This source book provides teachers with units of study designed to fulfill common core standards appropriate for grades 1-3. Use it to inspire your lessons and provide fun, challenging activities that expand young people’s self-esteem and foster social skills. Teachers can work through this material sequentially to provide a broad scope of learning, or draw from it to inspire and enhance other curricula.

The Numi Foundation would like to thank all the writers and educators of open-source materials that have inspired and/or contributed to this collection of lessons.
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NUMI Curriculum: Social Studies, Identity and Self-Esteem Grade 1-3
Home and Community
STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will learn words and movements to “I am a Strong and Mighty Tree.”
● Students will learn how to say new words in Vietnamese, Spanish, Chinese, Japanese and Korean
● Students will talk about their homes and draw pictures

MATERIALS
● Book: Houses and Homes around the World, by Ann Morris
● Journals
● Crayons
● Pencils
● Map of Oakland/East Bay/Bay Area
● Map of the world

Preparation:
● Learn words for hello in Vietnamese, Spanish, Chinese, Japanese and Korean.
● Have blank journals and drawing materials ready.
● It may be helpful to have written the students’ names on the front covers of the journals before distributing if not all of the students are able to write their names.
Background Info:

Movement Verse to Begin and End Class
(Teacher Uses Gestures for The Children to Copy)

I am a strong and mighty tree,
No howling wind will conquer me.
My roots reach deep into the ground,
They hold me up, I won’t fall down.
My trunk is strong and big and round,
My bark is skin, it wraps me round.
My branches reach into the air,
A home for birds from everywhere.
My flowers blossom blissfully,
They offer nectar to the trees.
I am a strong and mighty tree.
No howling wind will conquer me.

Procedure:

● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.

● Continuing in circle, play a name learning game. First child says their name. Teacher repeats it. Children clap hands once. Second child says their name. Teacher repeats second name followed by first. After teacher says these two names, the children clap twice, rhythmically. This process continues around the circle with teacher reciting names in reverse order and children clapping one time for each name recited. When the teacher forgets, the children help by reciting their names in order again. This continues until teacher has recited the name of the last child.

● Children sit. The teacher asks if children or their family speak other languages at home. (The school says that Vietnamese, Spanish, Chinese, Japanese and Korean are spoken at home, there may be more. Today learn how to say hello in each language spoken at home. Have class repeat.

● The teacher asks the children where they were born. (Teacher is looking for a geographic location.) Show places on the map when possible. Where do they live now? With whom do you live? What chores does each person do in your home? Teacher can say where s/he lives and with whom s/he lives.

● The teacher should read a picture book or show photos of houses around the world. One book suggested: Houses and Homes (Around the World) written by Ann Morris and illustrated by Ken Heyman.
● Children are asked to draw their home inside and out. Distribute new, blank journals to students. Their drawings for this curriculum will be kept in a book (main lesson book style) or journal throughout this course.

● Students title or label drawing. Unfinished drawings and writing may be finished in second class of week.

● Finish lesson with name circle game followed by recitation of hello in many languages and then ending verse.

Wrap up:
Be sure each child’s name is written on the front cover of her/ his journal. Teach children how and where to put their journals and drawing utensils. Tell them that they will do it the same way every day.

Daily Assessment:
Teacher observation
Student response and participation
Completion of drawing with labels (some students may need more time)

Notes/Feedback:
Your Food

STANDARDS
2.41.

OBJECTIVES
- Students will learn about where commonly eaten foods come from
- Students will learn about foods eaten in different places in the world

MATERIALS
- Book
- Photos of food, or real food
- Journals
- Crayons
- Pencils

Methods:
Discussion and drawings in journals.
- Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
- As a warm up exercise, play a simple circle game, such as, ask one child to step away and close their eyes. Have children pass an item, for example, a stone behind their backs to the next child until teacher says stop. Then without giving away the name of the child who has the object, the chosen child has three tries to guess which child has the stone behind their backs.
- Ask each child who speaks another language to say hello, goodbye, and how are you?, count from 5-54 and please in that language. Have the class repeat.
● The teacher will lead a discussion about the food the children eat at home, how it is produced and how it gets to their home. Ask what their favorite foods are. Ask what foods it is important to eat to be healthy.
● Finish the lesson by each child sharing their drawing and reciting the words they learned to speak in another language and saying the class verse.

Assessment:
The children will draw pictures of the food they eat at home either on a plate, growing at a farm, being transported from the farm, or being sold at the market. The children will write a title for their drawing and then write two sentences about their drawing.

Notes/Feedback:
Where Do You Sleep? What Do You Eat?

STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will learn each other’s names
● Students will see where different countries are located on the map
● Students will learn about food eaten in the U.S. and beyond

MATERIALS
● Journals
● Crayons
● Pencils
● Pictures of foods from around the world
● Books about food around the world (for the teacher)
● Map of Bay Area
● World Map

Procedure:
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● Repeat name game until teacher has learned the children’s names by heart. Ask if some students would also like to try repeating the names of everyone in the class.

● Continuing in the languages practiced last week. Have class recite after leading child, hello in their home language. Next have children teach group how to say goodbye in their home languages.

● Children sit. Ask children where they sleep in their home, on a bed, a futon, a mat? Do they use blankets, pillows?

● Then ask the children what they eat at home? Are there special foods they eat for festivals or holidays? Are there foods they eat that people in their family’s native country eat? What are these? Where do these foods come from? Store, farm, home garden. Have pictures of food from around the world, including places that the children are from, but also other places. Some good examples are: tortillas, sushi, falafel, pasta, gyros, etc.

● The teacher should read a book about different foods that people eat around the world or show photos of people eating around the world.

● The children should create a drawing of the food they eat at home in their journals. Again, first grade should title or label drawing. Help students with spelling names of foods that may be hard to spell.

● Class should finish with name game followed by recitation of hello and goodbye in several languages and then ending verse.

Wrap up:
Ask who remembers the clean-up procedure from Lesson 1. Consider appointing monitors each day (or each week) to collect journals, to collect pencils, to collect crayons, etc. and put them in their specific locations.

Daily Assessment:
Teacher observation
Student response and participation
Completion of drawing

● Notes/Feedback:
Who Are The People Who Live In Your Home?

STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Teacher and students will continue learning names of the students in the class
● Students will continue learning new words in target languages
● Students will talk about their families and who lives in their homes

MATERIALS
● Journals
● Crayons
● Pencils

Procedure:
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● Repeat name game until teacher has learned the children’s names by heart.
● Continuing in the languages practiced last week. Have class recite after leading child, hello and goodbye in their home languages. Next have children teach the group to say please in their home languages.
● Ask the children if they have younger siblings, friends, or other family members who live at home with them. Have children describe them. Do they older or younger siblings? Where are they in the family? (Such as oldest son (or brother); or first-born daughter) Are they as tall as the child who is speaking? What things can they do or not
do? Can they speak as well as the child speaking? What languages are spoken at home? Some children may also want to include their pets, as well.

- In their journal, have children draw and label the siblings or friends in their home.
- Class should finish with name game followed by recitation of hello, goodbye, and please, in several languages and then ending verse.

Wrap up:
Continue clean-up process from Week 1.

Daily Assessment:
Teacher observation
Student response and participation
Completion of drawings including labels.

Notes/Feedback:
STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will identify and touch artifacts from the natural world
● Students will document what they have learned by drawing these objects in their journals

MATERIALS
● Large sheets of paper
● Glue (or glue sticks)
● Crayons
● Pencils
● Materials to represent family members

Procedure:
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, play a simple circle game, such as, ask one child to step away and close their eyes. Have children pass an item, for example, a stone behind their backs to the next child until teacher says stop. Then without giving away the name of the child who has the object, the chosen child has three tries to guess which child has the stone behind their backs.
● Continuing in the languages practiced last week have class recite after leading child, hello, goodbye, and please, in their home language.
● The teacher should bring objects from nature to represent family members of the children. (Or, if time allows take the children outside for 10 minutes to collect stones, twigs, flowers, weeds, and other natural items. Students could also just be taken on a short walk around the block and the teacher and/or students can point out natural elements of the landscape, including the sun, the sky, trees, etc. Since the lesson is about trees, natural and family, the children can also spend some time looking at trees).

● Explain to children what a family tree is, drawing connection to real trees, and have them draw a large tree on a large paper and then glue the objects—feathers, small rocks, leaves, twigs, flowers, etc., on their family tree. **This can be a collaborative project to be displayed in the hall or office for school. **Guided by the teacher, the students can talk about how the structure of a tree is like the structure of the family.

● Class should finish with recitation of hello, goodbye, and please, in several languages and then ending verse.

Wrap up:
Continue the same clean-up procedure from previous lessons. Possibly appoint new monitors.

Daily Assessment
● Teacher observation
● Student response and participation
● Completion of drawing with labels

Unit Assessment
● Students show their family tree to a partner, small group or whole class and say who is presented by each part

Notes/Feedback:
Your Neighborhood

STANDARDS
2.2.1 1.

OBJECTIVES
● Students will learn about their neighborhoods
● Students will learn map skills by drawing maps of their communities

MATERIALS
● Journals
● Crayons
● Pencils

Methods:
Discussion, drawing, and writing in journals.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, play a simple circle game, such as, ask one child to step away and close their eyes. Have children pass an item, for example, a stone behind their backs to the next child until teacher says stop. Then without giving away the name of the child who has the object, the chosen child has three tries to guess which child has the stone behind their backs.
● Ask each child who speaks another language to say hello, goodbye, and how are you? and count from 5-54 in that language. Have the class repeat.
● The teacher will lead a discussion about the neighborhoods the children live in and who else lives there. Do the children know any of their neighbors? Are there stores they
shop where people know them or their families? Do they know the letter carrier or other people who work in the neighborhood?

● The children will draw a picture of people in their neighborhood, label the picture and write two sentences about the subject.
● Finish the lesson by each child sharing their drawing and reciting the words they learned to speak in another language and saying the class verse.

Assessment:
Students discuss what most neighborhoods have in common.
Teacher observation.

Notes/Feedback:
Autobiographical Timeline

STANDARDS
2.1

OBJECTIVES
- Students will consider important events in their lives and how one event has often led to another

MATERIALS
- Large drawing or flipchart paper, crayons, pencils, journals

Methods:
Create timelines to be displayed around the room.
- Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
- As a warm up exercise, play a simple circle game, I SPY. The teacher will begin by saying, “I spy with my little eye....” For example, “something red with stripes.” One at a time the children will look around the room and guess until someone guesses correctly.
- Ask each child who speaks another language to say hello, good bye, how are you?, count from 5-54, and my name is, in that language. Have the class repeat.
- 4. The teacher leads a discussion about taking the big things that happen in our lives and putting them on paper in order of time that they happened, on a timeline. The timelines will be displayed around the room and should include birth date of the child, and approximate dates and years for other important events through the present. Other
events might include moving to Oakland, starting school, the birth of a sibling or a big trip. Teach the words “autobiography,” and “timeline” by breaking them down into their parts. “Auto” means “self,” “bio” means “life,” and “graph(y)” means “writing.” For the word “timeline,” it might be useful to talk about the words “linear” and “chronological.” Calendars and clocks might be useful realia, and can help illustrate the way we break time down into component parts.

- If time permits, discuss what constitutes “big events.” Ask some clarifying questions, such as “Would eating breakfast each day be a big event?” “Learning to ride a bike?” “Welcoming a new baby brother?” “The passing of a grandparent?” Include some examples that might be somewhat ambiguous in order to fuel more discussion, such as a birthday party, or getting a new toy that s/he always wanted. Children should take out their journals, draw and label a big event in their lives.

- Finish the lesson by each child sharing their drawing and reciting the words they learned to speak in another language and saying the class verse.

**Assessment:**
Teacher observation
Student timelines

**Notes/Feedback:**
Oakland Timeline

STANDARDS
2.1.3

OBJECTIVES
● Students will learn about the significant events in the history of Oakland and learn about how cities, like people, grown and change over time

MATERIALS
● Copy of an Oakland Timeline for the teacher
● Large drawing or flipchart
● Paper
● Crayons
● Pencils

Methods:
Discussion about the history of Oakland and the creation of a large timeline to display in the class.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, play a simple circle game, I SPY. The teacher will begin by saying, “I spy with my little eye....” For example, “something red with stripes.” One at a time the children will look around the room and guess until someone guesses correctly.
● Ask each child who speaks another language to say hello, goodbye, how are you?, count from 5-54, and my name is, and I am ² years old, in that language. Have the class repeat.
• The teacher leads a discussion about the history of Oakland and tells the class that they will create one timeline for Oakland similar to the timelines they created for themselves. “How are cities like people?” “How is the history of a city” similar to and different than the history of a person?”

• Finish the lesson by each child sharing their drawing and reciting the words they learned to speak in another language and saying the class verse.

Assessment:
If time permits, the children should take out their journals and write two sentences about the history of Oakland.

Notes/Feedback:
Clothing
Your Clothing

STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will continue to practice new vocabulary in other languages
● Students will see, touch and learn about natural (and possibly synthetic) fibers
● Students will consider what type of fibers their own clothing and that of their classmates are made from

MATERIALS
Include all materials; please be thorough
● Samples of cotton, silk, and wool
● Journals
● Crayons
● Pencils

Methods:
Discussion, story, drawing in journals.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
- As a warm up exercise, have children, one at a time, say the name of the person across the circle from them. Then that child says the name of a person to either side of the first child. This continues around the circle until each child’s name has been said.

- Continuing in the languages practiced last week. Have class recite after leading child, hello, goodbye, please, thank you, you’re welcome, and Happy Birthday, and yes and no, in several languages.

- The teacher begins by asking what the children’s clothing is made from. Then the teacher will bring out samples of cotton, silk, and wool. Perhaps bring out some synthetics or cotton blends, as well, since most children will likely have clothing that is not always natural fibers. After the children feel the samples, they may realize that their clothing is made of these fibers. The teacher will explain where cotton and wool come from and then tell the Chinese story of silk included in the teacher supplement. Discuss the difference between natural and synthetic fibers. Perhaps teach the word “synthetic,” meaning “put together from other parts.” Additional possibly extension: how does color get to be different colors?

- The children will draw a picture from the story in their journals and label.

- Class should finish with recitation of hello, goodbye, please, thank you, you’re welcome, Happy Birthday, yes, and no in several languages and then ending verse.

**Daily Assessment:**
Teacher observation
Student response and participation
Completion of drawing with labels

**Notes/Feedback:**
Clothing II: Different Climates and Cultures

STANDARDS
2.0

OBJECTIVES
● Students learn about clothing from different places and cultures, as well as variations in clothing within this culture

MATERIALS
● Photos of clothing around the world, journals, crayons and pencils

Methods:
Discussion and drawing in journals.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, play a simple circle game, I SPY. The teacher will begin by saying, “I spy with my little eye....” For example, “something red with stripes.” One at a time the children will look around the room and guess until someone guesses correctly.
● Ask each child who speaks another language to say hello, goodbye, how are you?, count from 5-54, and my name is, and I am ² years old, in that language. Have the class repeat.
● The teacher will begin a discussion of what clothing the children wear when it is hot, when it is cold, and when it is raining. With photos or a picture book, the teacher will show children photos of people around the world in various clothing. The teacher will review with children what was said in the previous class about where fabrics come from
and which are better for the environment. For example, cotton is heavily sprayed with pesticides and such so that it can harm the environment, whereas, organic cotton does not harm the environment because it is not sprayed. The teacher should also talk about synthetic fabrics, such as rayon, nylon and polyester, as well as cotton-rayon blends, etc. as many items of commonly worn clothing are made from these fabrics.

- The teacher may also want to talk about particular items of clothing for particular occasions. S/he may ask “Would you wear a swimsuit to a wedding?” “Pajamas to play soccer?” “A raincoat to the beach?” etc. The teacher can also ask students to describe what they are wearing today, and what their favorite clothes are, using words for color, fabric, length and style.

- The children will draw in their journals people dressed in different kinds of clothing. They will label or write sentences about their drawing.

- Finish the lesson by each child sharing their drawing and reciting the words they learned to speak in another language and saying the class verse.

Assessment:
The children will draw in their journals people dressed in different kinds of clothing. They will label or write sentences about their drawing.

Notes/Feedback:
STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will learn about different types of clothing worn around the world
● Students will learn to identify different types of fabrics/ fibers
● Students will discuss what types of clothing we wear for different locations/ occasions

MATERIALS
Include all materials; please be thorough:
● Photos of clothing around the world
● Journals
● Crayons
● Pencils

Methods:
Discussion and drawing in journals.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, have children, one at a time, say the name of the person across the circle from them. Then that child says the name of a person to either side of the first child. This continues around the circle until each child’s name has been said.
● Continuing in the languages practiced last week. Have class recite after leading child, in their home language. Next, have a child teach the class, to sing Happy Birthday, in their home language.

● The teacher will begin a discussion of what clothing the children wear when it is hot, when it is cold, and when it is raining. With photos or a picture book, the teacher will show children photos of people around the world in various clothing. The teacher will review with children what was said in the previous class about where fabrics come from and which are better for the environment. For example, cotton is heavily sprayed with pesticides and such so that it can harm the environment, whereas, organic cotton does not harm the environment because it is not sprayed. Since it is highly likely that some of the children will not be wearing natural fibers, the words “synthetic,” “rayon,” “blended” etc. should also be taught. Teacher can ask “What is your favorite clothing?” “What clothing do we wear for different occasions, such as going to school, playing outside (and/or playing particular sports), weddings, swimming, and in bed, etc.?” For a fun extension, the teacher can also ask: “Would you wear a swimsuit to bed?” “Would you wear sneakers to go swimming?” “Would you wear pajamas to school?” etc.

● The children will draw in their journals people dressed in different kinds of clothing. They will label or write sentences about their drawing.

● Class should finish with recitation of hello, goodbye, please, thank you, you're welcome, Happy Birthday, yes and no, in several languages and then ending verse.

**Daily Assessment**
Teacher observation
Student response and participation
Completion of drawing

**Unit Assessment**
Ask each child to identify the type of fabric one article of her/ his clothing is made of.

**Notes/Feedback:**
COTTON AND WOOL Teacher Supplement

HISTORY

Cotton is a plant, it grows wild in many places on the earth, but it has been known about, cultivated and put to use by people of many lands for centuries. Scientists and historians have found shreds of cloth or written reference to cotton dating back at least seven-thousand years. The oldest discovery was made in a Mexican cave, where scientists unearthed bits and pieces of cotton bolls and cloth. Archaeologists have also found cloth fragments in the Indus Valley of India (Pakistan) dating about 3000 B.C. In 1500 B.C., cotton was referred to in a Hindu Rig-Veda hymn mentioning "threads in the loom." It is generally believed that the first cultivation of cotton was in India, though it grew wild in several locations around the world. People living in Egypt's Nile Valley and across the world in Peru were also familiar with cotton.

Cotton was grown by American Indians in the early 1500's, documented from sightings by the Coronado expedition 1540-42. The Spaniards raised a cotton crop in Florida in 1556.

Cotton Trivia: “White Gold” is a historical and appropriate term for cotton, the natural fiber which continues to play an important role in the United States economy.

In England, in the early 1700's, during the height of the British Empire, it was against the law, to either import or manufacture cloth from cotton. These laws were enacted to protect the powerful English sheep and wool industry of that time. These restrictions also kept the cotton industry from expanding to the American Colonies. However, by the early 1600's, cotton had been introduced to North America and in 1607 the first seed was planted by colonists along the James River in Virginia.

The colonists had the ability to produce much cotton but were restricted by the mechanical know-how. It was Samuel Slater, an English mill worker, who changed this by migrating to America in 1790 and building the first American cotton mill from memory. With the development of the cotton mill, Eli Whitney saw the need for a faster means of removing the lint (cotton fibers) from the seed. In 1793, he patented a machine known as the cotton gin. This invention revolutionized the way lint was separated from the seed. Up to that time, for centuries, the separation process had all been done by hand. With Whitney's gin, short for the word engine, lint volume was increased for each worker from 1 lb. To 50 lbs. per day.

Harvesting the cotton by hand was another limitation of productivity. An experienced laborer could pick approximately 450 pounds of seed cotton (cotton removed from the plant with seeds intact) by hand per day. A picking device was first patented in 1850 and a stripper (a machine that strips both open and unopened bolls and trash from the plant) in 1871. In the early 1930's, after years of development and change, the Rust Brothers of Mississippi used a one row mechanical cotton picker (a machine that used revolving spindles or barbed points to grab and pull the cotton from the open boll) of their design to pick approximately 8,000 pounds of seed cotton in one day. This was quite an improvement in cotton harvest efficiency.
THE PLANT

There are several species of “wild cotton” (cotton that grows uncultivated) in the world. They have been found in Australia, Africa, Arizona, Central America, Lower California, Brazil, Mexico and other tropical countries and islands. Because of problems related to their refinement, they are not economically feasible to use. Through genetic assistance and breeding, today’s cloths have evolved from these “wild” sources and are more processing friendly. Currently, there are five prominent types of cotton being grown commercially around the world. They are Egyptian, Sea Island, American Pima, Asiatic and Upland. Because of their need for a long, sunny growing period with at least 160 frost free days they are grown between latitudes 45 degrees north and 30 degrees south. The major producing countries within this region are the United States, People’s Republic of China, India, Pakistan and Republic of Uzbekistan. Also, Brazil, Australia, Egypt, Argentina, Turkey, Greece, Syria and others produce significant, but lesser amount.

In the U.S. there are fourteen major cotton growing states that produce Upland cotton. They are Alabama, Arizona, Arkansas, California, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia. Some cotton is also grown in Florida, Kansas and New Mexico. American Pima cotton is grown in Arizona, California, New Mexico and Texas. All of these states form a region in the United States known as the Cotton Belt and have three things in common, lots of sunshine, water and fertile soil, very important to growing a good cotton crop.

Upland cotton being the most common type in the U.S. has a staple length (length of fiber) of 13/16 to 1 ¼ inches. The American Pima has a staple length of 1 5/16 to 1 ½ inches. These plant types grow and mature at different rates and lengths of time, but basically mature within a 30 day period of each other.

Cotton plants have a general time frame in which they grow and produce after planting (introducing the seed to moist soil). With ideal conditions, the planted cotton seed will germinate (to begin to grow) or sprout and emerge in about five to ten days. The first 2 leaves that are visible on the young cotton plant are seedling leaves called cotyledons (cot-a-lee-dons). They are useful for absorbing sunlight into the plant. The sunlight is then converted through a process known as photosynthesis, into nourishing carbohydrates that will help the plant grow.

In about two to four weeks they turn over the photosynthetic task to true leaves (leaves produced subsequent to the cotyledons) which continue the feeding process for the duration of the plants life. The plant continues to grow, adding leaves and height, and in approximately five to seven weeks, small flower buds called squares (a small flower bud covered with fringed...
leaf-like parts called bracts) will appear on the cotton plant. As this square develops, the bud swells and begins to push through the bracts until it opens into an attractive flower. Within three days, the flower will pollinate (the transfer of pollen from the anther to the stigma of the same or another flower) itself, change from a creamy white or yellow color to a pinkish red, and then wither and fall, exposing a small, green, immature cotton boll (a segmented pod containing 32 immature seeds from which the cotton fibers will grow). This boll is considered a fruit because it contains seeds. As the fibers continue to grow and thicken within the segmented boll, it enlarges until it becomes approximately the size of a small fig. Now, the cotton fibers have become mature and thickened with their primary growth substance, cellulose (a carbohydrate, the chief component of the cell wall in most plants). An average boll will contain nearly 500,000 fibers of cotton and each plant may bear up to 100 bolls.
Wool section, Walcha show. The creamy fleeces on the left are crossbred wool.
Wool is the textile fiber obtained from sheep and certain other animals,[1] including cashmere from goats, mohair from goats, qiviut from muskoxen, vicuña, alpaca, camel from animals in the camel family, and angora from rabbits. [citation needed]

Wool has several qualities that distinguish it from hair or fur: it is crimped, it is elastic, and it grows in staples (clusters).[2] The term wool is usually restricted to describing the fibrous protein derived from the specialized skin cells called follicles in sheep.[3]

Shearing

Fine Merino shearing Lismore, Victoria
Main article: Sheep shearing

Sheep shearing is the process by which the woollen fleece of a sheep is cut off.

After shearing, the wool is separated into four main categories: fleece (which makes up the vast bulk), broken, bellies, and locks.[8] The quality of fleeces is determined by a technique known as wool classing, whereby a qualified person called a wool classer groups wools of similar gradings together to maximize the return for the farmer or sheep owner. In Australia and New Zealand, before being auctioned all Merino fleece wool is objectively measured for micron, yield (including the amount of vegetable matter), staple length, staple strength, and sometimes color and comfort factor.

Scouring

Wool straight off a sheep, known as "greasy wool"[9] or "wool in the grease", contains a high level of valuable lanolin, as well as dirt, dead skin, sweat residue, pesticide, and vegetable matter. Before the wool can be used for commercial purposes, it must be scoured, a process of cleaning the greasy wool. Scouring may be as simple as a bath in warm water, or as complicated as an industrial process using detergent and alkali, and specialized equipment.[10] In commercial wool, vegetable matter is often removed by chemical carbonization.[11] In less processed wools, vegetable matter may be removed by hand, and some of the lanolin left intact through use of gentler detergents. This semi-grease wool can be worked into yarn and knitted into particularly water-resistant mittens or sweaters, such as those of the Aran Island fishermen. Lanolin removed from wool is widely used in cosmetic products such as hand creams. Wool has to be cleaned for a long time because it is so thick. Wild sheep were more hairy than woolly. Although sheep were domesticated nine to eleven thousand years ago, archaeological evidence from statuary found at sites in Iran suggests that selection for woolly sheep may have begun around 6000 BC,[16][17], with the earliest woven wool garments having only been dated to two to three thousand years later.[18] Woolly-sheep were introduced into Europe from the Near East in the
early part of the 4th millennium BC. The oldest known European wool textile, ca. 1500 BC, was preserved in a Danish bog.\[19\]

Prior to invention of shears - probably in the Iron Age - the wool was plucked out by hand or by bronze combs. In Roman times, wool, linen, and leather clothed the European population; the cotton of India was a curiosity that only naturalists had heard of; and silk, imported along the Silk Road from China, was an extravagant luxury. Pliny the Elder records in his Natural History that the reputation for producing the finest wool was enjoyed by Tarentum, where selective breeding had produced sheep with a superior fleece, but which required special care.

In medieval times, as trade connections expanded, the Champagne fairs revolved around the production of wool cloth in small centers such as Provins; the network that the sequence of annual fairs developed meant that the woollens of Provins might find their way to Naples, Sicily, Cyprus, Majorca, Spain, and even Constantinople.\[20\] The wool trade developed into serious business, the generator of capital. In the thirteenth century, the wool trade was the economic engine of the Low Countries and of Central Italy; by the end of the following century Italy predominated, though in the 16th century Italian production turned to silk.\[20\] Both pre-industries were based on English raw wool exports - rivaled only by the sheepwalks of Castile, developed from the fifteenth century - which were a significant source of income to the English crown, which from 1275 imposed an export tax on wool called the "Great Custom". The importance of wool to the English economy can be shown by the fact that since the 14th Century, the presiding officer of the House of Lords has sat on the "Woolsack", a chair stuffed with wool.

Economies of scale were instituted in the Cistercian houses, which had accumulated great tracts of land during the twelfth and early thirteenth centuries, when land prices were low and labor still scarce. Raw wool was baled and shipped from North Sea ports to the textile cities of Flanders, notably Ypres and Ghent, where it was dyed and worked up as cloth. At the time of the Black Death, English textile industries accounted for about 10% of English wool production;\[21\] the English textile trade grew during the fifteenth century, to the point where export of wool was discouraged. Over the centuries, various British laws controlled the wool trade or required the use of wool even in burials. The smuggling of wool out of the country, known as owling, was at one time punishable by the cutting off of a hand. After the Restoration, fine English woollens began to compete with silks in the international market, partly aided by the Navigation Acts; in 1699 English crown forbade its American colonies to trade wool with anyone but England herself.

A great deal of the value of woollen textiles was in the dyeing and finishing of the woven product. In each of the centers of the textile trade, the manufacturing process came to be subdivided into a collection of trades, overseen by an entrepreneur in a system called by the English the "putting-out" system, or "cottage industry", and the Verlagssystem by the Germans. In this system of producing wool cloth, until recently perpetuated in the production of Harris tweeds, the entrepreneur provides the raw materials and an advance, the remainder being paid upon delivery of the product. Written contracts bound the artisans to specified terms. Fernand Braudel traces the appearance of the system in the thirteenth-century economic boom, quoting a document of 1275\[20\]The system effectively by-passed the guilds' restrictions.

Before the flowering of the Renaissance, the Medici and other great banking houses of Florence had built their wealth and banking system on their textile industry based on wool, overseen by the Arte della Lana, the wool guild: wool textile interests guided Florentine policies. Francesco
Datini, the "merchant of Prato", established in 1383 an Arte della Lana for that small Tuscan city. The sheepwalks of Castle shaped the landscape and the fortunes of the meseta that lies in the heart of the Iberian peninsula; in the sixteenth century, a unified Spain allowed export of Merino lambs only with royal permission. The German wool market - based on sheep of Spanish origin - did not overtake British wool until comparatively late. The Industrial Revolution introduced mass production technology into wool and wool cloth manufacturing. Australia's colonial economy was based on sheep raising, and the Australian wool trade eventually overtook that of the Germans by 1845, furnishing wool for Bradford, which developed as the heart of industrialized woollens production.

A World War I era poster sponsored by the United States Department of Agriculture encouraging children to raise sheep to provide needed war supplies.

Due to decreasing demand with increased use of synthetic fibers, wool production is much less than what it was in the past. The collapse in the price of wool began in late 1966 with a 40% drop; with occasional interruptions, the price has tended down. The result has been sharply reduced production and movement of resources into production of other commodities, in the case of sheep growers, to production of meat.\(^{[22][23][24]}\)

Superwash wool (or washable wool) technology first appeared in the early 1970s to produce wool that has been specially treated so that it is machine washable and may be tumble-dried. This wool is produced using an acid bath that removes the "scales" from the fiber, or by coating the fiber with a polymer that prevents the scales from attaching to each other and causing shrinkage. This process results in a fiber that holds longevity and durability over synthetic materials, while retaining its shape.\(^{[25]}\)

In December 2004, a bale of the world’s finest wool, averaging 11.8 micron, sold for $3,000 per kilogram at auction in Melbourne, Victoria. This fleece wool tested with an average yield of 74.5%, 68 mm long, and had 40 newtons per kilotex strength. The result was $AUD279,000 for the bale.\(^{[26]}\) The finest bale of wool ever auctioned sold for a seasonal record of 269,000 cents per kilo during June 2008. This bale was produced by the Hillcrest Pinehill Partnership and measured 11.6 microns, 72.1% yield and had a 43 Newtons per kilotex strength measurement. The bale realized $247,480 and was exported to India.\(^{[27]}\)

During 2007 a new wool suit was developed and sold in Japan that can be washed in the shower, and dries off ready to wear within hours with no ironing required. The suit was developed using Australian Merino wool and it enables woven products made from wool, such as suits, trousers and skirts, to be cleaned using a domestic shower at home.\(^{[28]}\)
All About Me
Let Me Tell You What I Like To Do!

OBJECTIVES
● Children speaking to the group about what they like to do

MATERIALS
● Journals
● Crayons
● Pencils

Procedure:
● Begin with forming a circle with the children. Recite verse.
● Have each child tell the group something about what they like to do.
● Have children draw and write in journals about what they like to do.
● Finish lesson with verse.

Notes/Feedback:
When I Grow Up!

OBJECTIVES
- Children speaking to the group about what they will be when they grow up

MATERIALS
- Journals
- Crayons
- Pencils

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Have each child tell the group something about what want to be when they grow up.
- Have children draw and write in journals about what they want to be when they grow up.
- Finish lesson with verse.

Notes/Feedback:
Timeline

STANDARDS
CCSS: R1, R7, SL.5

OBJECTIVES
● Students will learn the word “timeline” and how it is composed of two parts
● Students will discuss what kinds of events might or might not be included on a timeline
● Students will draw their own timelines

MATERIALS
Include all materials; please be thorough.
● Large paper
● Crayons
● Pencils

Methods:
Discussion and creation of a personal timeline.
● Begin with forming a circle with the children. Recite verse. Ask children to copy verse and movements.
● As a warm up exercise, the children will sit on the floor and pass a stick or feather to the right around the circle while the teacher counts. When the teacher reaches 10, the child holding the object will move to the center of the circle. The game continues until all children are in the center.
● Continuing in the languages practiced last week. Have class recite after leading child, in their home language. Next, have a child teach the class, to say mother and father in their home language.

● The teacher will explain what a timeline is and show a sample created by the teacher. S/he can ask what the two parts of the word “time” and “line” are, perhaps drawing them on the board. She can emphasize that timeline events are usually really specific, begin (and perhaps end) on a particular day. So, “starting school” is a timeline event, but “attending school today” is not.

● Then, the children will begin to create their own timeline by starting with their birthday and adding events up to the present, using approximate dates, such as moving to Oakland, starting school, the birth of a sibling, or a big trip. Children can brainstorm a list of “important” events in people’s lives. Some other ones are moving to a new home (and/or country), learning to ride a bicycle, “graduating” from kindergarten, getting a pet. If the teacher believes the students are prepared for it, s/he can also include sad events, such as the death of a relative or pet, being in an accident, divorce of parents, and other life-changing events. The teacher should have a list of the children’s birthdays on hand. This project may be used for display outside the classroom.

● Before beginning, the teacher may also want to ask students some general questions about what does/ does not go on a timeline, such as “Would eating breakfast today go on your timeline?” “Would playing outside go on your timeline?” etc. (Asking both yes and no questions).

● Have class recite after leading child, hello, goodbye, please, thank you, Happy Birthday, yes and no. Next, have the children sing, Happy Birthday in a new language, and then close with ending verse.

**Daily Assessment:**
Teacher observation
Student response and participation
Completion of drawing

**Notes/Feedback:**

NUMI Curriculum: Social Studies, Identity and Self-Esteem Grade 1-3
Self Esteem
Building Self-esteem I

OBJECTIVES
- Sharing compliments with classmates

MATERIALS
- Paper strips
- Pencils

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Foreign language activity—Phrases such as, “I like (something) in several languages.
- Begin activity—The Compliment Game
- Have each child draw the name of a classmate and then ask them to write down something they like about that classmate.
- After reviewing all the compliments, making sure all are appropriate, read them aloud to the class (anonymously if you like). This will surely remind them of what makes them special and unique.
- Have children write in their journals about the compliment(s) that were paid to them.
- Finish lesson with verse.
Building Self-esteem II

OBJECTIVES
- Questionnaire
- Discussion
- Journals

MATERIALS
- Copies of questionnaire
- Journals
- Crayons
- Pencils

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Foreign language activity—Phrases such as, “I like (something) in several languages. Print out the page below (or in Teacher Supplement) and give to children or read to them.
- Have the children answer the questions below. Some may need help reading and writing answers on the paper.
Then see what the children have answered by asking for volunteers as you read each question.
Then discuss how we are each different and like or dislike different things.
Have the children write in their journals about the things they like and/or dislike.
Finish lesson with verse.

**Journal Work Lesson Plans**

Have them start a personal inventory journal! The object is to get them to understand their likes and dislikes, that they are good at some things and not so good at others, and -- it's all ok!

**School Subjects**
1. I like ________________.
2. I do not like ________________.
3. I am good at ________________.
4. I am not good at ________________.
5. I am good at this subject, but I do not like it: ________________.
6. I am not good at this subject, but I like it: ________________.

**Activities**
1. I like ________________.
2. I do not like ________________.
3. I am good at ________________.
4. I am not good at ________________.
5. I am good at this activity, but I do not like it: ________________.
6. I am not good at this activity, but I like it: ________________.
7. I prefer being involved in individual activities ____ or group activities ___. (Check one.)

**Food Preferences**
1. I like to eat ________________.
2. I do not like to eat ________________.
3. I do ____ do not ____ eat a balanced diet. (Check one.)

**Relaxing**
1. I relax by ________________.
2. I like relaxing alone _____ or with other people _____. (Check one.)
3. After this activity, I always feel calm and peaceful. ________________.
Building Self-esteem III

OBJECTIVES
- Questionnaire
- Discussion
- Journals

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Foreign language activity—Phrases such as, “I like (something) in several languages. Print out the page below (or in Teacher Supplement) and give to children or read to them.
- Have the children answer the questions below. Some may need help reading and writing answers on the paper.
- Then see what the children have answered by asking for volunteers as you read each question.
- Then discuss how we are each different and like or dislike different things.
- Have the children write in their journals about the things they like and/or dislike.
- Finish lesson with verse.

Notes/Feedback:
Manners
Manners Simon Says

STANDARDS
CC1.3

OBJECTIVES
● Discussion, play, “Simon Says”

Procedure:
● Begin with forming a circle with the children. Recite verse.
● Warm-up Activity—Teacher leads a hand-clapping rhythm for the children to copy.
● Foreign Language—Practice, “please,” and “thank you,” in one or more of the languages represented.
● Talk to the children about manners and being polite.
● Use a reformed version of the old game "Simon Says" to talk to children about how to say "please" and "thank you." Instead of using the words "Simon says" as the qualifying words, use the word "please" as the qualifying word; meaning, children should only
follow you if you first say "please." Those who follow your action without your saying "please" are out of the game. Remember to thank the children after each action.

- Finish lesson with verse.

Notes/Feedback:
Manners Chutes and Ladders

OBJECTIVES
- Discussion, play, “Simon Says”

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Warm-up Activity—Teacher leads a hand-clapping rhythm for the children to copy.
- Foreign Language—Practice, “please,” and “thank you,” in one or more of the languages represented.
- Talk to the children about manners and being polite.
- Use a reformed version of the old game "Simon Says" to talk to children about how to say "please" and "thank you." Instead of using the words "Simon says" as the qualifying words, use the word "please" as the qualifying word; meaning, children should only follow you if you first say "please." Those who follow your action without your saying "please" are out of the game. Remember to thank the children after each action.
- Finish lesson with verse.

Notes/Feedback:
How Do Your Actions Affect Other People?

STANDARDS
2.0

OBJECTIVES
- Students learn how their actions affect others
- Student learn to feel empathy

MATERIALS
- Teacher Supplement
- Journals
- Crayons
- Pencils

Methods:
- Begin with forming a circle with the children. Recite verse. Ask children to copy your gestures and speak the verse one phrase at a time after you.
- Foreign language activity—Practice saying, “How are you?” in one or more of the languages represented in the group.
- Begin activity by telling or reading the story of the The Boy Who Cried Wolf.
- Then discuss how the boy’s actions affected the people of the village. Have the children think of times their actions, positive or negative affected a group. Teach the words
“caring,” “sympathy,” and “sensitive.” Ask students to tell (or act out) examples of how they are or could be caring, sympathetic and sensitive. Also describe some scenarios, and ask if the behavior is positive or negative. For example, someone falls and hurts themselves on the playground. Other students gather around and laugh. Another example, a new student arrives at school. What could the other students do to help that student feel welcome? Also ask about times the students felt either helped or hurt by another person. Identify the specific helpful/ hurtful action, and, in the case of the latter, what could have been done differently. Possibly also how to respond when someone acts in a hurtful way towards someone else.

- Drawing and writing in journals about how their actions affect others.
- Finish lesson with verse.

**Assessment:**
Teacher-led discussion about empathy. Students discuss how empathy feels and when they have felt they needed to someone to empathize with them.

**Notes/Feedback:**
A Sense of Place
Human Characteristics of Familiar Places

STANDARDS
CC1.5

OBJECTIVES
- Discuss school and the human characteristics
- Large paper drawing to be displayed

MATERIALS
- Large paper
- Crayons

Procedure:
- Begin with forming a circle with the children.
- Discuss schools full of people/human beings. The people who are in the school make it a school.
- Have the children create large paper drawings of their school filled with children and adults.
- Finish lesson with verse.

Notes/Feedback:
Human Characteristics of Familiar Places II

STANDARDS
CC1.5

OBJECTIVES
● Discuss the Farmer’s Market or another market

MATERIALS
● Large paper
● Crayons

Procedure:
● Begin with forming a circle with the children.
● Discuss Farmer’s Markets or other markets full of people/human beings. The people who are in the market fill it with their humanity or human characteristics.
● Finish lesson with verse.

Notes/Feedback:
Shelter
SHELTER

OBJECTIVES
● Discussion with photos of shelters around the world
● Drawings
● Writing in journals

MATERIALS
● Photos of shelters
● Journals
● Crayons
● Pencils

Procedure:
● Begin with forming a circle with the children. Recite verse.
● Foreign language activity—Learn vocabulary related to housing.
● Teacher asks children what is shelter? What kinds of shelter can they describe?
● Teacher shows photos of housing around the world.
● Have children draw shelters and write in their journals why shelter is necessary.
● Finish lesson with verse.

Notes/Feedback:
Shelter II

OBJECTIVES
- Discussion with photos of shelters in cold climates
- Drawings
- Writing in journals

MATERIALS
- Teacher Supplement
- Materials to create igloos
- Crayons
- Pencils

Procedure:
- Begin with forming a circle with the children. Recite verse.
- Foreign language activity—Learn vocabulary related to housing.
- Teacher asks children what kind of houses people need in cold places like Alaska. Why?
- Tell a teacher-created story about life in an igloo.
- Have the children create an igloo. Display.
- Finish lesson with verse.
Notes/Feedback:
Shelter III

OBJECTIVES
● Discussion about shelters in hot, dry climates with drawing
● Writing in journals

MATERIALS
● Teacher Supplement
● Journals
● Crayons
● Pencils

Procedure:
● Begin with forming a circle with the children. Recite verse.
● Foreign language activity—Continue vocabulary related to housing and farming.
● Teacher asks children what kind of houses people need in hot, dry places like Mali in Africa. Why?
● Tell a teacher-created story about life in a hot, dry place where water is scarce.
● Have children draw and write in their journals about living in a hot, dry climate.
● Finish lesson with verse.

Notes/Feedback:
OBJECTIVES

- Discussion
- Drawing
- Writing in journals

MATERIALS

- Teacher Supplement
- Journals
- Crayons
- Pencils

Procedure:

- Begin with forming a circle with the children. Recite verse.
- Foreign language activity—Continue vocabulary related to housing.
- Teacher asks children what kind of houses people need in hot, dry places like Mali in Africa. Why?
- Tell a teacher-created story about life in a hot, wet place where too much water is a problem.
- Have children draw and write in their journals about life in a hot, wet climate.
- Finish lesson with verse.

Notes/Feedback:
Shelter V

OBJECTIVES
● Discussion followed by shelter building with classroom materials.

MATERIALS
● Paper
● Cardboard
● Popsicle sticks
● Glue
● Tape
● Other recycled materials.

Procedure:
● Begin with forming a circle with the children. Recite verse.
● Foreign language activity—Phrases about houses in languages represented in class.
● With a supply of paper, cardboard, popsicle sticks, and other re-cycled materials, have children build models of shelters.
● Finish lesson with verse.

Notes/Feedback: