Story Beads Curriculum
Leading to an Exploration of the Great Story

by Leslie Klein Pilder

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LESLIE KLEIN PILDER has worked for many years in early childhood education, starting as a Montessori teacher at the Whitby School and currently as an Educational Consultant to Head Start centers in the NYC metropolitan area. She is also the founder of Altared Paths, creating life-cycle and seasonal rituals which remind us of our connection to Earth and Spirit. These two life-long interests find a happy mutual expression in The Great Story Beads Curriculum.

Contact Leslie at: fortredlip@yahoo.com

BACKGROUND

Story Beads are a way of symbolically representing the stories that are central to a young child's life, primarily the story of Me and My Family. The lessons that follow offer the early childhood educator yet another variation on exploring these topics, while exercising the developing child's mind and body. The lessons encourage literacy and pre-reading skills, math skills, eye-hand coordination, artistic expression, an experience of time and a whole host of other benefits that fit in any developmentally appropriate early childhood curriculum.

In using beads to represent important people and events in their lives, children have the added benefit of having created a mnemonic device that will assist them in sharing their story with others. The use of beads as a storytelling device is ancient. Pre-literate groups of people all over the world have used visual and tactile clues, such as beads, to help them remember their people's history. *Lukasa* memory boards among the Luba of central Africa, for example, are beads affixed to a shield that the tribe's historian uses to keep track of the main events of the clan. The use of mnemonic devices for the pre-literate person (adult or child) encourages memory and storytelling, reinforces the relationship of object to abstraction and, not incidentally, is an early stage of artistic representation of self and others.

Great Story Beads are a symbolic representation of the 13 billion year epic of Cosmos, Earth, life, and humanity, told as a sacred story that embraces all other sacred stories (including those of our own personal journeys). It is the story of our Universe, starting before the Big Bang and leading right up to our own individual births and life experiences. Learning to tell this story, with as much or as little scientific data as one is capable of understanding and comfortable with telling, is an enlightening experience. It teaches us

about the wisdom and mystery of the unfolding universe, of the world we inhabit, and our own connection to everything that is and ever was. (For more on Great Story beads, see http://www.thegreatstory.org/great_story_beads.html.)

On the simplest level, The Great Story teaches the facts of evolution and offers us a scientific understanding of what has led humanity to the present moment in time. On a deeper level, The Great Story offers a unifying umbrella of mythology that celebrates our shared experience on this planet. It offers a context in which to see our relationship to Earth with new eyes, leading to a greater understanding of our responsibility for taking care of the ecological systems that sustain us all. The Great Story is *not* a religion and it requires no particular belief system, save a general acceptance of scientific evolutionary thought. The facts taught are in accordance with most public school curricula. At the same time, non-fundamentalist religious leaders and instructors will find the story a rich template on which to elaborate particular tenets of faith and to teach values — both traditional values and the global, ecological values crucial for these times.

Teaching a simplified version of The Great Story to young children is an exciting way to introduce scientific understandings of where we come from, while raising fascinating questions about the consequences of natural processes as well as our role in the greater gestalt of the Universe.

THE LESSONS

Lesson 1: My Family Sculpture

MATERIALS:
- odd pieces of wood or big beads or spools, of a variety of shapes and sizes.
- sturdy pieces of cardboard (for base)
- white glue
- marker for teacher to label with text

AGES: 2–5

GOALS:
- sense of family
- beginning abstraction
- one-to-one correspondence

ACTIVITY: (original source for this idea from: *Emergent Curriculum*, by Elizabeth Jones and John Nimmo, p.87)
- Children glue one object on the cardboard for each member of their family.
- They tell the teacher who is represented by each object, and the teacher labels the object accordingly.

PREPARTION might include:
- discussion of families
- other gluing activities
- display of photos of families (see p. 34, *Emergent Curriculum* for examples)
- Idea: loan each family a Polaroid camera with instructions to photograph each family member, labeling each photo. Display and discuss in class.

VARIATIONS AND EXTENSIONS:
- have children decorate the beads/objects before gluing. Paint or markers might be used.
- Use color or shapes to sort people in family into groups: male/female or adult/child (ie: Red beads for "boys", green for "girls")
- Have children show and share at circle time.

Lesson 2: My Family Necklace

MATERIALS:
- large beads or spools
- string (ends may need to be taped for stringing), long shoelaces, or lanyard.

AGES: 2–5

GOALS:

• one-to-one correspondence
• eye-hand coordination
• discussion of family

ACTIVITY:
• Child strings one bead for each family member.

PREPARATION might include:
• Lesson 1
• bead stringing
• discussion of families

VARIATIONS AND EXTENSIONS:
• Smaller beads for older children
• Beads used representationally: large ones for adults, smaller for children OR red for "girls" and green for "boys".
• Large beads might be decorated beforehand (faces drawn on, etc.) to represent the family member. Or teacher might write family member's name on each bead.
• Line up beads and label before stringing.
• Consider lining beads up, starting with the oldest family member, proceeding to the youngest (introduces time as a dimension). Could also line up according to size (ie: Dad is the tallest, then Grandpa, then Mami, then Titi, etc.)
• Have children show and share their necklaces at circle time.
• Make a "Friends" necklace, with a bead representing the child's friends.

Lesson 3: My Life Necklace

MATERIALS:
• beads and string (or laces, etc.)
• paper and marker (for teacher to label)

AGES: 3–6

GOALS:
• one-to-one correspondence
• eye-hand coordination
• left-to-right, top-to-bottom tracking
• sense of family
• sense of time and of personal history

ACTIVITY:
• Child names major events in his/her life, and selects a bead for each one.
• Place on paper, and have teacher label, first bead at top, with teacher's writing to the right. Next event underneath.
• Child then strings the beads *in order*.

EXAMPLE OF SEQUENCE:
I was born.
I learned to walk.
I went to school.
My baby brother was born.
I went to Puerto Rico to visit my papi.

PREPARATION might include:
- Lesson 1
- bead stringing
- discussion of families
- birthday ritual (walking the ellipse around the sun, for each year of birth (included in this group of lessons)
- which-came-first puzzles and games, and sequencing cards (etc.)

VARIATIONS AND EXTENSIONS:
- Repeat this activity, as child will think of new events and will get ideas from listening to his/her peers.
- Make new necklaces when a major event happens in the child's life, such as a new baby or moving to a new house.
- Include events that happened before child was born

EXAMPLE OF SEQUENCE:
My parents got married.
My big brother was born.
My family moved to New York.
I was born.

INTRODUCTION OF VOCABULARY: "before", "next", "after"

Lesson 4: Other Lives

MATERIALS:
- beads and string (or laces, etc.)
- paper and marker (for teacher to label)

AGES: 3-6

GOALS:
- one-to-one correspondence
- eye-hand coordination
- left-to-right, top-to-bottom tracking
- grouping (sorting) similar events/objects
- specific vocabulary (such as names of creatures in these categories: "farm animals," "jungle animals," "dinosaurs")
- specific scientific understandings, such as "endangered species"

• abstract thinking

ACTIVITY:
- With teacher, child decides on a category to depict in a necklace.
- A bead is chosen for each item in the category, as many or few as suits the child. Teacher may help child make a written list of these items. For example, if the category is "Dinosaurs", the child strings one bead for every dinosaur chosen, such as "Tyrannosaurus rex, Stegosaurus, Brachiosaurus," etc.

PREPARATION might include:
- Previous lessons
- Books, discussions and extended projects on a particular topic (such as "dinosaurs")

VARIATIONS AND EXTENSIONS:
- Use photos or models of the objects being represented by the beads. For example, place dinosaur figures on the table in the order they will be represented by the beads. A list may be made or an instant photo (Polaroid or digital) taken, which the child would keep as a reference.
- Do as a group lesson, with children making identical necklaces for use as a mnemonic device for specific lessons. For example, necklaces could be made to remember the order of the animals that appear in the book *Brown Bear, Brown Bear.* The colors of the beads could correspond with the colors of the animals. This idea works well as a Preparation or an Extension, depending on the difficulty of the subject matter.
- Addition of more beads when more members of the category are identified by the child.

Lesson 5: Introduction to the Great Story

MATERIALS:
- beads and string (or laces, etc.)
- paper and marker (for teacher to label)

AGES: 5+

GOALS:
- one-to-one correspondence
- eye-hand coordination
- left-to-right, top-to-bottom tracking
- sense of time
- introduction to the history of the universe

ACTVITY:
- After making a timeline of significant evolutionary events (see "Preparation"), the child selects a bead for each moment in time. With

adult help, as needed, each bead's significance is noted, and the order of the beads is laid out, left to right.
- Child strings beads in order.

PREPARATION might include:
- Previous lessons
- Reading of Jennifer Morgan's *Born with a Bang!* and other science books (See "Resources")
- Creation of a timeline of significant facts from this book. (See "Reources" for a list of significant events to choose from) Number of events is dictated by the child's interests and understanding.

VARIATIONS AND EXTENSIONS:
- A younger child might make a necklace with only a few items, such as: birth of the sun, birth of Earth, dinosaurs live, dinosaurs die, other animals 'born'.
- Children should tell their Great Stories at circle time and to parents.
- Add to necklaces other items as children gain in understanding and interest.
- Discuss "extinction" in relation to dinosaurs and then with endangered species.
- Make a necklace of extinct or endangered species. (Even younger children could do this.)

Lesson: The Birthday Ritual

(This lesson is familiar to many Montessori teachers.)

MATERIALS:
- taped ellipse or chalk line on the floor
- candle (in a glass globe) or appropriate light
- small globe or Earth-like ball

AGES: 2+

GOALS:
- honoring the birthday of a child
- giving a sense of the passage of time
- introduction of the concept of a "year"
- gross motor, concentration

ACTIVITY:
- Children gather in circle, outside of the ellipse.
- Teacher explains that it is someone's birthday, and that we are going to tell the story of the child's life.
- Teacher puts the candle in the center of the ellipse. "This is the Sun!"
- Teacher asks child to step forward and hands the child the globe. "This is Earth! Really, we ride around the sun on Earth, but it's too big for us to

hold, so this is our pretend Earth which [Child] will carry around the sun. Every time you have a birthday it means you have ridden around the sun one time, because that's how long it takes to make you one year older.
- Teacher tells the child to walk on the line as she begins dramatically to tell the tale of the child's life…as generically or specifically as possible, without lingering too long and losing everyone's attention!

EXAMPLE (Teacher recites as child walks one ellipse):
"On October 26 in 1999, [Child] was born. His parents were so happy. All his family came to visit. After some time [Child] began to make funny baby sounds, and his mommy and daddy told him how smart he was. When he was 6 months old he got his first tooth and loved to eat baby food. Soon he learned to roll over and crawl."

- Coach the child to keep walking, and pace your tale so that when the child is back to where he started you are ready to tell about his first birthday:

"Then [Child] had traveled once around the sun, and it was his first birthday!"

- Repeat for each year of the child's life. This does not have to be very detailed or very long.

- When the child has walked around the appropriate number of times, announce that now he is [his new age] and sing "Happy Birthday."
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- Child can 'make a wish' on the sun candle, and be the person to blow it out.

PREPARATION might include:
- Making a birthday chart and displaying it in the room
- Talking about birthdays.
- Bringing in baby pictures and making time lines of our lives through the use of photos

VARIATIONS AND EXTENSIONS:
- Good time for a party!
- Having parents tell stories about their children when they were babies, or showing photo albums of themselves over time.
- This activity can be combined with the message from Jennifer Morgan's book, *Born With a Bang*: Since the Universe is 13 billion years old and the child is part of the Universe, on his or her birthday the child is now "13 billion and [x] years old!"

Resources

- Dawn Publications at http://www.dawnpub.com/ sells children's nature books, including *Born With a Bang: The Universe Tells Our Cosmic Story*, by Jennifer Morgan; illustrations by Dana Lyon. Here the Universe tells its own life story, from its birth, through the formation of stars, galaxies, the Earth — and you. The first book of the trilogy (galactic era) was published in 2002; the second (life era) is scheduled for 2003.

- The Great Story at http://www.thegreatstory.org will give you the scientific information you need to create your own timeline of evolution, as well as beautiful adult examples of Great Story necklaces. Links to articles and resources.

- *Emergent Curriculum* by Elizabeth Jones and John Nimmo is a guide for creating a developmentally appropriate curriculum emerging from the interests and needs of the teachers and children together. Lesson 1 was taken from this book.

- Directions for making beads out of paper, clay, dough, and more are available at About.com at http://familycrafts.about.com/mbody.htm.

Search for directions for paper beads (listed here as "Junk Mail Jewelry") at this link or go directly to: http://familycrafts.about.com/gi/dynamic/offsite.htm?site=http%3A%2F%2Fusers.hsonline.net%2Fkidatart%2Fhtdoc%2Flesson5.htm .

Great Story Bead Sequence for Children
Version 1

This is a simple list of events children can understand.
(Note: "bya" means billion years ago; "mya" means million years ago.)

THE GREAT MYSTERY

13 bya THE GREAT RADIANCE / BIG BANG

12 bya PROTOGALACTIC CLOUDS of hydrogen form; the Universe differentiates into vast clumps of gaseous matter.

11 bya GALAXIES emerge — producing the large-scale structures of the Universe.

11 bya Gravity draws hydrogen into dense spheres of gas, sprinkled throughout each galaxy. At a threshold pressure, nuclear fusion begins: this is the birth of **STARS**. Let there be Light!

5 bya the **SUN** ignites.

4.6 bya EARTH and other planets form by aggregating space debris in their orbital paths.

4.5 bya the **MOON** is carved out of Earth by a huge impact; its orbit around Earth gradually becomes more distant through time.

RAIN falls upon a cooling Earth for first time.

OCEANS form.

3.8 bya the first **LIFE** (Archaea) evolves in a very hot environment, possibly at great depth within Earth's crust or at hydrothermal fissures in the floor of the deep oceans.

565–543 mya the **GARDEN OF EDIACARA** is the time when the first multicellular life forms in the sea evolve differentiated body forms.

First true animals, including jellyfish and **SPONGES**.

SIGHT is invented, and Earth begins to see.

First **LAND PLANTS**.

TETRAPODS ("four-footed" vertebrates) originate, as the **first amphibians** come onto land.

Earth learns to fly, as insects evolve **FLIGHT**.

DINOSAURS

Early **MAMMALS** diversify.

EXTINCTION OF DINOSAURS

NEW PLANTS are born, and we get grass and daisies and dandelions for the first time.

2.5 mya **HUMAN BEINGS** (*Homo habilis* — "handy human") use stone tools.

According to the class's interests, adding items from **HUMAN HISTORY** is desirable. For example: humans learned to cook, talk and tell stories, write, build houses, as well as fly airplanes, build rockets, dance ballet.

Significant events in the child's **PERSONAL STORY.**

Great Story Bead Sequence for Children
Version 2

For a very detailed, adult-level timeline of the Universe Story visit http://www.thegreatstory.com/great_story_beads.html .

(Note: "bya" means billion years ago; "mya" means million years ago.)

THE GREAT MYSTERY (before the Universe, time, and space were born)

13 bya The Universe is born in a **GREAT RADIANCE** of energy. Scientists call this time the **BIG BANG**.

10 bya GALAXIES, like our Milky Way Galaxy, emerge and begin to light up with billions of stars.

5 bya our own star, the **SUN**, ignites.

4.6 bya EARTH and other planets form by using their gravity to gather up asteroids and other space debris in their orbital paths.

4.5 bya the **MOON** is carved out of Earth when a huge asteroid passes by, striking a glancing blow to the edge of Earth. Earth reaches out with its gravity to pull back the missing piece, but gravity is not quite strong enough. Instead, the moon settles into a gentle orbit around Earth.

3.8 bya Earth finally cools enough for **RAIN** to begin to fall and to gather into **OCEANS**. Very soon, the first **LIFE** (Archaea) is born, possibly at great depth within Earth's crust or at volcanic cracks at the bottom of deep oceans. All early life is single-celled, microscopic.

565 mya the **GARDEN OF EDIACARA** is the time when the first multicellular life forms in the sea evolve distinctive body forms. These are the first creatures that would have been big enough for you and me to see without a microscope.

545 mya the first true **ANIMALS** evolve in the sea during the CAMBRIAN period. These early animals include jellyfish, sponges, sea worms, and the ancestors of starfish, clams, and fish. Trilobites, which are related to today's crabs, evolve complex eyes, and so, in a way, Planet Earth, for the very first time, begins to see through the eyes of animals.

450 mya Some forms of sea life evolve ways to come out and survive on land during the SILURIAN period **MOSSES** are the first plants grow on land. Millipedes and insects and spiders and scorpions follow. Later, the first creatures with bones come out onto land. These are the

amphibians, which evolved from fishes, and which are the ancestors of today's salamanders and frogs.

350 mya Plants figure out how to make themselves strong by growing wood, and so for the very first time, during the CARBONIFEROUS period, tall trees make forests on planet Earth. Ferns, club mosses, and horsetails are the first kinds of plants that learned how to grow into trees. Even today, although none of these plants grows into trees anymore, they (along with mosses) are still the oldest forms of plants on Earth.

At the same time that trees began to grow, Earth learns to fly, as insects evolve **FLIGHT** for the very first time. Some of the earliest flying insects were gigantic: dragonflies as big as seagulls; millipedes six feet long.

200 mya Some reptiles have evolved into giant **DINOSAURS**. Others are returning to the sea as giant mosasaurs and ichthyosaurs and plesiosaurs. Still others learn how to fly: these are pteranodons.

65 mya DINOSAURS GO EXTINCT when a huge meteor strikes Earth and sets off volcanoes, darkening the sky with dust exploded from earth and with ash blown high into the air from massive forest fires. But many of the plants that coexisted with the dinosaurs – like redwood and ginkgo and sycamore trees – sleep through the bad times as seeds, ready to grow once again when Earth gets back to normal.

50 mya. With the dinosaurs gone, **MAMMALS** that had remained small during the time of dinosaurs finally have a chance to safely grow gigantic. Some mammals grow into brontotheres and rhinos bigger than today's elephants. **BIRDS** that had to watch out for pterandons now have the skies to themselves. And with the mosasaurs and icthyosaurs and plesiosaurs gone from the seas, some mammals begin to return to the oceans, becoming **WHALES** and dolphins.

30 mya. **SQUIRRELS** evolve, and various nut-producing trees (like oaks with acorns, and walnut trees with walnuts) co-evolve nutritious seeds for squirrels to plant for them. Meanwhile, **BUTTERFLIES AND BEES** are coevolving with the **FLOWERS** they visit to sip nectar or harvest pollen. Finally, the newest families of plants are born, adding to the diversity of life. These newest plant families are the **GRASSES** and the **DAISIES** and dandelions.

2.5 mya HUMAN BEINGS (*Homo habilis* — "handy human") evolve from primate ancestors and begin to use stone tools for hunting and butchering animals.

2.5 mya to 15,000 years ago, the Ice Ages come and go: glacial ice advances and retreats seventeen times, encouraging the newest animals of all to evolve. These are the animals that live in cold, icy climates: **POLAR BEARS AND CARIBOU.**

Historic Period. It is suggested that students choose twelve or more events from **HUMAN HISTORY**, according to teacher and student interests. These events might be technological or cultural innovations (including agriculture), social and political changes, milestones in religious traditions, turning points in art, philosophy, science, etc. For ideas see http://www.thegreatstory.org/timeline3.html

Personal History. Significant events in each child's **PERSONAL HISTORY**, as they themselves see their own story.