Curriculum   
Support Workshop through the Fall Semester   
- Cosmic Education

**Theory**

**The Montessori Approach**

* **Self-Construction**
* **Planes of Development**
  + Planes of Development and the neuroscience
* **Cosmic Educations**
* **Story Telling**

**Geography/Geology**

**The Universe: Its Matter and Its Laws**

* ***Great Story*: The formation of the Universe**
  + Matter attracts matter
* ***Story*: A Periodic Kingdom Tale**
* ***Story*: Nucleosynthesis of a Star**
  + The Model of an Atom
* ***Great Story*: The formation of the Earth**
* **States of Matter („How Matter Obeys”)**
  + Temperature Affects the State of Matter
  + Solids
    - Model of a Solid
    - Properties of a Solid
    - Solids Push Down Only
  + Liquids
    - Model of a Liquid
    - Properties of a Liquid
    - Liquids Take the Shape of Their Container
    - Liquids Push Sideways and Down
  + Gases
    - Model of a Gas
    - Properties of a Gas
    - Gases Move in All Directions to Take Up the Available Space
    - Gases Can Push Upwards
* **Composition of the Earth**
  + Layers of the Earth
* **Composition of the Earth, Further Details**
  + Plate Tectonics
  + Isostatic Balance
  + Effects of Plate Tectonics
    - Rock formation
    - Volcanos
    - Earthquakes
    - Geysers
* **Further States of Matter**
  + Temperature Affects the States of Matter
  + Liquids – Fluid/Viscous
  + Liquids - Temperature Affects Viscosity
  + Liquids Settle According to Their Weight
  + Solids - Rigid/Elastic/Plastic
  + With Movement, Different Materials Arrange Themselves According to Their Weight
* **Different Ways of Combining**
  + Combining
    - Mixture
    - Suspension
    - Solution
  + Chemical Change
    - Color Change
    - Gas Evolves
    - Precipitation Occurs
    - Temperature Change
    - Light Emitted
  + Separating
    - Separating a Mixture
    - Separating a Suspension
    - Separating a Solution
    - Separating a Compound
  + Saturation and Crystallization
    - Saturated Solution
    - Supersaturated Solution
    - Crystallization

**The Sun and the Earth**

* **Our Solar System (including idea of revolution and rotation)**
* **Effects of Earth's Rotation**
  + Parts of the Day
    - Time
    - Time-Zones
  + Hottest/Coldest Parts of the Earth
    - Climate
    - Climate-Zones
* **Effects of Earth's Revolution**
* Solstices, Equinoxes, and the Seasons

**The Work of Air**

* **How the Air obeys**
* **The Winds**
  + Global Winds
* **Interaction of Heated Land/Water and Wind**
  + Sea/Land Breeze
  + Work Chart for the Winds
* **Rain**
  + Seasonal Rain
  + Local Conditions for Rain
* **Ocean Currents**
  + Air Can Make the Water Surface Move
  + Land Causes the Currents to Turn
* **Wind Erosion**

**Work of Water**

* **The River Model**
  + Parts of the River
  + Sedimentation
  + Main Rivers of the Earth
* **Erosion**
  + By Rivers
  + By Rain
  + By Waves
  + By Ice
* **The Water Cycle**
* **River Model**
  + How and where to build a river model
* ***Story*: The Earth’s Restaurant**

**Life on the Earth**

* **Vegetation in Different Zones**
* **People in Different Zones**
* **Interdependencies of Human Beings in Society**
  + Where Do We Get Our Food From?
  + What does the … Need?
  + The Flow of Goods
  + The Collection Bowl
* **Economic Geography**
  + What is Produced and Where?
  + How Much is Produced?
  + How Much Do We Consume?
  + Comparison of Consumption and Production

**Biology**

**The Coming of Life**

* ***Great Story*: The Coming of Life**
* **Timeline of Life**

**BOTANY**

**The Plant and Its Vegetative Parts**

* ***Story*: The Story of the Plants**
* **Nature Walk**
* **Parts of a Plant**
* **Needs of a Plant**
* **The Leaf**
* **The Root**
* **The Stem**

**The Plant and Its Reproductive Parts**

* **The Flower**
* **The Fruit**
* **The Seed**

**Plant Cell**

**Plant Classification**

**ZOOLOGY**

**Body Functions of Vertebrates**

**Animal Cell**

**Animal Classification**

**The Human Body**

* ***Story*: The Great River**
* **Human Body Systems**
* **Microbes and Immune System**

**Ecology**

**Chart of Interdependencies**

**History**

**PRE-HISTORY**

**The Black Strip**

**The Clock of Eras**

**HISTORY**

**The Coming of Human Beings**

* ***Great Story*: The Coming of Human Beings**
* **The Timeline of Human Beings**
* **The Hand Timeline**

**The Phases of History**

* **Nomadic Phase**
* **Agricultural Phase**
* **Urban Phase**

**Civilizations**

* **River Civilizations (Sumer, Egypt, Nubia, Indus Valley, Hwang-Ho)**
* **American Civilizations (Meso-American, Aztec, South American, Incan)**
* **Classical Civilizations (Ancient Greece, Ancient Rome)**
* **Middle Ages (Medieval Life)**

**The Movements of People**

**The Exercises for Time**

* **The Year**
* **The Calendar**
  + Months of the Year
  + Origin of the Names of the Months of the Year
  + Days of the Week
  + Origin of the Names of the Days of the Week
  + Clock Time
  + Telling Time to the Hour
  + Timeline of my Day

**KEYS FOR EXPLORATION**

**The Fundamental Needs**

**The History Question Charts**

**Making a Time Line**