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**