

ASTRONOMY

TEACHER'S MANUAL



Layers of the
Sun

Written by Karen H. Tyler

Alison's
Montessori

www.alisonsmontessori.com

Rationale

Children should be exposed to the study of Astronomy at an early age because it gives them the idea that there are other orbs than just the Earth's.

Children will become aware of their place in space and in the space race.

Realization of their relationship to the cosmos hopefully will develop a sense of wonder, excitement and quest for the future.

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Astronomy

Introduction – General

Astronomy is the oldest science there is.

At the beginning of time, humans studied the skies to know when to plant food and when to protect themselves from the elements.

There are many theories as to how the Universe began. It is very important that we don't scare or upset young children. Young children are concrete thinkers and find it difficult and often scary when we share "adult" information with them in ways that they cannot put to order within themselves.

The objectives to have in presenting Astronomy to the young child should include:

- The child needs to be aware of his/her position in space and their position in the space race.
- Hope that children will study astronomy and want to travel in space some day.
- Astronomy gives the child the idea that there are other orbs than just the Earth.
- The child realizes that the world doesn't revolve only around them (egocentric).

The teacher's job is to include:

- Give information to the child.
- Help child to develop language by giving vocabulary.
- Help expand the child's awareness and start a love for the Universe.

Astronomy

Introduction – Universe

- ★ Our Universe contains everything beginning with me.
- ★ Our Universe is made up of billions of stars.
- ★ Our Universe is very old.

Astronomy Universe Activity – Starting with You!

Materials:

A tray containing:

→ Picture of our Universe.

Presentation:

1. During circle time, say to the children, “Today, we are going to learn about our **universe**. **Our universe contains everything starting with you!**”
2. The teacher should take the **picture (the picture that follows this presentation) of the universe** off of the tray and hold it up for the children to see.
3. The teacher should take a few moments and study the **picture**.
4. Now, the teacher should say, “This is a **picture of our Universe**. **Our Universe is very large. Our Universe contains everything starting with you (point to child on the right of you)**.”
5. The teacher should continue to point to each child in turn and repeat the saying each time, “**Our Universe contains everything starting with you.**”
6. The teacher should pass the **picture** to the child on the right so that it may go around the circle and each child can look at it.
7. When the teacher receives the **picture** back, she should put it back on tray.
8. The teacher should return the tray to the shelf where it belongs.
9. The teacher should invite the children to take turns looking at the **picture of our Universe**.

Variations and Extensions:

1. Sing Songs about the **Universe**.
2. Read books about the **Universe**.
3. Create other art projects about the **Universe**.
4. Add activities in all areas of the classroom that reflect your study on the **Universe**.
5. Look at other drawings/pictures/etc., of our **Universe**.

Points of Interest:

1. Realizing the **Universe** is big!
2. How small we are in the **Universe!**

Control of Error:

1. The teacher has explained the activity in a way that the children understand it. This is an abstract idea and very young children will be able to “do” the activity but will not understand it until they are a little older.

Aim:

To help children experience **where their place is in the Universe.**

Age:

2 ½ and up

Language:

Universe, etc.

Astronomy
Universe
Activity –3 Part Cards

Below you will find 3 Part cards bordered in blue.

Present these cards to the child as you would any set of 3 Part



Universe



Universe



Universe

Print out these 3-Part Cards that are bordered in blue. Cut the **Universe** label apart from the picture on the dotted line. Laminate if desired.

Astronomy Universe Activity –My Universe

Materials:

A tray containing:

- Completed “My Universe”
- Small baby food jar (line marked $\frac{1}{4}$ way down from the top)
- Bowl and small spoon containing glitter
- Bowl and small spoon containing star sequins
- Small jar containing oil and an eyedropper
- Pitcher containing water

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children and place the **My Universe** tray directly in front of her.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should say, “Today we are going to make our own little **Universe** that will help us think about what the **Universe** really looks like,”
5. Pick up the **completed example of My Universe** and say, “This is **My Universe.**” Hold it up so that the children can see it.
6. The teacher should shake the jar and then hold it up again while saying, “I made it so that I can think about what the **Universe** must really look like!”
7. Study the **jar** for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, “**This is my art project that helps me understand what the Universe is like. Our Universe contains everything starting with me.**”
8. After the **jar** is returned to the teacher she should say, “**This is how I made My Universe.**”
9. The teacher should pick up the tray and invite the children to come to a table.
10. The teacher takes the jar and removes the lid and places it directly in front of her and to the right of the tray.
11. Next, the teacher carefully takes the small spoon that is in the bowl with the glitter and spoons in a little glitter into the empty jar (return spoon to bowl on tray).
12. Next, the teacher carefully takes the small spoon that is in the bowl with the star sequins and spoons in a few stars into the jar (return spoon to bowl on tray).

13. Next, the teacher uses the eyedropper to add some oil to the jar that contains the glitter and sequins (return eyedropper to jar with oil on tray).
14. Now, the teacher carefully pours in water making sure that she stops where the line is marked on the outside of the jar (return the pitcher holding the water back to the tray).
15. Now, the teacher replaces the lid and says, "I will help you make sure that your lid is on very tight!"
16. The teacher should shake the jar and then hold it up saying, "**The Universe is very big and it contains everything starting with you. The Universe is very beautiful!**"
17. Show the children where the **My Universe tray** will be kept.
18. Invite the children to take a turn at making their own **Universe**.

Variations and Extensions:

1. Add a few drops of blue food coloring.
2. Add something of the child such as a strand of hair.

Points of Interest:

1. Realizing the **Universe** is big!
2. How small we are in the **Universe!**
3. How beautiful the **Universe** is!

Control of Error:

1. The teacher has set up the tray correctly.
2. The teacher may choose to make a control card for the children to refer to.
3. The teacher has explained the activity in a way that the children understand it. This is an abstract idea and very young children will be able to "do" the activity but will not understand it until they are a little older.

Aim:

To help children experience **the beauty of the Universe**.

Age:

2 ½ and up

Language:

Universe, etc.

Astronomy

Introduction – Solar System

- ★ Our Solar System contains one sun and it is in the center.
- ★ Our Solar System contains 8 planets
- ★ Our Solar System contains dwarf planets (i.e., Pluto)
- ★ Our Solar System contains over 60 moons
- ★ Our Solar System contains an asteroid belt
- ★ Our Solar System contains comets, meteors and other objects.
- ★ Our Solar System is shaped like an egg (elliptical).
- ★ Our Solar System is always moving.

Astronomy

Solar System

Activity – Drawing to Color

Materials:

A tray containing:

→ Drawing of our solar system.

Presentation:

1. During circle time, say to the children, "Today, we are going to learn about our solar system. **Our solar system is made up of our sun and all the planets, moons, stars, etc.**
2. The teacher should take the **drawing (the black and white drawing that follows this presentation) of the solar system** off of the tray and hold it up for the children to see.
3. The teacher should take a few moments and study the **drawing**.
4. Now, the teacher should say, "This is a **drawing of our solar system. Our solar system is made up of the sun, planets, moons, stars, etc.**"
5. The teacher should pass the **drawing** to the child on the right so that it may go around the circle and each child can look at it.
6. When the teacher receives the **drawing** back from the child on her left, she say, "I can see **our planet Earth right here (point to the Earth).**"
7. The teacher should now say, "I can see **our Sun, it is right here (point to the sun).**"
8. The teacher should pass the drawing to the child on the right so that that it may go around the circle again and each child can look for the **Earth and the Sun**.
9. When the teacher receives the **drawing** back, she should put it back on tray.
10. The teacher should return the tray to the shelf where it belongs.
11. The teacher should invite the children to take turns looking at the **drawing of the solar system**.

Another Day:

1. Each child should be invited to color their own copy of the drawing of the solar system.

Variations and Extensions:

1. Sing Songs about the **solar system**.
2. Read books about the **solar system**.
3. Create other art projects about the **solar system**.
4. Add activities in all areas of the classroom that reflect your study on the **solar system**.
5. Look at other drawings/pictures/etc. of the **solar system**.

Points of Interest:

1. How small the **Sun** and **Earth** look on the drawing.
2. How it is fun to find the **Sun** and **Earth** on each drawing.

Control of Error:

1. The teacher has explained the activity in a way that the children understand it. This is an abstract idea and very young children will be able to “do” the activity but will not understand it until they are a little older.

Aim:

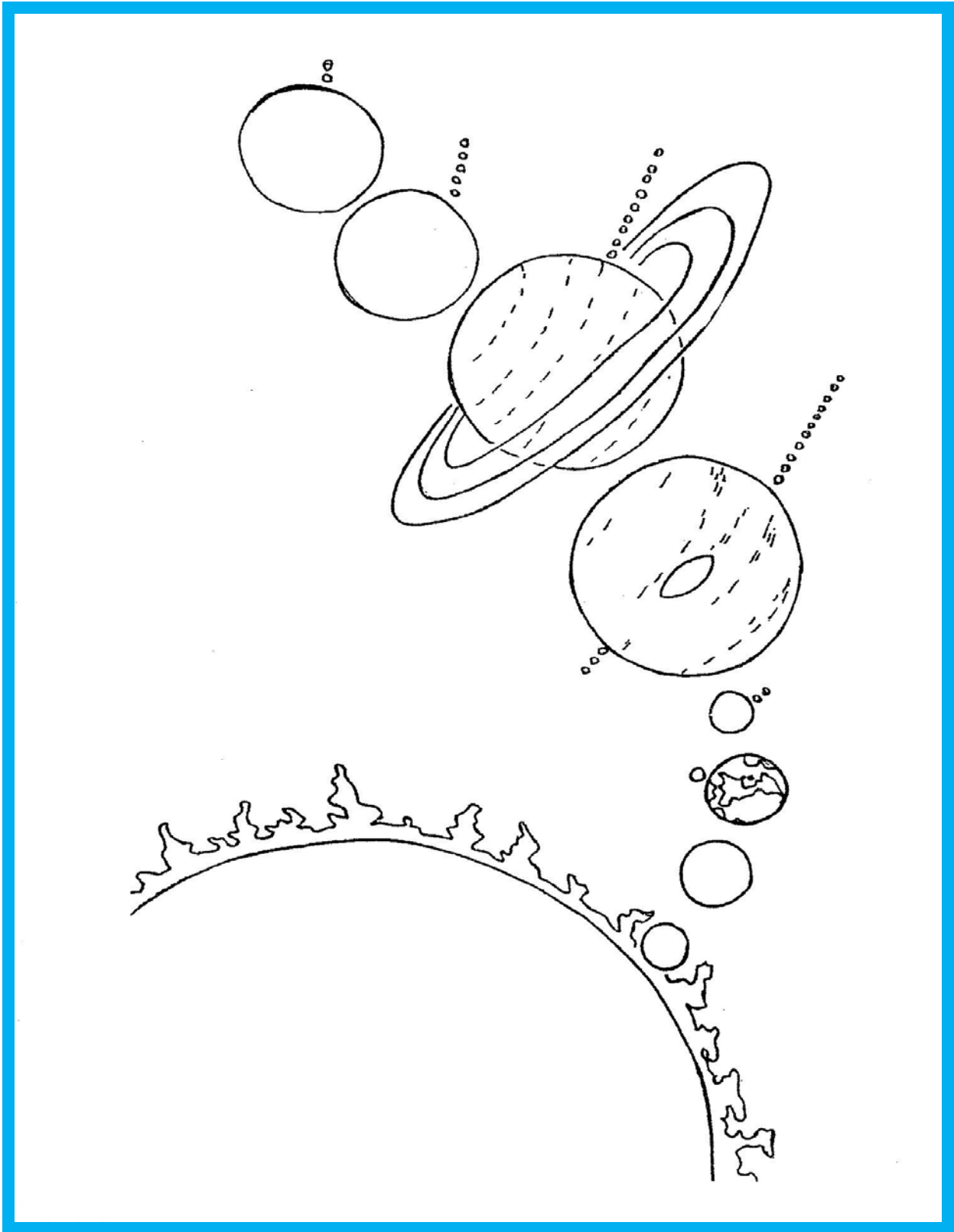
To help children experience **where their place is in the solar system**.

Age:

2 ½ and up

Language:

Solar System, planets, Sun, moon, stars, Earth, etc.



BOTANY

TEACHER'S MANUAL



tree _____

Written by Karen H. Tyler



www.alisonsmontessori.com

Rationale

Children realize through the study of Botany that without plants we couldn't breathe the air that we need to sustain life. An early appreciation of plant life will develop a sense of wonder and love for all living things.

This love will empower our children so that they will strive to be responsible caretakers of the Earth. Our planet will respond by continuing to nurture them, their children and their children's children. Earth is our home!

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Botany

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Botany

Introduction – General

Materials:

A **Botany Control Tray** containing:

- (1) small container of soil
- (1) small container with lid holding air
- (1) small container with lid holding water
- (1) small container of seeds

Preparation:

1. The teacher needs to make a **Botany Control Tray** by taking a tray and dividing it into fourths using masking tape.
2. Place a small container of soil in the first section of the tray and adhere the label **food** to the tray.
3. Place a small lidded container holding air in the second section of the tray and adhere the label **air** to the tray.
4. Place a small lidded container holding water in the third section of the tray and adhere the label **water** to the tray.
5. Place a small container of seeds in the fourth section of the tray and adhere the label **reproduce** to the tray.
6. The **Botany Control Tray** is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children with the **Botany Control Tray**.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should explain to the children that they are going to start a special unit of study about **Botany**.

5. The teacher should continue by saying, “**Botany** is the study of **plants**.”
6. Continue to tell them that **plants** are alive. The teacher should say, “All living things have 4 characteristics in common.”
7. Take the **Botany Control Tray** and point to the first label and read the word “**food**”. Now point to the small container of soil and say “**food**”. Pick up the soil and say, “**Plants are alive and all living things need food.**”
8. The teacher replaces the soil on the **Botany Control Tray**.
9. Now the teacher points to the second label and reads the word “**air**”. Now point to the container of **air** and say “**air**”. Pick up the container of air and say, “**Plants are alive and all living things need air.**”
10. The teacher replaces the container of **air** on the **Botany Control Tray**.
11. Repeat steps 9 and 10 with the third section and then the fourth section of the **Botany Control Tray**.
12. Show the children where the **Botany Control Tray** is kept on the shelf.
13. Return the tray to where it belongs on the shelf.

Variations and Extensions:

1. Discuss that plants help the air we breathe by using up the extra carbon dioxide (part of what air is made up of).
2. Add a potted plant to the last of the presentation as say, “This is a living plant. It needs food, air and water. It can reproduce (make another like itself).”

Points of Interest:

1. How every living thing has at least 4 characteristics in common.

Control of Error:

1. The teacher has set up the tray correctly

Aims:

To be introduced to **Botany** as the study of **plants** in a concrete way.

Age:

2 ½ and up

Language:

Botany, plants, living, food, air, water, reproduce, etc.

Botany Activity Concrete - Objects

Materials:

A tray containing:

- (1) potted plant
- (1) leaf
- (1) small container of seeds

- Label (see preparation below)

Preparation:

1. The teacher needs to take a tray and make a label that says "**botany**" using masking tape and a permanent pen. Stick this label at the bottom of the tray's top surface.
2. The **Botany** tray is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children with the **Botany** tray.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should then place the **Botany** tray directly in front of her.
5. Say, "This is the **Botany** tray." Point to the label on the tray and read, "**botany**".
6. Now say to the children, "**Botany** is the study of **plants**. **Plants** are **living things**. The teacher should say, "All **living things** have 4 things in common; **food, air, water** and they **reproduce**."
7. Every object on this **Botany** tray is used to study **plants**.

8. The teacher should say "**Botany**" as she points to the words on the tray.
9. Pick up the **potted plant** and say, "This pot contains a plant." Hold it up so that the children can see it. Study the potted plant for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, "**Botany** is the study of plants."
10. Point to the label again and read, "**botany**".
11. Pick up the **leaf** and say, "This leaf is part of a plant." Hold it up so that the children can see it. Study the leaf for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, "**Botany** is the study of plants."
12. Point to the label again and read, "**botany**".
13. Pick up the **seeds** and say, "These seeds are part of a plant." Hold them up so that the children can see them. Study the seeds for a few minutes and then start to pass them around the circle by giving it to the child on your right saying, "**Botany** is the study of plants."
14. Point to the label again and read, "**botany**".
15. Return the objects to the tray.
16. Return the **Botany** tray to where it belongs on the shelf.

Variations and Extensions:

1. Use different objects that contain parts of **plants**.

Points of Interest:

1. There are many different **plants** and parts of **plants** to study.

Control of Error:

1. The teacher has set up the tray correctly

Aims:

To be introduced to **Botany** as the study of **plants** in an concrete way.

Age:

2 ½ and up

Language:

Botany, plants, living, food, air, water, reproduce, etc.

ECOLOGY

TEACHER'S MANUAL



Written by Karen H. Tyler

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Rationale

The Introduction to the lifelong study of ecology is a must for the young child. Children will learn to value the earth around them as they become increasingly aware of what is needed to maintain the balance of nature.

As responsible adults and Montessori Educators, it is our responsibility to model respect for our living world. The need to develop creative ways to utilize progress rests in “all” our hands....

I am confident that the children of today will develop a consciousness that knows that they are the caretakers of the earth of tomorrow!

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General Introduction - Ecology

- ★ Ecology is the study of how living things live with each other and what is around them.
- ★ 70% of the Earth is covered with water and less than 3% is fresh water we can use.
- ★ 1/3 of all the water we use is used to flush the toilet.
- ★ The water we use today is the same water that was around when the dinosaurs lived.
- ★ 14 billion pounds of trash is dumped into the ocean every year.
- ★ Everything needs clean air to breathe.
- ★ Trees clean the air for us every day.
- ★ Keep the air clean by walking or riding your bikes whenever you can.
- ★ One bus can help keep the air clean because it can carry as many as 40 cars full of people.
- ★ When you recycle you help to save the earth.
- ★ 84% of all household waste can be recycled if you take the time to do it.
- ★ Every person on earth throws away about four pounds of garbage every day.
- ★ Recycle one aluminum can and it can operate a television set for 3 hours.
- ★ Recycle a ton of paper and you will save 17 trees.



**untouched
by humans**

Ecology

Recycle in the Classroom

Practical Life Area

Materials:

→ Replace the dry pouring with a recycled item (i.e. pop tops).

Presentation:

1. During Circle Time, remind the children about what recycling means.
2. Show the children where you have replaced the dry pouring with pop tops.
3. Talk about what kind of things can be recycled in practical life.
4. Take a tour of the classroom with the children to see what other activities could be replaced with a recycled item.

Ecology

Recycle in the Classroom

Mathematics Area

Materials:

- Replace the counters (i.e. numerals and counters) in a math activity with bag closures, etc.

Presentation:

1. During Circle Time, remind the children about what recycling means.
2. Show the children where you have replaced the counters in a math activity with bag closures.
3. Talk about what kind of things can be recycled in math.
4. Show the children where you have set up an area for them to make their own numerals and counters. Demonstrate how to make the numeral cards.

Ecology Recycle in the Classroom Art Area

Materials:

- Set up a basket in the art area for recycling materials.
- Set up a recycle art project (i.e. collage).

Presentation:

1. During Circle Time, explain to the children about recycling. That to recycle something is to reuse it again in the same way or in a different way.
2. Invite the children to say the word recycle.
3. Show the children where you have set up a basket in the art area for recycling materials.
4. Talk about what kind of things can be recycled in art.
5. Show the children where you have set up an art project that uses scraps from the recycle basket.
6. Demonstrate how to make the art project.

Ecology

Recycle in the Classroom

Food Preparation

Materials:

- Set up a compost container by the food preparation area.
- Set up an area in the garden to return the compost to the earth.

Presentation:

1. During Circle Time, remind the children about what recycling means.
2. Show the children where you have set up a compost container by the food preparation area.
3. Talk about what can be put in the compost container.
4. Talk about how the compost can be worked into the soil in your garden, and therefore returned to the Earth.
5. Demonstrate how to use the compost container and how to work the compost into the earth.

Ecology

Pollution vs. Clean

Activity – 3 Part Cards

Sky – Ground – Water

Materials:

A tray containing 3 Part Cards mounted on tag board and laminated (optional) for the following:

- Clear Sky
- Dirty Sky (Smog)
- White Snow
- Dirty Snow (Soot)
- Clean Water
- Dirty Water
- Clean Ground
- Dirty Ground (Litter)

Floor rug

Presentation:

1. Invite the children to join you for a circle presentation.
2. Carry a floor rug as shown before, over to an empty place on the floor and roll it out.
3. Tell the children where the 3 Part Cards are kept in the classroom.
4. The teacher should bring the tray to the rug demonstrating to the children the proper way to carry a tray (thumbs on top and fingers underneath the tray.)
5. Explain to the children about pollution. That pollution is the contamination (dirty) of air, water, etc. Talk about how it is important to keep the air, water, etc. clean.
6. Invite the children to say the word pollution.
7. The teacher should place the tray at the top left hand corner of the rug.
8. The teacher should pick up a whole card (picture and label) and place it to the right of the tray.
9. Now, she points to the label and read the label on the card.
10. You would continue until all of the whole cards have been laid out in a row that runs left to right.
11. Next, you would pick up one of the picture cards and holding it under the first whole cards, but not touching the rug, slowly scan the whole cards until you find the one that matches.
12. The teacher should ask the children, "Is this sky polluted?"

13. After a short discussion, place the matched card directly underneath the whole card.
14. Continue until all of the picture cards have been laid out in a row that runs left to right.
15. Pick up one of the label cards and holding it on top, but not touching the cards, scan the first whole card and picture card (slowly top to bottom). If the label card does not match, move onto the next set of cards.
16. When a match has been made, pause to point to the whole card label and read it.
17. Look at the label in your hand and read it and then place it directly underneath the picture card.
18. Repeat until each of the label cards have been laid out in a row that runs left to right.
19. Admire your work.
20. Replace the cards to their tray starting at the top with the picture with label cards (whole cards) and going left to right.
21. Continue with replacing the picture cards in the same way.
22. Finish with replacing the label cards in the same way.
23. Return the tray to the shelf where it belongs.
24. The teacher should roll her rug, or ask a child to roll it as shown before and return it to where it belongs.
25. Invite the children to take turns with the 3 Part Card Tray.

Another Day:

Introduce the vocabulary words - smog, soot, litter.

Variations and Extensions:

1. Have 3-Part Cards made for every unit of study.

Points of Interest:

1. Learning to match words to pictures
2. Increase in language skills
3. Awareness of the world around us.

Control of Error:

1. The control card is the whole card.

Aims:

Introduction to the world around us and to be take care of it. Visual discrimination, ability to use parts to make a whole, concentration, preparation for writing and reading, etc.

Age:

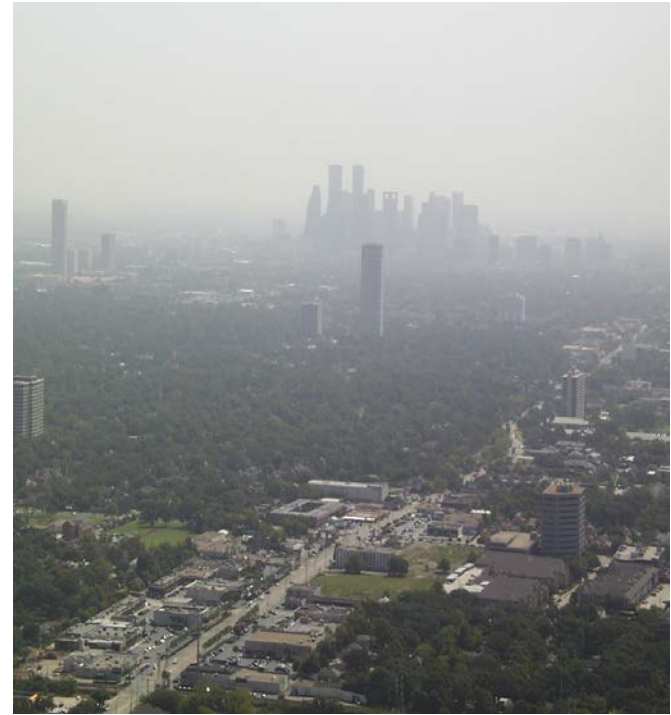
2 ½ and up

Language:

Ecology, etc.



clear sky



dirty sky

Print out these 3-Part Cards that are bordered in blue. Cut the label apart from the picture on the dotted line. Laminate if desired.



clean snow



dirty snow

Print out these 3-Part Cards that are bordered in blue. Cut the label apart from the picture on the dotted line. Laminate if desired.



clean water



dirty water

Print out these 3-Part Cards that are bordered in blue. Cut the label apart from the picture on the dotted line. Laminate if desired.



clean ground



dirty ground

Print out these 3-Part Cards that are bordered in blue. Cut the label apart from the picture on the dotted line. Laminate if desired.

GEOGRAPHY

TEACHER'S MANUAL



Written by Karen H. Tyler

Alison's[™]
Montessori

www.alisonsmontessori.com

Rationale

Children need to be introduced to Geography in order to help them place themselves on this planet Earth in and on...

The actual spot we occupy

Rooms

Houses

Neighborhoods

Cities

Counties

States

Countries

Continents

Air, Land, Water

Hopefully, this will lead to a love for the land and for its peoples.

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Geography

Introduction – General

Geography is one of the oldest sciences. The word “geography” comes from two Greek words and means writing about the Earth.

The study of Geography is about people and places in our world as well as how the Earth has and is still changing today.

Geography helps us to understand ourselves and our relationship to our Earth. We don't live in this world alone but with others. In today's world we need to learn all about our global neighbors. By raising our awareness of the Earth and its people, we are able to learn how to trust and live in “peace.”

Today, the Earth's people hold the “world” in their hands. This means that what we do with and to the earth does make a difference that effects future generations. The relationship between the earth and its people is the essence of geography today.

Today, geographers are concentrating on explaining the similarities and differences among places and the shaping brought about by human interaction. This valuable information will contribute to our world awareness and help us as we continue to be good stewards of this blessed creation called “Earth.”

Geography

Introduction – Concrete – Objects

Materials:

A tray containing:

- (1) map
- (1) compass
- (1) small container of dirt

- Label (see preparation below)

Preparation:

1. The teacher needs to take a tray and make a label that says “**geography**” using masking tape and a permanent pen. Stick this label at the bottom of the tray’s top surface.
2. The **Geography** tray is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children with the **Geography** tray.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should then place the **Geography** tray directly in front of her.
5. Say, “This is the **Geography** tray.” Point to the label on the tray and read, “**geography**”.
6. Now say to the children, “**Geography** is the study about people and places in our world as well as how the Earth has and is still changing today.
7. Every object on this **Geography** tray is used to study **people and places in our world and how the Earth has and is still changing today**.
8. The teacher should say “**Geography**” as she points to the words on the tray.
9. Pick up the **container of dirt** and say, “This container contains dirt.” Hold it up so that the children can see it. Study the dirt for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, “**Geography** is the study of people and places in our world and how the Earth has and is still changing today.”
10. Point to the label again and read, “**geography**”.
11. Pick up the **map** and say, “This map is an important tool that those that study geography use to see big places up close.” Hold it up so that the children can see it. Study the map for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, “**Geography** is the study of people and places in our world and how the Earth has and is still changing today.”
12. Point to the label again and read, “**geography**”.

13. Pick up the **compass** and say, "This compass helps us to figure out which direction we are going." Hold it up so that the children can see it. Study the compass for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, "**Geography** is the study of people and places in our world and how the Earth has and is still changing today."
14. Point to the label again and read, "**geography**".
15. Return the objects to the tray.
16. Return the **Geography** tray to where it belongs on the shelf.

Variations and Extensions:

1. Use different objects that are used to study **geography**.

Points of Interest:

1. How the arrow of the compass moves when you move.

Control of Error:

1. The teacher has set up the tray correctly

Aims:

To be introduced to **Geography** as the study of people and places in our world and how the Earth has and is still changing today.

Age:

2 ½ and up

Language:

Geography, dirt, maps, compass, etc.

Geography

Introduction - Abstract – Pictures

Materials:

A basket containing:

→ (6-8) pictures (i.e. landscapes, seascapes, cityscapes, animals and people from different continents, etc.)

→ Label (see preparation below)

Preparation:

1. The teacher needs to make a label that reads “**geography**” and place it in the basket.
2. The teacher needs to take pictures of **the earth and its people and animals, etc.**
3. Place the pictures in the basket.
4. The **Geography Basket** is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children with the **Geography Picture Basket**.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should then place the **Geography Picture Basket** directly in front of her.
5. “This is the **Geography Picture Basket**.” Take the “**geography**” label out of the basket and place it on the rug in front of you being sure to leave enough room to place a row of pictures.
6. Point to the label on the rug and read, “**geography**”. Say, “Every picture in this **Geography** basket is of people and places in our world and how the Earth has and is still changing today.
7. Take a picture out of the basket and place it under the label and to the left. Point to the label and read, “**geography**” and then point to the picture and say, “(i.e. this is an island). This island is a place found on our Earth. **Geography** is the study of people and places in our world and how the Earth has and is still changing today.”
8. Take out each remaining pictures, one at a time and repeat step 7 (place pictures left to right).
9. When all the pictures are placed, point to the label and read, “**geography**” and then point to the pictures and say, “These are pictures that show us people and places found in the study of **geography**. **Geography** is the study of people and places in our world and how the Earth has and is still changing today.

10. Pick up the label and place it into the basket.
11. Pick up the pictures, left to right, and place them into the basket.
12. Return the **Geography Picture Basket** to where it belongs on the shelf.

Variations and Extensions:

1. Change the pictures.

Points of Interest:

1. There are many different **landforms** and **people** on our Earth.

Control of Error:

1. The teacher has set up the basket correctly.

Aims:

To be introduced to **Geography** as the study of people and places in our world and how the Earth has and is still changing today in an abstract way.

Age:

2 ½ and up

Language:

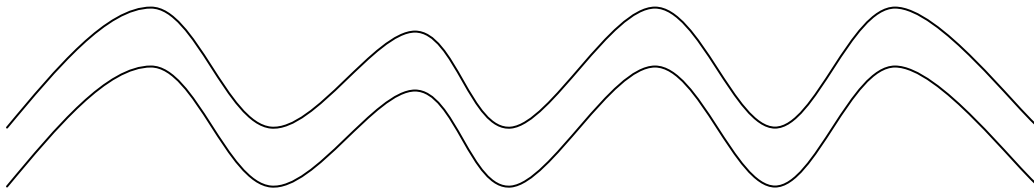
Geography, names of landforms that the pictures represent, names of countries that the people pictures represent, etc.

Geography Mapping Introduction

A Map is a picture that tells a story. Maps can make a large place look small. Maps show what a place looks like from up high. Some maps tell us about the weather while others tell us about where to find places/things and how to go from one place to another.

Maps were first drawn with a stick in the dirt and then on cave walls. Later maps were made of clay, silk, parchment, sticks, paper, etc. Today you can find maps on your computer and a GPS (global positioning system).

1st map symbols were very simple and childlike. Symbols used were to indicate specific things like mountains, population, lakes, etc. Below is a simple symbol that was used for water:



People that make maps are called *cartographers*.

Geography Mapping Activity – Primitive Map Drawing

Materials:

A tray (like a large cookie sheet with borders) containing:

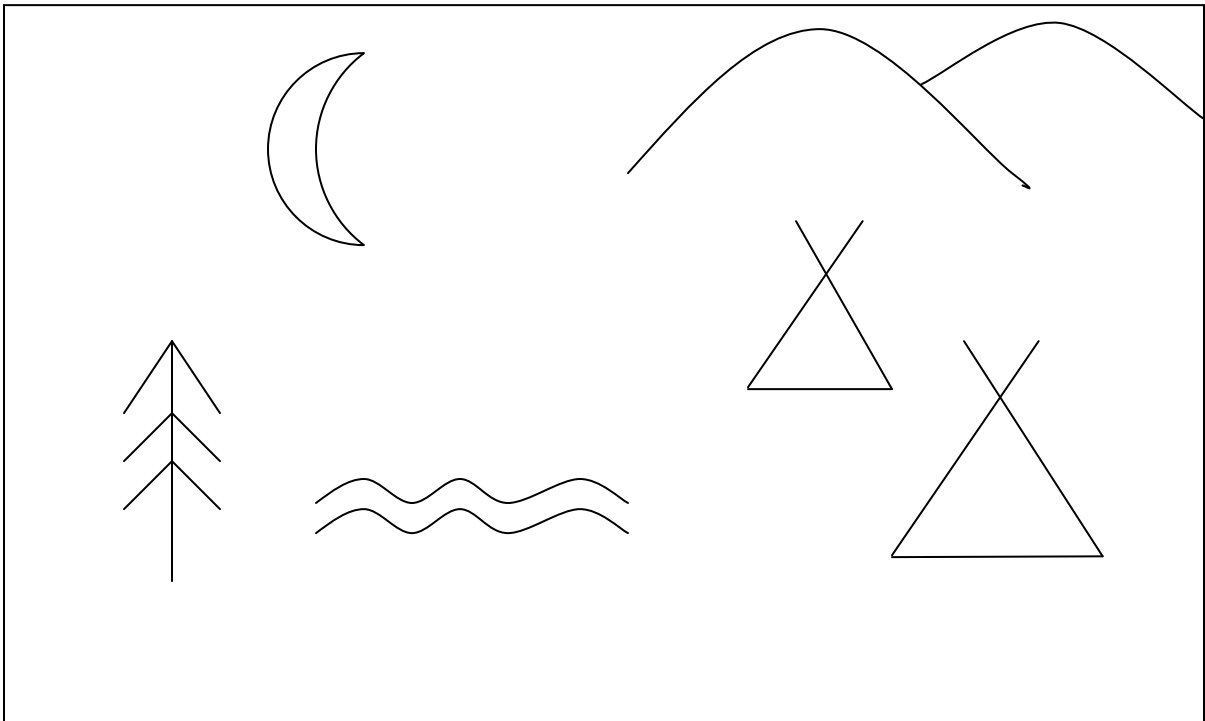
→ Sand (white or colored) or cornmeal

→ Hand towel

→ Control Picture (see below)

Preparation:

First, the teacher will need to trace the bottom of the tray that will be containing the sand onto a piece of poster board. Next she will need to cut out the poster board rectangle and draw the symbols onto the poster board as show below:



Presentation:

1. Invite the child or group of children.
2. The teacher should go to where the towels are and take one to a table.
3. Lay the towel out flat on top of the table.
4. The teacher should take the tray that contains the sand/cornmeal and place it on top of the hand towel a little to the right of the child.
5. Next the teacher should go to where the **Primitive Map** (this is the control for the child) is kept.
6. Take the **Primitive Map** and place it to the left of the tray.
7. Point to the top figure on the left of the **Primitive Map** and say, "This is the symbol for the moon."
8. The teacher should then trace the symbol for the moon on the **Primitive Map** and say, "Moon."
9. The teacher should then make the symbol for the moon on the sand tray with her index finger of her dominant hand and say, "Moon."
10. The teacher should repeat this process (steps 7-9) with the mountains, small t-pee, tree, water and large t-pee (in this order).
11. When the teacher is finished, she should take a moment to stop and admire her work.
12. The teacher should gently shake the tray to erase the symbols she made in the sand.
13. Invite the child to make the **Primitive Map** in the sand tray.
14. Have the child admire their work and then gently shake the tray.
15. Return the **Primitive Map** to its appropriate place.
16. Return the tray to its place on the shelf.
17. Return the towel to its appropriate place.

Variations and Extensions:

1. Use colored sand
2. Make a different map.
3. Have the child draw a map.
4. Make a deck of cards with one symbol on each card.

Points of Interest:

1. How the sand/cornmeal feels
2. How the drawing stays in the sand tray after it has been traced.

Control of Error:

1. The **Primitive Map** is the control.

Aims:

Eye hand coordination, concentration, control, ability to trace symbols, preparation for writing, etc.

Age:

3 ½ and up

Language:

Symbols, drawing, map, etc.

Geography Mapping Activity – Mapping a Shelf

Materials:

- Easel Paper
- Colored Pencil

- Shelf to Map

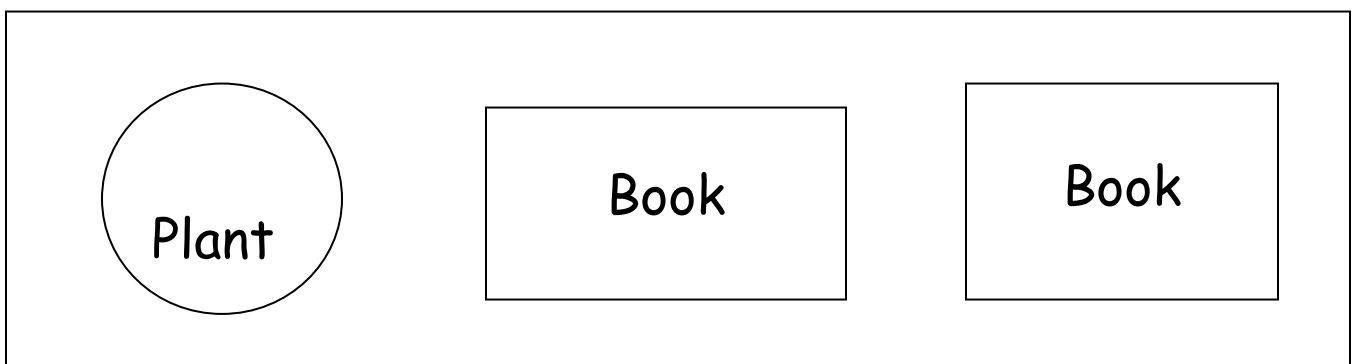
Preparation:

The teacher should set up a shelf in the classroom that hold 3 simple shapes (like a plant and two books).

Next, the teacher should cut the easel paper so that it fits the surface of the shelf.

Example:

Shelf in the classroom set up for this activity.



Presentation:

1. Invite the child or group of children to form a circle and sit down on the rug.
2. The teacher should remind the children about the Primitive Map activity which you demonstrated previously.
3. Say - "Today we are going to make a map of a shelf in our classroom. **Remember that a map is a picture that tells us a story. A map of our shelf will tell us a story about what sits on our shelf.**"
4. Take the children over to the shelf and say, "This is the shelf we will be mapping today."
5. Take the children over to where the easel paper is kept and invite a child to take 1 piece of paper over to where our shelf is that we are going to map.
6. Invite another child to choose a colored pencil and take it over to where the easel paper is waiting to be used to make a map.
7. Remove the objects from the shelf left to right and place them in order, left to right onto the rug, mat, or other designated place.
8. The teacher should lay the easel paper on top of the surface of the shelf.
9. Replace the objects back onto the shelf taking the first
10. Show the children how to trace around the first object
11. (starting from the left and working towards the right). Say to the children, "I am making a map of this shelf. I am tracing around this plant (or name of other object)."
12. 11. Remove the object when finished and place it onto the rug,
13. mat, or other designated place..
13. Repeat the process (steps 11 and 12) with the next object.
14. Repeat the process (steps 11 and 12) with the last object.
15. Hold up the easel paper and say, "This is a map of our shelf."
14. The teacher should lay the map down and say, "This is a map of our shelf. **Remember that a map is a picture that tells us a story. A map of our shelf tells us a story about what sits on our shelf.**"
15. Point to each of the shapes that you traced in the order
16. which you traced them and say, "This is where our plant (or name of other object) sits on our shelf. This is where a book (or name of other object) sits on our shelf. This is where another book (or name of other object) sits on our shelf."
17. The teacher should then say, "Our shelf map tells us a story. It tells us that we have a plant and 2 books that sit on our shelf."
18. Replace the objects on the shelf starting with the object that goes to the far left of the shelf first (left to right).
19. Write your name on the easel paper and say, "I need to write my name on my map so that I can take it home. If you need help to write your name, be sure to ask me to help you."
20. Replace the colored pencil where it belongs.
21. Place the map in your folder to take home.
22. Invite the children to take a turn making a map of the shelf.

Variations and Extensions:

1. Map other shelves
2. Map a table
3. Make a placemat (shape of dish, glass, silverware)

Points of Interest:

1. The same shapes of the objects on the shelf are on the paper.

Control of Error:

1. Same shapes on shelf are on the paper.

Aims:

Eye hand coordination, concentration, control, ability to trace, preparation for writing, etc.

Age:

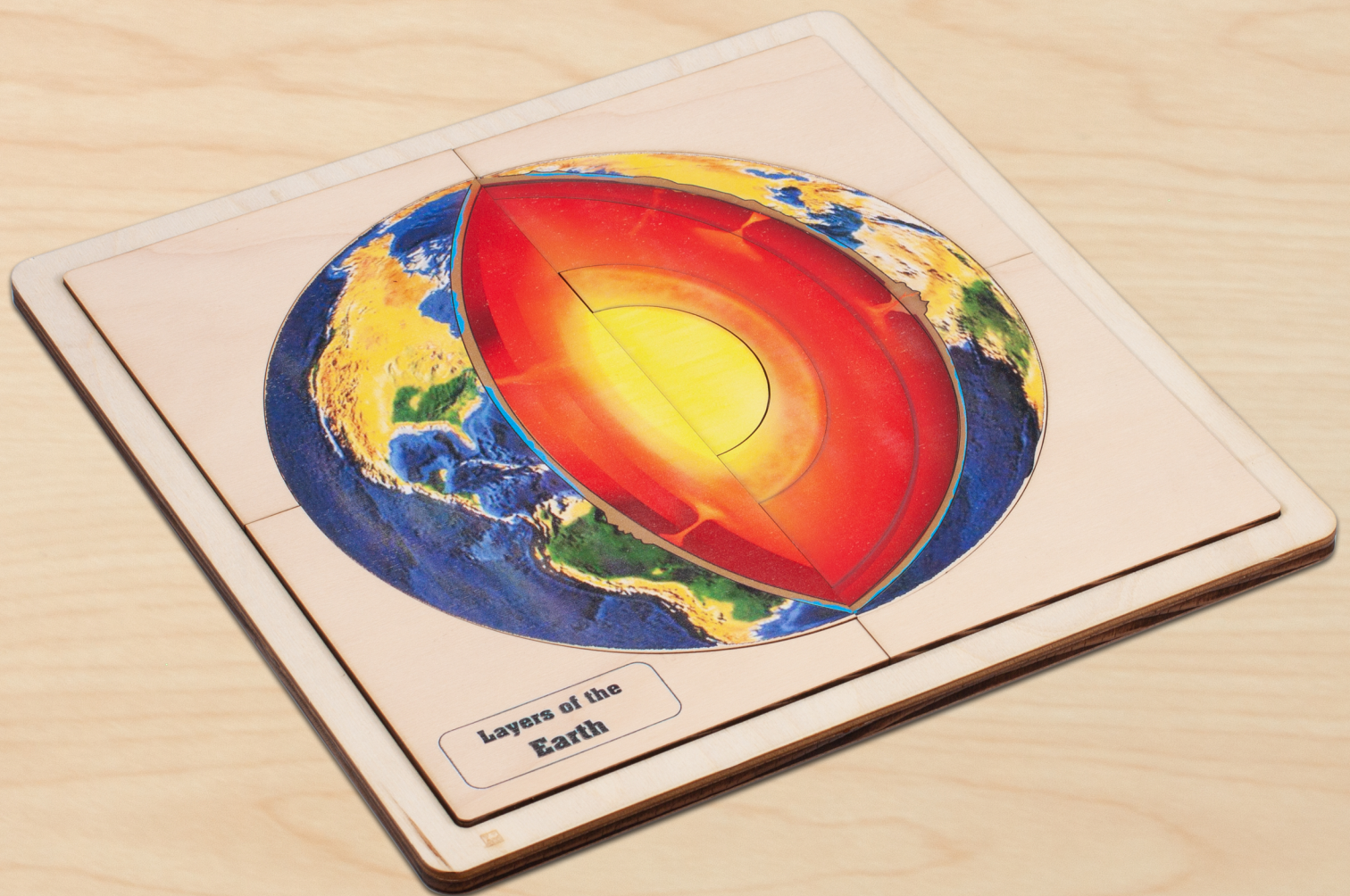
3 ½ and up

Language:

Map, mapping, trace, etc.

GEOLOGY

TEACHER'S MANUAL



Written by Karen H. Tyler

Alison's[™]
Montessori

www.alisonsmontessori.com

Rationale

Children realize through the study of Geology that the Earth's past has been recorded in the rocks. Hopefully, this helps children recognize the treasures at their feet, as well as the realization that our planet is in a constant state of change.

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General Introduction - Geology

- ★ Geology is the study of the Earth, the processes that formed it and how it will continue to change in the future.
- ★ Earth is approximately 4.8 billion years old.
- ★ Rocks are always in a process of changing. Heat, pressure, weathering and erosion cause the changes and are referred to as the rock cycle.
- ★ There are three types of rock; Igneous (Volcanic), Metamorphic (Changed) and Sedimentary (Layered).
- ★ Igneous Rocks are formed from lava that has cooled.
- ★ Metamorphic Rocks are changed by heat and pressure. Many are stacked with mineral grains running through them.
- ★ Sedimentary Rock is formed from mud or sand and has settled at the bottom of water at some point. This rock may contain fossils. You can see wavy horizontal lines and layers.
- ★ A fossil has the same shape as the original life form.
- ★ Diamond is the hardest natural substance found on Earth.
- ★ Quartz is one of the most common minerals found on Earth.
- ★ Basalt is the most common rock on Earth.
- ★ Feldspars make up more than 50% of the Earth's crust.
- ★ Turquoise made into beads was first recorded as being used back in 5000 BC in Mesopotamia.
- ★ 1st Geologist on the moon was Harrison Schmitt who was part of the Apollo 17 mission.
- ★ Pure Gold is very soft.
- ★ Largest pure-gold nugget was found in Australia in 1869 and it weighed 156 pounds.

Geology

Activity – Rock Hunting

Materials:

Take children for a walk outside:

- Egg cartons
- 1 wood board
- Glue
- Permanent black pen

Presentation:

1. During Circle Time, talk to the children about Geology.
2. Explain that Geology is the science that studies the Earth's history that is recorded in rocks.
3. Invite the children to say the word Geology.
4. Tell the children that they are going to go outside for a walk to collect some rocks that they will find at their feet.
5. Give each child the bottom half of an egg carton
6. Take the children outside for a walk.
7. Invite the children to collect rocks and put them into their egg carton.
8. Return to the classroom and have each child pick one of their rocks and to give it to you for a class collection.
9. As each child gives you a rock, glue it to the board and write their name (Sue's Rock).
10. At the top of the board write "Our Rock Collection".

Variations and Extensions:

1. Have a rock show
2. Progression: Rock - pebbles - sand - soil
3. Field trip
4. Needs of Man

Points of Interest:

1. Treasures at our feet
2. Starting a collection

Control of Error:

1. Not finding any rocks

Aims:

Realizing that the earth changes every year, carrying objects, caring for the Earth, etc.

Age:

2 ½ and up

Language:

Collection, rocks, treasures, history, Earth, etc.



Rock Hunting



Rock Collection



3-Part Cards

Geology Practical Life Area Activity – Tonging Rocks

Materials:

A tray containing:

- Ice cube tray
- Pair of tongs
- Rocks

Presentation:

1. Invite the child or group of children.
2. Go over to where the work is kept and take it to a table.
3. Pick up the tongs and examine them. Open and close them.
4. Pick up a rock with the tongs.
5. Place the rock into the ice cube tray, left to right and top to bottom.
6. Admire your work.
7. Reverse the process and remove the rocks with the tongs.
8. Return the work to the shelf.
9. Invite a child.

Variations and Extensions:

1. Spooning pebbles
2. Whisking sand
3. Scrubbing a rock

Points of Interest:

1. Seeing the differences in each rock

Control of Error:

1. No rocks in tray
2. Can't make the tongs work

Aims:

Eye hand coordination, concentration, order, etc.

Age:
2 ½ and up

Language:
Tongs, grasp, release, inside, compartments, etc.



Another Practical Life Activity

Geology Sensorial Area Activity – Visual Matching

Materials:

- A tray containing:
→ Pairs of matching rocks

Presentation:

1. Invite the child or group of children.
2. Go over to where the work is kept and take it to a table.
3. Point out that the rocks on the tray are mixed up and we are going to find the matching pairs.
4. Take your time to pick up one rock and search the other rocks to find a match.
5. Lay the two matching rocks side by side on the tray.
6. Pick up another rock and repeat the procedure.
7. Continue until all matches have been made.
8. Admire your work.
9. Reverse the process and mix up the rocks for the next child.
10. Return the work to the shelf.
11. Invite a child.

Variations and Extensions:

1. Blindfolded

Points of Interest:

1. Seeing matches that are not identical

Control of Error:

1. Rocks don't match.

Aims:

Eye hand coordination, visual discrimination, etc.

Age:
2 ½ and up

Language:
Matching, pairs, etc.



Visual Matching



Other Sensorial Activities

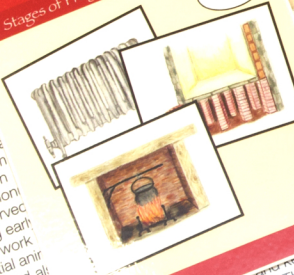
HISTORY

TEACHER'S MANUAL

Heating
Stages of Progression of Civilization

6-9

The controlled use of fire is a great debate. The great use of fire spread as early as 100,000 years ago. Fires created by lightning strikes are "found fire", from which humans learned to create fire by friction. In the early stages of human history, fire was a major source of light, allowing early humans to work longer hours. The use of fire also allowed for the cooking of food, which increased the calories and nutritional value of the human diet.



subject of fire was a major source of light, allowing early humans to work longer hours. The use of fire also allowed for the cooking of food, which increased the calories and nutritional value of the human diet.

Firepit
100,000 years ago

Firepit
100,000 years ago



Firepit
100,000 years ago

Firepit
100,000 years ago

Rationale

History is the recorded progression of humankind's impact on the earth. In order to appreciate our past achievements, children need to be introduced to abstract historical concepts at an early age. This is difficult, but not impossible to do, because our children are always in the present.

History helps a child locate their place in time so that human development will continue to be appreciated.

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History Introduction – General

Geography helps a child physically locate their space on this earth. History helps a child abstractly locate their space in time. This is difficult because the young child is always aware of being in the present.

History should reflect our positive accomplishments. It is the recorded progression of human kind's impact on this earth.

When getting ready to study history, you need to reflect on the items which you either have or could find quickly that could help bring the young child into thinking abstract thoughts about time (timers, hourglass, etc.).

There are 3 main categories of time:

Physical Time (present, past, future)

Biological Time (sleep cycle)

Geological Time (to see how old something is)

It is very important that you extend the study of history throughout the entire classroom. One of the ways to do this would be to make different sets of 3-Part Cards. These cards will help aid in increasing vocabulary and understanding difficult concepts. Here are some examples:

yesterday, today, tomorrow

before, now, after

second, minute, hour

sunrise, sunset

morning, noon, afternoon

day, night

Be sure to refer to your other Montessori albums to add "historical" activities throughout the classroom.

NOTE: Study of Historical Timelines is to be accomplished by lower elementary aged children.

History

Concrete Observation

Introduction – Concrete – Objects

Materials:

A tray containing:

- (1) kitchen timer
- (1) hourglass
- (1) watch
- (1) watch fob
- (1-2) calendar

- Label (see preparation below)

Preparation:

1. The teacher needs to take a tray and make a label that says “**history**” using masking tape and a permanent pen. Stick this label at the bottom of the tray’s top surface.
2. The **History** tray is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children with the **History** tray.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should then place the **History** tray directly in front of her.
5. Say, “This is the **History** tray.” Point to the label on the tray and read, “**history**”.
6. Now say to the children, “**History is the study about how people, places and things in our world have been recorded on our Earth.**”
7. Every object on this **History** tray is used to **experience how people keep track of history.**
8. The teacher should say “**History**” as she points to the words on the tray.
9. Pick up the **kitchen time** and say, “This is a **kitchen timer.**” Hold it up so that the children can see it. Study the **timer** for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, “This **kitchen timer** helps us to keep track of the time. Keeping track of time is part of **history.** **History is the study about how people, places and things in our world have been recorded on our Earth.**”

10. Point to the label again and read, "**history**".
11. Pick up the **watch** and say, "This is a **watch**." Hold it up so that the children can see it. Study the **watch** for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, "This **watch** helps us to keep track of the time. Keeping track of time is part of **history**. **History** is the study about how people, places and things in our world have been recorded on our Earth."
12. Point to the label again and read, "**history**".
13. Continue steps 11 and 12 above with each object.
14. Return the objects to the tray.
15. Return the **History** tray to where it belongs on the shelf.

Variations and Extensions:

1. Use different objects that are used to study **history**.

Points of Interest:

1. How the kitchen timer sounds.
2. How the hands on a watch move.
3. How the sand falls through the hourglass.
4. The numbers on a calendar.

Control of Error:

1. The teacher has set up the tray correctly.

Aims:

To be introduced to **History** as about how people, places and things in our world have been recorded on our Earth."

Age:

2 ½ and up

Language:

History, timer, watch, hourglass, fob, calendar, etc.

History

Concrete Observation

Activity – How Many Rings?

Materials:

A tray containing:

→ (1) slice of a tree trunk

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children and place the **slice of a tree trunk** directly in front of her.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should say, "This is a **slice of a tree trunk**."
5. Pick up the **slice of a tree trunk** and say, "This is a **slice of a tree trunk**." Hold it up so that the children can see it. Study the **wood** for a few minutes and then start to pass it around the circle by giving it to the child on your right saying, "This is a **slice of a tree trunk** it helps us to keep track of the time. Keeping track of time is part of **history**. **History is the study about how people, places and things in our world have been recorded on our Earth.**"
6. After the **slice of wood** is returned to the teacher she should say, "When you were looking at the **slice of a tree trunk**, did you notice the rings that formed circles in the wood?"
7. After the children have discussed this say, "I am going to pass this **slice of wood** around to each of you again so that you may look at the rings that have been formed in the tree." Pass the **slice of wood** around.
8. After the **slice of wood** is returned the teacher should say, "You can tell how old a tree is by counting the rings (bands). Let's count the number of rings in this **slice of wood** (count number of rings). This tree lived to be (number of years based on the number of rings/bands)."
9. Now, the teacher should say, "**History is the study about how people, places and things in our world have been recorded on our Earth. Today, we have counted the rings/bands in the slice of a tree trunk. History was recorded in this tree for we were able to count the rings and tell how long this had tree lived.**"
10. Show the children where the **slice of a tree trunk** will be kept in the classroom so they may take turns looking at it and counting the rings.

Variations and Extensions:

1. Use **slices of tree trunk** from different trees.

Points of Interest:

1. How some rings/bands are thick and some are thin.

Control of Error:

1. The teacher has set up the tray correctly.

Aims:

To be introduced to the concept that **rings in a slice of tree trunk** contain the recorded **history** of how long that tree lived.

Age:

2 ½ and up

Language:

History, tree, wood, trunk, slice, rings, bands, beans, etc.

History Concrete Observation Activity – Bean Jar

Materials:

A tray containing:

- (1) jar with a lid (to hold the beans)
- (1) basket with dried large lima beans (or other variety)

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children and place **Bean in a Jar Tray** directly in front of her.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should say, "This is an empty jar."
5. Hold up the jar so that the children can see it. Open the lid and place it on the tray. Hold the jar upside down to indicate that it is empty. Repeat comment by saying, "This is an empty jar."
6. Place the empty jar to the right of the lid.
7. Pick up the basket with the dried beans and say, "This is a basket holding dried beans."
8. Put the basket down on the tray where it had been and pick up one bean and hold it up and say, "This is a bean."
9. Now take the bean and put it in the empty jar.
10. Pick up the lid and put it back on the jar.
11. Hold up the jar and say, "I put one bean in our jar today. We are going to put one bean in our jar every day."
12. The teacher should put the jar back on the tray to the right of the basket of beans.
13. The teacher then says, "**History is the study about how people, places and things in our world have been recorded on our Earth.** We are going to record every day by putting a bean in our jar!"
14. Show the children where the **Bean in a Jar Tray** belongs on a shelf.
15. Explain to the children that every day at circle time, one bean will be put in the jar to record the day in **History**.

Variations and Extensions:

1. Use different beans.
2. Use different objects.
3. Have each child have their own **Bean in a Jar**.

Points of Interest:

1. How the beans start to fill up the jar as the days pass.

Control of Error:

1. The teacher has set up the tray correctly.

Aims:

To be introduced to the concept that everyone can keep track of each day and record it.

Age:

2 ½ and up

Language:

History, beans, etc.

History

Concrete Observation

Activity – Popping Corn

Materials:

A table containing a tray which holds:

- (1) stopwatch
- (1) bag of microwave popping corn
- (1) empty bowl (hold pop corn)
- Enough paper cups so that each child has one which will contain some pop corn.

Presentation:

1. Invite the children to join you in the kitchen.
2. The teacher should ask the children to gather around her so that they can see the tray she has in front of her on the table.
3. Explain to the children that you have something special that you want to share with them today.
4. The teacher should say, "This is a **stopwatch**."
5. Hold up the **stopwatch** so that the children can see it.
6. The teacher should continue holding up the watch and say, "A **stopwatch** can help record time. I am going to push the start button and we are going to pass the **stopwatch** to each other and when it comes back to me I will push the stop button. We are going to record time."
7. The teacher now holds up the **stopwatch** and pushes the start button and passes it to the child on her right.
8. After the **stopwatch** returns to the teacher she should hold it up and push the stop button and say, "I have now pushed the stop button on our **stopwatch**. It took us (say the time) to pass the **stopwatch** around to each other. I know this because my **stopwatch** recorded the time."
9. The teacher should hold up the **stopwatch** and say, "I am going to pass the **stopwatch** so that each of you can see the numbers that are on our **stopwatch**. The numbers tell us that it took us (say the time) to pass the **stopwatch** around to each other."
10. The teacher should pass the **stopwatch** to the child on her right.
11. After the **stopwatch** returns to the teacher she should say, "Now we are going to make some popcorn. We are going to use the **stopwatch** to record the time it takes for us to pop corn."

12. The teacher puts the popcorn into the microwave oven.
13. The teacher holds up the **stopwatch** and pushes the start button and then she pushes the start button on the microwave oven.
14. The teacher should invite the children to listen for the corn to stop popping.
15. As soon as the corn is finished popping, the teacher should say, "I am now going to open the microwave oven. Then she should say, I am now going to push the stop button on our **stopwatch** (hold up **stopwatch** so children can see what you are doing).
16. The teacher should say, "I have pushed the stop on our **stopwatch** and it says that it took (say the time) to pop corn! I know this because my **stopwatch** recorded the time."
17. The teacher should hold up the **stopwatch** and say, "I am going to pass the **stopwatch** so that each of you can see the numbers that are on our **stopwatch**. The numbers tell us that it took us (say the time) to pop corn."
18. The teacher should pass the **stopwatch** to the child on her right.
19. After the **stopwatch** returns to the teacher she should say, "**History is the study about how people, places and things in our world have been recorded on our Earth.** Today, we have recorded how long it took to pop corn."
20. The teacher fills the paper cups with popcorn and snack is shared by all.

Variations and Extensions:

1. Use a **stopwatch** and bake a cake.
2. Set the timer on the oven/microwave and pop corn or bake a cake.

Points of Interest:

1. How the time seems to go by slowly.
2. The sound of popping corn.

Control of Error:

1. The teacher has set up the activity correctly.

Aims:

To be introduced to **History** as about how people, places and things in our world have been recorded on our Earth."

Age:

2 ½ and up

Language:

History, stop watch, popping, corn, etc.

LANGUAGE TEACHER'S MANUAL



Written by Karen H. Tyler

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Rationale

Readiness for Language begins at home in infancy as the child absorbs oral language. A young child needs to be talked to and read to from birth on.

Preparation for Language takes place in both Practical Life and Sensorial activities. In Practical Life the child develops control of the hand. In Sensorial the child learns visual discrimination.

Maria Montessori believed that if the environment has been prepared with the appropriate materials, the child will need little formal instruction to experience an “explosion into writing”.

The Language materials offered in a Montessori classroom breaks down the elements of reading. This enables the young child to experience the structure of Language in a concrete way.

These systematic activities teach the child who can express himself/herself how to analyze the sounds of the language. The child learns that these sounds are represented by symbols. We communicate by how we use these symbols to represent our speech pattern.

It is our role as caretakers of the adults of tomorrow; to teach our children today that communication is the means by which human beings share their passion for life with each other!

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Practical Life Bead Stringing

Materials:

A tray containing:

- (1) control card
- (1) basket of beads (that are on the control card)
- (1) basket holding a bright colored shoelace (2-3' in length)

Presentation:

1. Invite the child or group of children.
2. Go over to where the Bead Stringing tray is kept.
3. Take the tray over to a table and place it on the left side.
4. Take the control card and place it directly to the left of you after you have sat down.
5. Take the basket of beads and place it to the right of the control card and directly in front of you.
6. Take the shoelace and place it to the right of the basket of beads.
7. The teacher should demonstrate by grasping the end of the shoelace that does not have a knot in the end, with the thumb, index and middle fingers of the dominant hand and raise it up (so that it is in front of you and not on the table).
8. Look at the control card and see which bead is to go on first.
9. Pick up that bead with your subdominant hand and using your dominant hand push the end of the shoelace up through the hole in the bead.
10. Repeat Steps #8 - #9 until every bead on the control card has been strung on the shoelace.
11. Admire your work.
12. Hold the string of beads in the subdominant hand and removing one bead at a time and place it in the basket.
13. Return the materials to the tray.
14. Return the tray to the shelf.
15. Invite a child.

Variations and Extensions:

1. Use different sized beads
2. Use different materials

Points of Interest:

1. How the beads look when they are together on the lace

Control of Error:

1. Having a bead left over
2. Not having enough beads

Aims:

Eye hand coordination, concentration, control, ability to follow a pattern from left to right, preparation for writing, etc.

Age:

2 ½ and up

Language:

Stringing, beads, strung, pattern, in, out, etc.

Practical Life Cubes & Cards

Materials:

A tray containing:

- (1) control card
- (1) basket of cubes (that are on the control card)

Presentation:

1. Invite the child or group of children.
2. Go over to where the Cubes and Cards tray is kept.
3. Take the tray over to a table and place it on the left side.
4. Take the control card and place it directly in front of you after you have sat down.
5. Take the basket of cubes and place it to the right of the control card.
6. The teacher should demonstrate by looking at the control card and to see which cube is first.
7. Pick up that cube with your hand and place it on top of the same cube on the control card.
8. Repeat Steps #6 - #7 until every cube on the control card has a cube on top of it that matches.
9. Admire your work.
10. Remove the first cube on the left of the card and place it in the basket. Continue until all the cubes have been removed.
11. Return the materials to the tray.
12. Return the tray to the shelf.
13. Invite a child.

Variations and Extensions:

1. Build the pattern off of the card
2. Use different sized cubes
3. Use different materials

Points of Interest:

1. How the cubes look when they are together on the card

Control of Error:

1. Having a cube left over
2. Not having enough cubes

Aims:

Eye hand coordination, concentration, control, ability to follow a pattern from left to right, preparation for writing, etc.

Age:

2 ½ and up

Language:

Cubes, control, pattern, etc.

MATHEMATICS

TEACHER'S MANUAL



Written by Karen H. Tyler

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Rationale

Mathematics is a way of looking at the world around us. It is a language for understanding and expressing measurable relationships in our world.

The purpose of developing mathematics is to aid the child in acquiring those tools which allow him/her to function in society and to interact with others. A true Montessori classroom creatively uses appropriate didactic materials to meet this purpose.

Montessori is a reality based philosophy. Our world is dependent upon Mathematics...from counting pennies to cooking oatmeal. Children come into contact with numbers early on in life. The goal is to understand math...logical mathematical thinking...not in computing.

Mathematical ideas are awakened in the young child first through the use of materials in the practical life area in a Montessori environment. These activities develop coordination between the brain and the senses. Sensorial exercises develop concrete manipulative experiences in discovering perceptual relationships.

Pre-math activities are present in all the areas of a Montessori classroom. A child is most "sensitive" from 3 to 5 ½ years of age. At this time it is easier for him/her to be introduced to concepts of numeration, the decimal place value system and linear counting.

I believe that it is the role of the Montessori teacher to prepare her/himself with the working knowledge of Mathematical skills and to set-up the environment with the appropriate materials necessary for the child to experience yet another dimension of the world he/she lives in.

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Preparation for Math

One-to-One Correspondence

Egg Carton Activity

Materials:

A tray containing:

- (1) egg carton
- (1) basket of plastic eggs

Presentation:

1. Invite a child or group of children.
2. Go over to where the Egg Carton Activity Tray is kept.
3. Take the tray over to a table and place it on the left side.
4. Take the basket of eggs and place it to the left of the child.
5. Take the egg carton and place it directly in front of the child and next to the egg basket.
6. The teacher should pick-up one plastic egg with her thumb, index and middle fingers.
7. Look at the egg and put it into the egg carton (first row, far left corner).
8. Pick up another egg, look at it, and put it into the egg carton (first row, and to the right of the first egg).
9. Continue until all of the eggs have been placed in the egg carton.
10. Admire your work.
11. Return each egg to the basket, beginning with the egg in the first row, far left corner.
12. Continue working left to right on the first row and then begin the second row doing the same as the first row.
13. Return the basket of eggs to the tray.
14. Return the egg carton to the tray.
15. Return the tray to the shelf.
16. Invite a child.

Variations and Extensions:

1. Use different sized egg cartons
2. Use different materials

Points of Interest:

1. How the eggs look when they fill the carton

Control of Error:

1. Having an egg left-over
2. Not having enough eggs

Aims:

Eye hand coordination, one-to-one correspondence, concentration, control, preparation for math and writing, etc.

Age:

2 ½ and up

Language:

Carton, eggs, dozen, etc.

Preparation for Math Books - Counting

Materials:

→ A book

Presentation:

1. Invite a group of children.
2. Go over to where the books are kept and carry a counting book to the circle using a 2-hand grasp like in carrying a tray.
3. The teacher should sit down and read the book to the children.
4. The teacher should read the title of the book, author and the illustrator out loud to the children.
5. The teacher should point out that this is a counting book.
6. The teacher may invite the children to join in the counting.
7. When the teacher is finished she needs to close the book and return it to the book area exactly where she found it.
8. Invite the children to visit the book area and look at the counting book for themselves.

Variations and Extensions:

1. Have several books in the book area
2. Place a book and matching object on a tray on a math shelf
3. Old books
4. New books
5. Pop-up books

Points of Interest:

1. How to borrow and return a book to the book area appropriately

Control of Error:

1. Ripping a page.
2. Dropping book on the ground
3. Sound of slamming book shut

Aims:

Counting is fun, eye-hand coordination, concentration, control, care of the environment, interest in reading, ability to turn pages of a book, learning how to respect property, preparation for math and writing, etc.

Age:

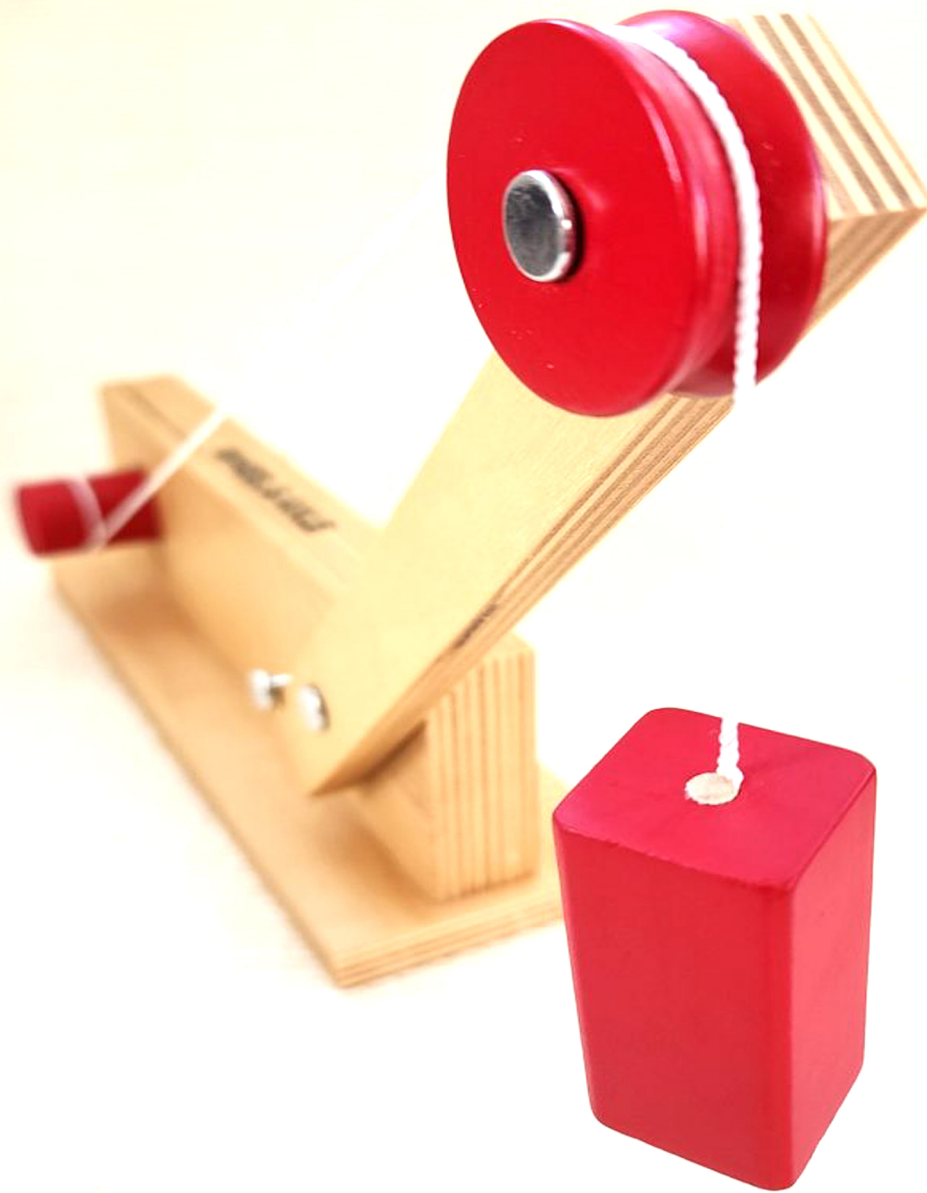
2 ½ and up

Language:

Book, counting pages, turn, smooth, gentle, respect, etc.

PHYSICAL SCIENCE

TEACHER'S MANUAL



Written by Karen H. Tyler

Alison's
Montessori

www.alisonsmontessori.com

Rationale

Picture a young child standing in a field feeling the wind blowing across their face. The child asks, “What is air?”

Can you see the toddler listening for the bird in the birdbath to sing again? “Why does that bird sing?”

Imagine a small child outside with their face turned up tasting the snow and ask, “What is snow made of?”

You can see from your window a young boy that stops digging with a stick in the dirt and watches an ant. He says, “Who put the ants in this hill?”

The reason for teaching young children physical science is to promote their sense of inquiry. Why, What, When, Who and How are some of the first words they learn. Young children have such a curiosity and as adults we need to help them find the answers to their questions. We need to show them how to experience the world around them. Experiencing physical science will help the children of today come up with solutions to the challenges of tomorrow which just happens to be their future!

Alison's Montessori
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Physical Science

Introduction

Concrete – Objects – Flashlight

Materials:

A tray containing -

→ Control card - shows how to put a flashlight back together

→ Transparent flashlight

Table mat

Presentation:

1. Invite the child or group of children.
2. Go over to where the table mats are kept.
3. Take a mat over to a table and place it on top of the table.
4. Go over to where the tray holding the control card and flashlight are, and take it to the table and place it above the table mat.
5. The teacher should remove the control card and place it directly on the right side of the table mat.
6. The teacher should remove the flashlight and place it on the left side of the table mat.
7. The teacher should introduce the flashlight to the child and show how to turn it on and off.
8. The teacher should show the child how to take the flashlight apart. Each time a part is removed, place it carefully on the table mat (right to left and top to bottom).
9. After the entire flashlight has been broken down into parts, pick up the control card.
10. The teacher should introduce the child to the control card explaining that the pictures show us, in sequence, how to put the flashlight back together.
11. Point to the first picture and look for the 2 parts needed and put them together.
12. Point to the next picture and look for the part that is needed and put it together with the first section.
13. The teacher should continue in like manner until the flashlight has been rebuilt.
14. Turn the flashlight on and off.
15. Admire your work.
16. Replace the flashlight back on the tray.
17. Replace the control card back on the tray.
18. Return the tray to the shelf where it belongs.

19. Return the table mat to where it belongs.
20. Invite a child to repeat the activity.

Variations and Extensions:

1. Use a different type of flashlight

Points of Interest:

1. Many parts make a whole
2. Light doesn't work when the flashlight isn't in one piece
3. So that's what's inside a flashlight!!! Wow!

Control of Error:

1. Flashlight doesn't work
2. Flashlight doesn't go together

Aims:

Preparation for experiments on cause and effect, light, etc.

Age:

3 and up

Language:

Flashlight, transparent, light, experiment, etc.

Physical Science

Introduction

Abstract – Pictures – Flashlight

Materials:

- A tray containing -
 - (6) Pictures of flashlights

Presentation:

1. Invite the child or group of children.
2. Go over to where the picture tray is kept and take it over and place it on a table.
3. Go over and sit down at the table.
4. The teacher should pick up each picture card one at a time and look at it.
5. After looking at the picture cards, the teacher should return the tray to the shelf where it belongs.
6. Invite a child to repeat the activity.

Variations and Extensions:

1. Include a mini flashlight on the tray with the pictures
2. Use books instead of pictures

Points of Interest:

1. Different flashlight in each picture
2. Flashlights used in different types of work and activities

Control of Error:

1. Books other than flashlights on tray

Aims:

Preparation for experiments on cause and effect, light, etc.

Age:

3 and up

Language:

Flashlight, light, experiment, etc.

PRACTICAL LIFE

TEACHER'S MANUAL



Written by Karen H. Tyler

Alison's[™]
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www.alisonsmontessori.com

Rationale

Practical Life exercises are the first activities we experience. These everyday skills are important because we use them during our entire lifetime.

We need to learn grace and courtesy in order to maintain balance and control over our body and mind.

We need to prepare the hand so that we can learn to write and manipulate objects we come in contact with everyday.

We need to know how to take care of our own person first, and then we can experience the freedom to take care of our environment including pets.

We need to know how to prepare food so we may be sustained with energy so we may function fully.

Practical Life exercises must be mastered so that the child will develop to their fullest potential and take their place in the history of our world. It is our role as caretakers of the adults of tomorrow to entice the child to work with purpose in everything they do!

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Introduction to Learning Environment

Note! Every Montessori school or home school will have their different ways and rules about where they keep things, following directions and emergency routines.

Location

It is very important that at the beginning of the school year you go over the location of important items in the room because:

1. You may have moved them to a new place.
2. You may have new children.
3. It will be a reminder to those children that have been shown before.

- ♥ Bathroom
- ♥ Kleenex
- ♥ Water Supply
- ♥ Waste Basket
- ♥ Chairs
- ♥ Mats
- ♥ Rugs
- ♥ Cubbies
- ♥ Coat Area
- ♥ Snack Table
- ♥ etc.

Following Directions

Depending on the number and ages of your children, it may take several weeks to introduce and review how to follow directions. Remember, the child will mimic you and the way you did it. Be sure to cover:

- ♥ Lining Up
- ♥ Walking Up and Down Stairs
- ♥ Walking Around a Rug
- ♥ Watching Another Child Work

- ♥ Asking to Participate with Another Child
- ♥ Calls to Silence
- ♥ Sitting on the Line
- ♥ Inside/Outside Voices
- ♥ Inside/Outside Feet
- ♥ Playground Safety Rules

Emergency Routines

Do not scare the children when you talk about what to do in an emergency. Be sure to cover whatever the natural disasters might be where you live.

- ♥ Fire Drills
- ♥ Earthquake Drills
- ♥ Tornado Drills
- ♥ etc.

Following Directions – The Silence Game

The Silence Game is made up of a series of activities to be done with children at a circle/group time.

Indirect Preparation must include:

- ♥ sit quietly on the line
- ♥ listen to a story
- ♥ move a chair quietly
- ♥ must be aware of others
- ♥ must be willing to work and be with a group.

Presentation:

1. During a circle/group time the directress reads a quiet story.
2. Draw a visual picture for the children by asking them if they can be as quiet as the grass growing, etc.
3. Ask the children to get comfortable and to close their eyes and be as quiet as a mouse.
4. Start with 30 seconds of silence and increase time as the children increase their ability to be silent.

Variations/Extension:

- ♥ After the silence a thought may be shared.
- ♥ Share about sounds you might have heard.
- ♥ While the children are quiet, whisper their name and call them to you (You can dismiss them from circle/group time this way).
- ♥ Everyone can sit silently and listen for noises.

Further Activity:

- ♥ You can use an egg timer for the duration of the silence time.
- ♥ You can use a snow globe and stay silent until the last bit of snow has settled on the ground.
- ♥ Before starting the silence, you can have the children listen to you drop something (like a paperclip)...have them raise their hand when they hear you drop it as they are silent and their eyes are closed.

- ♥ Have the children feel their heartbeat.
- ♥ Have the children listen to their breathing.
- ♥ Have the children focus on a part of their body to quiet (i.e. feet).
- ♥ Choose a special picture and hang it on the wall. Explain to the children that when you turn the picture over and they see the word 'silent' they are to stop and be quiet. (This works well to quiet a noisy room and to help the children focus on their work).

Control of Error:

The control of error would be the noise you would hear if it is not quiet.

Direct Aims:

Silence of body and spirit and builds community, etc.

Age:

2 - 3 years old and up

Language:

Silence, breathing, still, etc.

Grace & Courtesy Standing

Materials:

- Place to Stand
- Child/children

Presentation:

1. Invite one or two children to come and join you.
2. Ask them to sit comfortably.
3. Demonstrate first by walking to the center of the open space.
4. Stand correctly (feet together and arms down at your sides).
5. Maintain direct eye contact with the child/children.
6. Invite the children to do this one at a time.

Variations and Extensions:

1. Demonstrate this in a circle/group setting.

Points of Interest:

1. Standing erect
2. Arms at side relaxed
3. Shoulders should be back
4. Feet should be together
5. Maintain eye contact

Control of Error:

The control of error is the teacher.

Aims:

Control, coordination, grace when needing to control your body, etc.

Age:

2 ½ - 4 ½

Language:

Erect, and eye contact, etc.

SENSORIAL TEACHER'S MANUAL



Written by Karen H. Tyler

Alison's
Montessori
www.alisonsmontessori.com

Rationale

A young child first perceives his world through his five senses; taste, touch, smell, hearing and seeing.

Dr. Montessori designed Sensorial equipment that gives children the opportunity to develop order, broaden and refine their senses. As the child becomes independently involved, he discovers his own capabilities. Therefore, a Montessori child becomes self-disciplined and develops an organized approach to solving problems, a positive influence in the world!

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Pink Cubes aka Pink Tower

Materials:

- Pink Cubes
- Floor rug

General Presentation:

1. Invite the child or group of children.
2. Go over to where the floor rugs are kept.
3. Choose a rug and take it over to the floor and unroll it as you have been shown before.
4. Go over to where the Pink Cubes are kept.
5. The teacher should name the material for the child, "Pink Cubes".
6. The teacher should demonstrate how to carry the cubes one at a time by placing one hand on top and one on the bottom.
7. Invite the child to carry the cubes (largest one first) over to the rug.
8. Place the cube on the rug.
9. Continue placing the cubes (not in order) until the smallest cube has been placed on the rug.
10. Pick up the largest cube with both hands and move it to the bottom left-hand side of the rug.
11. Continue to select the next largest cube and place it next to the cube placed before, left to right, in a horizontal line making sure that the cubes touch (cube on the right side back corner touches the cube on the left side back corner).
12. After the cubes have been graded largest to smallest, slide your hand, palm side down, over the tops of the cubes, from left to right. Say, "Largest to smallest cube".
13. Invite the child to do the same.
14. Next take the smallest cube and move it up the top of each cube in turn, pausing to note that every other cube becomes level with the smallest cube.
15. Now, take the smallest cube and move it down the "stairs" pausing to note that every other cube becomes level with the smallest cube.
16. Return the cubes to the shelf carrying them properly and starting with the smallest cube.
17. Roll your rug as you have been shown and return it to its place.

Second Presentation - Vertical and Centered:

Follow the General Presentation through Step #9. Then, grade the cubes vertically, one at a time, and center each cube as you go. When you are finished, take each cube in turn and place it on the rug in a horizontal line and then continue to put it away (see General Presentation).

Third Presentation - Vertical and Edged:

Follow the General Presentation through Step #9. Then grade the cubes vertically, one at a time, making sure that one corner and two sides are even with the cube before. When you are finished, take your fingers and stroke the cubes from bottom to top on each side that is edged (even). Take the smallest cube and go down and up the stairs showing that there is only one unit of increase in every cube.

Variation #1 - Memory:

Follow the General Presentation through Step #9. Then, roll out a second rug some distance away from the first one. Carry the largest cube over to the second rug and build the horizontal tower exactly the same way as you did on the first rug. This is the first memory exercise called order to order. The second memory exercise should be mixed order to order. The last one should start with the cubes on the first rug in mixed order. You take the largest cube and you place it on the second rug so that it will be in the center of the horizontal line you will be building. Now, as you build your horizontal line, you place the remaining cubes by alternating them (largest down to smallest). You place one to the right of the largest cube and the next one to the left of the largest cube.

Variation #2 - Blindfolded:

After the cubes have been carried to the rug and are in mixed order, have the child use a blindfold. The first blindfolded exercise has the child grade horizontally as in the General Presentation. The second blindfolded exercise has the child grade vertically and centered. The last one should be have the child grade vertically and edged.

Variation #3 - Horizontal & Matching Cards:

After the cubes have been carried to the rug and are in mixed order, show the child where the matching cards are kept. Take the matching cards over to the rug and place the card with the largest pink square on it in the bottom left-hand corner of the rug. Using the cards, grade the pink squares from largest to smallest horizontally. Find the largest cube and match it to the card and place it on top of the card. Continue until all of the cubes are matched to a card.

Points of Interest:

1. The relationship of the smallest cube to each cube

Control of Error:

1. Visually

Aims:

Visual discrimination, order, concentration, coordination, etc.

Age:

2 and up

Language:

Large, small, pink, cube, edge, corner, center, vertical, horizontal, etc.

Brown Quadrilateral Prisms aka Brown Stairs

Materials:

- Brown Quadrilateral Prisms
- Floor rug

General Presentation:

1. Invite the child or group of children.
2. Go over to where the floor rugs are kept.
3. Choose a rug and take it over to the floor and unroll it as you have been shown before.
4. Go over to where the Brown Quadrilateral Prisms are kept.
5. The teacher should name the material for the child, "Brown Quadrilateral Prisms".
6. The teacher should demonstrate how to carry the prisms one at a time by placing one hand on each end.
7. Invite the child to carry the prisms (thickest one first) over to the rug.
8. Place the prism on the rug.
9. Continue placing the prisms (not in order) until the thinnest prism has been placed on the rug.
10. Pick up the thickest prism with both hands and move it to the bottom left-hand side of the rug.
11. Continue to select the next thickest prism and place it next to the prism placed before, left to right, in a horizontal line making sure that the prisms touch (prism on the right side back corner touches the prism on the left side back corner).
12. After the prisms have been graded from thick to thin, slide your hand, palm side down, over the tops of the prisms, from left to right. Say, "Thickest to thinnest prisms".
13. Invite the child to do the same.
14. Next take the thinnest prism and move it up the top of each prism in turn, pausing to note that every other prism becomes level with the thinnest prism.
15. Now, take the thinnest prism and move it down the "stairs" pausing to note that every other prism becomes level with the thinnest prism.
16. Return the prisms to the shelf carrying them properly and starting with the thinnest prism.
17. Roll your rug as you have been show and return it to its place.

Second Presentation - Vertical and Centered:

Follow the General Presentation through Step #12. Then, grade the prisms vertically, one at a time, and center each prism as you go. When you are finished, take each prism in turn and place it on the rug in a horizontal line and then continue to put them away (see General Presentation).

Third Presentation - Vertical and Edged:

Follow the General Presentation through Step #12. Then, grade the prisms vertically, one at a time, making sure that one corner and two sides are even with the prism before. When you are finished, take your fingers and stroke the prisms from bottom to top on each side that is edged (even). Take the thinnest prism and go down and up the stairs showing that there is only one unit of increase in every prism.

Variation #1 - Memory:

Follow the General Presentation through Step #12. Then, roll out a second rug some distance away from the first one. Carry the thickest prism over to the second rug and build the horizontal tower exactly the same way as you did on the first rug. This is the first memory exercise called order to order. The second memory exercise should be mixed order to order. The last one should start with the prisms on the first rug in mixed order. You take the largest prism and you place it on the second rug so that it will be in the center of the horizontal line you will be building. Now, as you build your horizontal line, you place the remaining prisms by alternating them (largest down to smallest). You place one to the right of the largest prism and the next one to the left of the largest prism.

Variation #2 - Blindfolded:

After the prisms have been carried to the rug and are in mixed order, have the child use a blindfold. The first blindfolded exercise has the child grade horizontally as in the General Presentation. The second blindfolded exercise has the child grade vertically and centered. The last one should be have the child grade vertically and edged.

Variation #3 - Horizontal & Matching Cards:

After the prisms have been carried to the rug and are in mixed order, show the child where the matching cards are kept. Take the matching cards over to the rug and place the card with the thickest brown rectangle on it in the bottom left-hand corner of the rug. Using the cards, grade the brown rectangles from thickest to thinnest horizontally. Find the thickest prism and match it to the card and place it on top of the card. Continue until all of the prisms are matched to a card.

Points of Interest:

1. The relationship of the thinnest prism to each prism

Control of Error:

1. Visually

Aims:

Visual discrimination, order, concentration, coordination, etc.

Age:

2 ½ and up

Language:

Thick, thin, brown, quadrilateral, prism, edge, corner, center, vertical, horizontal, etc.

ZOOLOGY

TEACHER'S MANUAL



Written by Karen H. Tyler

Rationale

Children learn through the study of Zoology that there are other animals to be appreciated than just human beings.

A sense of “wonder” and “love” for all that is living develops quickly as a child becomes aware of their place in the Animal Kingdom. Knowledge of the “creation” around them brings “respect.” This “respect” is a must for there are many living things that claim Earth as their home. Our children must learn at an early age how to live with others in order for there to be “Peace on Earth!”

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Zoology

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Zoology Presentations

Zoology

Introduction – General

Materials:

A **Zoology Control Tray** containing:

- (1) small container of food
- (1) small container with lid holding air
- (1) small container with lid holding water
- (1) small basket holding a small baby figure (human or animal)

Preparation:

1. The teacher needs to make a **Zoology Control Tray** by taking a tray and dividing it into fourths using masking tape.
2. Place a small container of soil in the first section of the tray and adhere the label **food** to the tray.
3. Place a small lidded container holding air in the second section of the tray and adhere the label **air** to the tray.
4. Place a small lidded container holding water in the third section of the tray and adhere the label **water** to the tray.
5. Place a small basket with a small baby figure in the fourth section of the tray and adhere the label **reproduce** to the tray.
6. The **Zoology Control Tray** is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. The teacher should sit down with the children and the **Zoology Control Tray**.
3. Explain to the children that you have something special that you want to share with them today.

4. The teacher should explain to the children that they are going to start a special unit of study about **Zoology**.
5. The teacher should continue by saying, "**Zoology** is the study of **animals**."
6. Continue to tell them that **animals** are alive. The teacher should say, "All living things have 4 characteristics in common."
7. Take the **Animal Control Tray** and point to the first label and read the word "**food**". Now point to the small container of food and say "**food**". Pick up the food and say, "**Animals** are alive and all living things need **food**."
8. The teacher replaces the food on the **Zoology Control Tray**.
9. Now the teacher points to the second label and reads the word "**air**". Now point to the container of **air** and say "**air**". Pick up the container of air and say, "**Animals** are alive and all living things need **air**."
10. The teacher replaces the container of **air** on the **Zoology Control Tray**.
11. Repeat steps 9 and 10 with the third section and then the fourth section of the **Zoology Control Tray**.
12. Show the children where the **Zoology Control Tray** is kept on the shelf.
13. Return the tray to where it belongs on the shelf.

Variations and Extensions:

1. Introduce a live animal at the end of the presentation and say, "This is a living animal. It needs food, air and water. It can reproduce (make another like itself)."

Points of Interest:

1. How every living thing has at least 4 characteristics in common.

Control of Error:

1. The teacher has set up the tray correctly

Aims:

To be introduced to **Zoology** as the study of **animals** in a concrete way.

Age:

2 ½ and up

Language:

Zoology, animals, living, food, air, water, reproduce, etc.

Zoology Activity Concrete - Objects

Materials:

- A live animal in a cage or kennel, a baby that a mom has brought into class, or you can use a child
- Label (see preparation below)

Preparation:

1. The teacher needs to make a label that says "zoology" using masking tape and a permanent pen. Attach this label to the cage or kennel (if you use a live baby or child then make the label on a piece of poster board).
2. The tray is ready for presentation.

Presentation:

1. Invite the children to join you for a circle presentation.
2. Explain to the children that you have something special that you want to share with them today.
3. The teacher should then go and get the cage or kennel and place it directly in front of her. If a live baby (with mom) or child is used, invite them to come and sit in the center of circle.
4. Say, "We are studying **Zoology**." Point to the label on the cage or kennel and read, "**zoology**". If a live baby (with mom) or child is used, take the label you made and place it next to the baby or child and read, "**zoology**".

5. Now say to the children, "**Zoology** is the study of **animals**. **Animals** are **living things**. The teacher should say, "**All living things** have 4 things in common; **food**, **air**, **water** and they **reproduce**."
6. The teacher should say "**Zoology**" as she points to the label again.
7. Point to the animal, baby or child and say, "This animal is a _____."
8. Then say, "This _____, is a living thing. All living things need **food**, **water** and **air**. All living things **reproduce** (make another like itself).
9. "**Zoology** is the study of animals."

Variations and Extensions:

1. If appropriate take the animal out of the cage or kennel.
2. Place the cage or kennel in the center of the circle instead of in front of the teacher.
3. Present the lesson where there is a live animal (zoo, outside, etc.).
4. Talk about the pets the children have at home.
5. Talk about the animals at the zoo.

Points of Interest:

1. There are many different **animals** in the world.

Control of Error:

1. The teacher has an **animal** to present.

Aims:

To be introduced to **Zoology** as the study of **animals** in an concrete way.

Age:

2 ½ and up

Language:

Zoology, animals, living, food, air, water, reproduce, etc.