

# Geography in the Montessori Environment

There are basically two objectives in presenting geography to the three- to seven- year- old child. The first is to help her develop a clearer sense of spatial orientation through enriched and intensive interaction and experience. The second is to encourage her to become aware of and accept other cultures through related experiences in cultural studies.

The infant is born with no sense of spatial orientation. Because she lacks experience in interacting with the external environment, muscle control, and a developed sensory system, she is left in a state of non-awareness-- even of the space of her own body, crib, bedroom, house, yard, block, or other familiar places.

The child usually enters school without clear concepts or the vocabulary of spatial relations (up, down, near, far, and so forth). At the same time, the young child has a strong need for order in the environment around her. The order established in the prepared environment can help her develop these concepts. She must know where to find things if she is to develop a clear sense of the physical space of her world. We work from the beginning to provide an atmosphere of physical order within the classroom. Every material has a specific name and a specific place in the room. Materials are grouped together by similar natures and sequenced logically. We frequently ask the child to bring us a pencil from the box on the windowsill, to put an activity back where it belongs, and to follow increasingly complex directions involving spatial vocabulary.

We usually divide the study of geography along the following conceptual lines for all age children: physical geography, cultural geography, political geography (nations, cities, borders), economic geography (natural resources, production, and transportation to market), and cartography (map skills). This is a broad picture of our approach and goes beyond what is possible for most three- to seven- year- olds. At this age level, we introduce the child to each of these areas, some at greater depth than others, and build on this knowledge in the later years.

Geography is important both as a necessary conceptual framework and spatial orientation and as a bridge to the development of the child's understanding and appreciation of the story of man and nature. As in other areas of the Montessori curriculum, we first give the child the big picture then move gradually to the details: names of countries, rivers, and mountains, and a grasp of the cultures of other lands. The framework is always man's relationship to the earth: how he meets his basic needs (shelter, food, clothing, transportation, defense, ornamentation, self- expression) under varying geographic conditions.

Geography is introduced to the young child as a source of initial impressions, intended to stimulate interests that will blossom in the later elementary years. No child is too young for a lesson that interests her, for we never know what she may take away. There is always a level at which even the youngest child in the class can work with the materials in preparation for deeper investigation. At first, most of the geography materials are presented at a level of sensorial manipulation. One example would be the puzzle maps, which the youngest child uses initially as a sensori-motor puzzle task and only later comes to see as a simple set of maps.

A teacher supervising a child's work in the area of geography would probably include the following general sequence:

- Present the material at a sensory level.

- Present the child with the precise vocabulary of the material.
- Talk about the subject with the child.
- Present written labels for the vocabulary of the material.
- Provide reading materials (often booklets made by the teacher) to reinforce impressions about a lesson.
- Allow and encourage the child to make her own books about the subject and undertake other independent projects (maps, drawings, and so forth).

As always in Montessori, we work from what the child already knows to what she does not, from the simple to the complex, from the whole to its parts, and from the concrete to the abstract.

### **Working from the known to the unknown**

Lessons must be sequences, starting with the review of the last thing the child has actually learned and working from there to the next step along the sequence.

### **Working from the simple to the complex**

The sequence in which we offer lessons and materials must always consider the progression of the child's understanding of the activity or concept, starting from its simplest form and gradually taking in more difficult or complex information or skills.

### **Working from the whole to the parts**

In sequencing lessons, particularly in the areas of science, history and geography, we do not stay with the smallest unit and work outward, following the traditional sequence from neighborhood to town, state, country, other countries, continents, and the earth. Instead we offer the child a simplified version of the reverse sequence: earth, continents, countries, America, state, city, and neighborhood. Once the child has seen the big picture, it is easier in the years ahead to begin filling in the details.

Since so many materials in the geography area must be teacher made, it is important to remember the value of simplicity, quality, and the isolation of one characteristic in each material and presentation.

## **A Sequence for Geography: Land, Air, and Water**

### **Maps**

- The land and water globe
- The continent globe
- The puzzle maps
- Work with the later puzzle maps
- Make a map
- The model town or farm
- Introduction to mapping
- Introduction to the directions of the compass
- The town game
- The flat pin maps
- The regions of the United States

## **Physical Geography**

The land and water forms  
Introduction to the land features  
Climates and environment

## **Activities to Enrich Cultural Geography**

Picture folders  
Booklets  
Viewmaster reels  
Slides  
Artifact boxes  
Recordings of the traditional music  
Cooking  
Doll collections  
Foreign languages  
Dance  
Festivals and celebrations  
The city we live in  
The state we live in

## **Flags**

Introduction to the flag  
Matching flags and pictures  
Matching flags and their countries from the puzzle maps  
Matching flags and pictures of their countries from the puzzle maps  
Matching flags and the labels of the countries  
Make a flag  
The parts of the flag  
Life- sized flag

## **The Solar System**

The earth and the sun: first impressions  
The dance of the cosmos

# **The Earth and The Sun**

**Area** Geography/ The Solar System

**Materials** The continent globe; a candle or an electric light with a glass globe on it; an ellipse drawn on the floor of the room with bookbinding tape. This ellipse is the same "line" or "circle" used in almost every early childhood school for group activities and singing. However, the ellipse is used rather than the circle because it represents the shape of the orbit of the earth around the sun.

**Aims** Direct: To provide a first impression of the earth/ sun relationship. To develop the impression that a year is the amount of time it takes for the earth to circle the sun one time.

Indirect: To prepare the child for a broader perspective of the solar system. To give the child an initial impression of his own life and development as a person

through the birthday celebration. (This initial activity is also used as a birthday ceremony in which the child walks along the line around the sun while he carries the globe. This symbolizes the passage of the earth around the sun over the years of the child's life and gives the child both an initial impression of the earth/ sun relationship and of the passage of the years from his birth to the present day. It is both a geography and a history lesson.)

**Preparation** None. All children in the class participate at least as members of the audience, and all carry the globe around on their birthdays. Only when the child has reached a certain level of thinking and experience will be symbolic nature of the activity begin to be understood. However, the initial impression as it develops will be simple but accurate.

**Age** All ages participate on at least a ceremonial level. The activity will usually begin to make sense sometimes between ages four and five. The child will accept the concept without full understanding until approximately age seven or eight.

### **Presentation**

1. When a child's birthday is coming up, contact his parents and explain that the class celebrates such occasions by telling the child's life story. Ask the family to provide you with enough information about the child's life to mark the developmental milestones-- for instance, the place of birth, whether a grandmother came to help with the new baby, how much he weighed, when he first walked, what his favorite toys were, and so forth. It is especially helpful if the family can lend you photos of the child at different ages. Have all the materials organized so you can make a short, interesting presentation as the child walks around on the line.
2. On the day of the birthday, wait until the final circle of the day. If your class runs all day with some children leaving at noon, wait until the circle usually held just before lunch. Gather the children to the line, but have them sit back leaving plenty of space all around the line itself so the birthday child can walk freely.
3. When the children are settled, bring the candle (or lamp) and the globe to the gathering. Have your notes and the packet of photos ready.
4. Place the candle in the middle of the circle and light it. Remind the children that it is fire and is very hot, so they must sit in place and watch.
5. Say, "This candle (or light) stands for the sun- the same sun that we see up in the sky. The sun is a great big ball of fire that keeps on burning and doesn't go out.
6. Take the globe and walk slowly around the elliptical line on the floor, saying: "This globe stands for the earth we live on. The earth goes around the sun." Walk very slowly. "It takes a long, long time for the earth to go around the sun. Every time the earth goes all the way around the sun, a whole year has gone by. It takes a year for the earth to go around the sun one time."
7. Call the child whose birthday you are celebrating and give him the globe. Ask him to begin walking slowly around the line just as you did a moment ago.

8. Have the child stop. Begin telling his story something along these lines: "Today is Jason's birthday, and we are going to celebrate it in our special way. Jason is going to carry the globe and walk slowly around the line five times, because he is five years old today. Let's begin."
9. Jason is just beginning his journey with the earth around the sun. HE hasn't been born yet. His mommy and daddy are waiting anxiously for his to come, and Grandma and Grandpa Willis have come to stay at Jason's house to help with the new baby when he is born. Jason, would you take one step forward please?" (Child now walks one step.)
10. "Now Jason has been born. It is October 28, 1975. He is very tiny- only this big- and all pink and wrapped up in a blanket. He is a tiny, tiny baby. Mommy and daddy are so proud, and Grandma and Grandpa Willis love their new little grandson very much. Here is a picture of Jason as a newborn baby.
11. "Jason, would you walk all the way around the line?" Stop when you when you get back to that spot. Jason is one year old and he is celebrating his first birthday with his family..." (Continue the child's story in this manner.)
12. When the child has walked around the line the correct number of times for his present age, say: "Jason is now five years old, and it is today- his birthday. The earth has done around the sun five whole times. Five years have gone by since Jason was born."
13. You may wish to end the lesson by singing a birthday song.

In our school, we celebrate each child's birthday with the ceremony described above on the day itself. We hold an in- class party for the child after lunch. During the last week of school, we hold a special ceremony and party for children who have summer birthdays.

Another nice tradition some families like is donating a book to the class or school library in the child's name on his birthday.

<b>Points of Emphasis</b>	The earth goes around the sun.
<b>Language</b>	In quotes above.
<b>Points of Interest</b>	The ceremony itself; the candle or light.
<b>Points of Consciousness</b>	The earth goes around the sun.
<b>Variations</b>	Let a child walk around the line with a globe of this own.
<b>Extensions</b>	The dance of the cosmos.

# Activity: The Dance of the Cosmos

**Area** Geography. The Solar System

**Materials** One of the following: (1) a set of Styrofoam balls to represent the sun and nine planets sized in proportion. (Also include balls to represent a comet or two and the earth's moon.) The balls should be colored to resemble the planets as much as possible, with rings around Saturn. (2) A set of well-painted heavy cardboard cutouts made to look like planets, moon, sun, and comets. These should be mounted on wooden handles.

**Aims** Direct: To give the child an impression of the solar system as a group of planets revolving around the sun, with the moon revolving around the earth.

Indirect: To prepare the child for further study of the planets and astronomy.

**Preparation** The earth and the sun.

**Age** Four through seven years.

## Presentation 1: The Sun, Earth, and Moon

1. Bring the representations of the sun, earth, and moon to the line.
2. Call three children together. Have one take the model of the sun and stand in the middle of the ellipse.
3. Give another child the model of the earth. Have her walk once around the line.
4. Give the third child the model of the moon. Explain that the moon goes around the earth. Have him walk around the child who is holding the model of the earth.
5. Have the child representing the earth walk slowly around the line, while the child holding the moon walks around the moving earth. (Obviously, this requires some practice or an older, well-coordinated child.)
6. While this action is taking place, restate that "The earth moves around the sun, and the moon moves around the earth."

## Presentation 2: The Solar System

1. Bring the models of the earth, sun, planets, and comets to a large open space, probably outside on the play area away from the equipment.
2. Gather at least ten children and say, "Let's have a special dance. It is called the dance of the cosmos. What's the cosmos, you say? It is a universe- it includes the sun and all the planets that go around it, including the earth we live on."
3. Give one child the model of the sun and have him stand in the middle of the area.

4. Give another child the model of the earth; tell her it represents the earth, and place her on a point far enough from the sun that the orbit will allow space for the two inner planets. Being walking the child around the sun in a steady circle, and ask her to keep going.
5. Give another child the model of Mercury. Explain to the group that there are eight other planets that go around the sun. "The one closest to the sun is Mercury. It s very small, and so close that it goes around pretty fast." Get this child going in a smaller orbit.
6. Continue in this fashion with the other planets, getting one after another into place and walking around the sun in ever-wider orbits.
7. When all nine planets are in place, say: "Now we have the entire solar system going around the sun. All nine planets are here: Mercury, Venus, Earth, Mars, and so forth."
8. Give two children the models of the comets and say, "These are two comets. Comets are balls of ice like small planets that travel in space far away from the sun, but they come back through the family of planets once every few thousand years." Lead the children into orbits that intersect the solar system on an angle.
9. Say, "This is what the solar system is like. Each of the planets keeps going on and on around the sun. Even the comets come to pay a visit once in awhile, passing through and going back into deep space. And far off all around us, so far away that we can't imagine, are the stars."

**Points of Emphasis**

The planets go around the sun.

**Language**

In quotes above.

**Points of Interest**

The ensemble of all the planets and the sun.

**Points of Consciousness**

The planets go around the sun.

**Variations**

Add music that will set a majestic tone, such as a selection from the movie *2001* or a selection from Gustav Holst's *The Planets*.

**Extensions**

Bring in a telescope and present it at an early evening barbeque or some even attended by the older children after dusk.

## History in the Montessori Environment

Perhaps we teach the child to thank God and pray to him, but not to humanity, God's prime agent in creation. We give no thought to men and women who daily give their lives that we may live more richly. The child will have greater pleasure in all subjects and find them easier if he is led to realize how those subjects first came to be studied and who studied them. We write and read, and the child can be taught who invented writing and the instruments wherewith we write, how printing came and books became so numerous. Every achievement has come by a sacrifice of someone now dead. Every map speaks eloquently of the work of explorers and pioneers who underwent hardships, trials, and labor to find new places, rivers, and lakes, and to make the world greater and richer for our dwelling. Let us in education call the attention of the children to the hosts of men and women who are hidden from fame.

[Maria Montessori, 1948]

Everyone who lives with young children knows how slowly they develop a sense of time. At first, time's passage is meaningless to them. By age two- and- a- half to three, most begin to perceive time as today, yesterday, and tomorrow. At this stage everything that took place in the past happened "yesterday," while everything to come will take place "tomorrow." Gradually children become conscious of the cycle of days, weeks, months, and years, eventually developing an adult sense of time. This is the foundation of a historical perspective, for without a clear sense of time's passage, one cannot truly believe that what occurred in the past was as real as the present day.

There are adults who lack a good sense of time and have no sense of history. These people not only tend to lose track of time's passage but even have an uncertain grasp of their own personal past. Naturally, they find it almost impossible to appreciate and understand history in the broader sense. A sense of time is a concept that seems, like so many others, to develop more fully when the young child is given enriched early exposure and experience.

The purpose of introducing history to the young child is to provide that enriched early exposure and experience that should cultivate later understanding and interest. Where many schools avoid teaching history until the middle childhood or later, Montessori schools have found that children enjoy getting the "cosmic" picture very early. Dr. Montessori saw that children, especially from ages six to nine, need to feel they are a part of the universe and members of the human family.

Dr. Montessori described the mind of the six- year- old as a "fertile field blazing under a fiery sun of imagination, onto which we can sow the seeds of culture." The seeds in this case represent awareness of the history of life on the earth, how things came to be, how the "spaceship earth" functions to keep us alive, and how mankind meets its fundamental needs. From what we know of children under the age of eight, it is clear that they cannot conceive of historical time in an adult manner. This initial exposure is not intended to last a lifetime. Rather it is intended to provide initial impressions upon which we can later teach at greater depth and more abstract levels. For now, it is enough that seeds of interest have been planted in the mind of the child, where they can take root and begin to grow.

History in the Montessori school has two parts: activities to help the child develop a clear sense of time, and activities to present the story of the universe and man's role in it. To present this particularly abstract subject, Dr. Montessori advocated the use of carefully sequences concrete

experiences and materials, from the all- important time line to original and reproduced artifacts from the past.

The sequence in which is presented is quite different as well. Following essentially the principle of working from the whole to the parts, we begin with the history of the planet earth. Naturally we find that the role of mankind is a tiny fraction of this whole. In turn, we view human history not so much through the window of important person and events but from a cultural perspective: we consider the needs of man and how he has met them in different civilizations. The curriculum is thought of as "cosmic" or universal. So much is introduced in ways designed to intrigue the child that it doesn't matter that every seed does not germinate; enough of them will ensure a lifetime of study and interest. We thus begin by giving the child the big picture in the early years, preparing him to enter into the more advanced levels of independent study and research that follow.

By its nature, the history area of the Montessori curriculum requires more direct teacher presentation than any other. Our role is to prepare the materials and lessons, showing the children what to do with the materials that we place on the shelves and, at other times, telling stories of mankind's past. For the young child, history should always be presented as a story, beautiful in its simplicity and the drama of its plot. At the same time, all the child's experiences in charting the course of time and projecting himself backward and forward in personal time and simple historical time begin to develop his awareness.

### **A Sequence for History**

Introduction to the Passage of Time

The Language of Time

The Linear Calendar

The Days of the Week

The Months of the Year

The Standard Calendar

The Seasons

The First Time Line

Introduction to the Clock

Telling Time to the Half Hour

Telling Time within Five Minutes

The Time Line of a Day

The Time Line of a Year

Personal Time Lines

My Family Tree

### **Activity: Introduction to the Passage of Time**

**Area** History

**Materials** Various timers: a set of one-, two-, three-, and five- minute hourglass- type egg timers, labeled appropriately. An hourglass. A spring- wound kitchen time with clear numerals. A sundial. A low clock mounted on the wall about three feet from the floor with a good- sized face, easily read Arabic (not roman) numerals, and a sweep second hand. If you wish, a cuckoo clock.

**Aims** To give the young child an initial sense of how long the basic units of time are.

**Presentation** None, but the ability to count and read numbers shelf.

**Ages** Three through five years.

**Presentation** Three through five years.

**Presentation**

1. Introduce only the one- minute egg timer at first. Bring it to the work area, get the child's attention, and turn the glass over, directing his attention to the falling sand. Let the child do it himself a few times, then explain that the falling sand in the glass is like a little clock- the sand takes exactly one minute to fall completely through. Say, "Let's do it again, and see how long a minute really is."
2. Carry the timer over to the wall clock. Draw the child's attention to the sweep second hand. Explain that this takes exactly one- minute timer. After he's seen it go around a few times, conduct a test to check whether the two are the same. Turn the glass over just as the sweep second hand comes to the top and see if the sand runs out just as the hand comes around again. Suggest experiments, such as trying to hold your breath for a whole minute while the sand runs down.
3. Introduce the two-, three-, and five- minute egg timers in the same way on successive days. Leave them on the shelf for investigation.
4. Introduce the spring- wound kitchen timer. Explain that this is another way we measure short periods of time, especially in the kitchen when we are cooking something we don't want to overcook and burn. Show the child how to set the timer by twisting the knob. Let him experiment independently.
5. Introduce the hourglass in the same way. Explain that an hour is a really long period of time. Allow the child to experiment independently. Periodically, a child will note that the glass has run down and will turn it over after informing the class that an hour has gone by.
6. Introduce the sundial. Sundials can be purchased from various sources, including the Nature Company and Edmund Scientific. All come with instructions for positioning in a window. While most people are familiar with the traditional circular model, a linear sundial is preferable for young children. The surface on which the hours are recorded resembles a ruler, and the progression of the shadow during the day is more easily noted and understood.
7. Many children will accept the sundial as a measure of time without grasping what causes it to work. Explain by getting one of the globes from the geography shelf, taking it to a window, and letting the light shine on one side. Slowly rotate the globe, explaining that the real earth revolves just like this, while the sun stays where it is. As the earth turns, people on the earth slowly move into and away from the sun's light. We call this day and night. But during the day the earth is still revolving., and the sun seems to move across the sky even though we are the ones who are really moving. As the earth revolves, the shadow cast by anything in the sun's light will move. People long ago knew this and used it to tell time with sundials like ours.

8. Introduce the clock. Don't make an effort to teach the children how to read it at this point, unless they express interest. Refer to the clock, though, when the time comes for a change in the class routine: "The clock says ten o'clock, so it is time for Spanish."
9. If you decide to bring a cuckoo clock into the room, be prepared for some disruption and excitement while the children become accustomed to it. At first they will all drop everything and run over to see the cuckoo bird pop out. Gradually this will lose its novelty, but the older children will begin to notice when it is almost time for the next showing.

<b>Points of Emphasis</b>	How long is a minute, two minutes, five minutes, and an hour.
<b>Language</b>	Minute, hour, timer, hourglass, sundial.
<b>Points of Interest</b>	The novelty of the various timing devices; seeing the sand fall or the cuckoo come out.
<b>Points of Consciousness</b>	A minute is a long time; an hour seems like forever.
<b>Control of Error</b>	None necessary.
<b>Variation</b>	Other timing devices- digital clocks, stop watches, and so forth.
<b>Extensions</b>	Try to sit still without a sound for one minute, five minutes and so forth.

## **Activity: The Language of Time**

<b>Area</b>	History
<b>Materials</b>	None.
<b>Aims</b>	To give the child the common vocabulary of time's passage.
<b>Preparation</b>	None.
<b>Ages</b>	Two through six years.
<b>Presentation</b>	Take every opportunity to draw the children's attention to the time of the day, and talk frequently about the cycle of the day. "The clock says twelve o'clock and it is time to put your work away and get ready for lunch." Talk about what happened yesterday or last week, as well as what is coming up in the near future.
<b>Points of Emphasis</b>	The time of the day; what happened in the past; what is going to happen.
<b>Language</b>	Before, after, xxxx o'clock, yesterday, today, tomorrow.
<b>Points of Consciousness</b>	There are words for different points in time.