pollution?	Actively researches and explains the different causes of air pollution.						●	●	●	●	389
Science	Ecology	The debate over greenhouse gases and global warming	Actively researches and explains the debate regarding greenhouse gases and global warming, including all opinions.								●	●	390
Science	Ecology	Effects of air pollution on weather and the environment	Actively researches and explains issues pertaining to air pollution, with special attention to the effects on weather patterns, changes in migration patterns of different species, destruction of existing habitats, and so on.								●	●	391
Science	Ecology	How has air pollution affected humans?	Actively researches and explains issues pertaining to air pollution, with special attention to the effects this has on humans.								●	●	392