

# LEELANAU MONTESSORI UPPER ELEMENTARY

## ACADEMIC SKILLS

## CULTURE AND SCIENCE

The areas of culture and science are studied in three-year cycles. Some concepts are touched on every year and others are studied once every three years. The time at which your child may study the different areas may vary. Some areas of study are of great interest, in which we allow time for further investigation. Others may not spark the children's interest, and the concept may only be touched on. The Montessori philosophy allows our curriculum to follow the children's interests.

## HISTORY

- The First Great Lesson, The Beginning
- The Second Great Lesson, The Timeline of Life
- The Third Great Lesson, The Coming of Humans

The student....

- Describes, in general terms, the stages of human evolution and explore the traits of early man
- Describes the fundamental human needs

## ANCIENT CIVILIZATIONS

- Describes the progression from band to civilization
- Maps ancient civilizations
- Studies and conducts a research on ancient civilizations

## U.S. HISTORY/GOVERNMENT/CURRENT EVENTS

- Studies Native American history
- Participates in the Native American Cultural Experience
- Explains motives that led European explorers to search for new routes and land
- Maps the routes of early explorers
- Uses demographic terms correctly: ethnic groups, religious groups and linguistic groups

- Retells the story of the Pilgrim's and the founding of the Plymouth colony
- Identifies the original 13 American colonies
- Studies the Salem Witch Trials
- Describes the role of women in early America
- Identifies the major cities of Colonial America
- Describes the major forces and events that led to the Declaration of Independence and the American Revolution
- Studies the Civil War
- Studies the Industrial Revolution
- Studies the Westward expansion
- Studies the Articles of Confederation, Constitution, Bill of Rights
- Studies the three branches of government
- Gives examples of why it is necessary for communities to have governments
- Gives examples of different ways people in a community can influence their local government
- Gives examples of the major rights that immigrants have acquired as citizens of USA
- Gives examples of the different ways immigrants can become citizens of USA
- Defines and correctly use words related to government e.g. citizen, suffering, rights, representation, federal, state, county, and municipal
- Explains the structure of student's city or town government
- Defines what a nation is and give examples of different ways nations are formed
- Gives examples of several well-known international organizations and explain their purposes and functions e.g. UN, World Bank, NATO
- Reads about current events, form a response, and summarize

## MICHIGAN HISTORY

- Identifies bordering states of Michigan
- Identifies major Rivers of Michigan
- Identifies major cities of Michigan
- Creates a timeline of Michigan History
- Studies Prehistoric/Historic Indians

- Studies the Northwest Territory
- Explains the process of Michigan becoming a state
- Studies Michigan government
- Studies and identify Michigan's symbols
- Studies Michigan's economics
- Identifies and studies famous places and people in and from Michigan
- Studies and identifies famous landmarks in Michigan
- Studies the history of Detroit and our local area

## GEOGRAPHY

### PHYSICAL GEOGRAPHY

- Studies land and water forms through the imaginary island, books, maps and internet sources
- Identifies major land and water forms of the world
- Conducts a river study and create a model river

### POLITICAL GEOGRAPHY

- Identifies and locates the different biomes of the world and identify the different plants and animals in these biomes
- Studies food webs and food chains
- Studies the water, carbon, and nitrogen cycles
- Studies the different layers of the soil, ocean, and atmosphere
- Conducts a biome or continent research
- Identifies, locates, and describes characteristics of the continents and oceans
- Uses pin maps to locate and identify cities, counties, and other physical features
- Reads and creates maps with Cardinal directions, keys and scales.

### ECONOMIC GEOGRAPHY

- Studies of natural resources and industries
- Identifies the location and quantity for producing goods
- Identifies how much of a product is consumed
- Defines, studies, and maps imports, exports, and world trade

- Defines and explores interdependency within our food, professional services, currency, and tax systems

## FUNCTIONAL GEOGRAPHY

- Studies laws of the universe
- Investigates solar energy
- Studies movement of the earth and its consequences
- Studies the atmosphere and its phenomena sequence
- Observes and identifies the work of the wind
- Studies the hydrosphere and its phenomena

## SCIENCE

- Participates in LOC (Leelanau Outdoor Center) mobile and camp LOC programing including at least one over night camping experience

## PHYSICAL SCIENCE

- Understands concepts of conservation and recycling

## GEOLOGY & METEOROLOGY

- Develops foundation knowledge of the mineral kingdom
- Studies specific weight and layers of the earth
- Studies types of rocks and their formation: Sedimentary, Igneous, Metamorphic
- Diagrams and learns about the rock cycle
- Studies and models plate tectonics
- Examines mineral characteristics: hardness testing, streak testing, luster
- Studies and engages in experiments investigating heat and how it travels and is measured
- Studies the atmosphere:
  - air pressure and masses, humidity, precipitation
  - layers and composition of the atmosphere
  - the formation of winds, lands, and sea breezes and tools for measuring it
  - the Coriolis effect
  - water cycle

- clouds and thunderstorms
- weather data and maps

## CHEMISTRY

- Understands and demonstrate science safety procedures/ protocols and how to safely use equipment
- Conducts experiments using the scientific method
- Builds a general foundation for the study of chemistry
- Understands States of Matter: liquid, solid, gas
- Studies, observes, and engages in inquiry based projects involving
  - physical and chemical changes
  - particles which attract and do not attract
  - mixtures and Solutions
- Studies the Periodic Table (Symbol, atomic mass and number to find protons, electrons, and neutrons)
- Studies elements and compounds
- Depicts chemical bonding through models and diagrams
- Studies, observes, and engages in lab activities investigating chemical reactions
- Balances chemical equations

## PHYSICS

- Studies, observes, and engages in inquiry based projects involving
  - Laws of Motion: force, balance, movement
  - simple machines
  - Laws of Gravity
- Studies types, forms and sources of energy
  - electrical
  - magnetic
  - heat
- Studies and be aware of their consumption of renewable and nonrenewable sources of energy
- Studies the stars and astronomy; life cycle of stars
- Develops a basic understanding of magnetism
  - Intro and definition
  - Types of Magnets: electromagnets

- Laws governing magnetism

## BIOLOGY ZOOLOGY

- Studies classification of vertebrates and invertebrates
- Studies advanced classification of vertebrates and invertebrates
- Studies the characteristics of the five main classes of vertebrates
- Understands different organism's habitat, climate and environment
- Understands how different animal organisms meet their needs
- Understands the food chain
- Classifies 6 classes of Invertebrates
- Identifies characteristics of invertebrates
- Identifies external parts of Invertebrates
- Identifies internal parts of vertebrates
- Understands migration and hibernation
- Understands the life cycle of animals
- Explores the Tree of Life
- Studies classification/taxonomy systems
- Builds general understanding of the five kingdoms

## BOTANY

- Classifies five kingdoms of living things
- Studys advanced classification
- Identifies external parts of a flower, leaf, plant
- Identifies and name leaf shapes
- Demonstrates an understanding of plants needs/care of a plant
- Understands the life cycle of a plant
- Understands how different plant organisms meet their needs for survival
- Understands photosynthesis
- Identifies gymnosperms and angiosperms characteristics
- Engages in an overview of Gymnosperms
- Studies Anthrophyta Phylum: Monocots vs. Dicots
- Studies Plant Classification

- Studies the Kingdom of Fungi
- Uses a microscope properly

## ANATOMY & PHYSIOLOGY

- Explores vital functions of animals and plants
- Describes the hierarchical organization of multicellular organisms (cells, tissues, organs etc.)
- Studies of the cell parts and functions, microscope use to view cell slides, cell project
- Identifies major systems in the human body- “The Great River”:  
Introduction to body systems
  - Skeletal System: learning about and identifying bones
  - Circulatory System: identifying parts/functions of heart, blood, and blood vessels
  - Respiratory System: identifying parts/functions
  - Digestive System: identifying parts/functions, presentation on nutrition
  - Muscular: identifying parts/functions
  - Respiratory: identifying parts/functions
  - Cardiovascular: identifying parts/functions
  - Nervous: identifying parts/functions
- Explains ways in which the major systems in the body interact