

Cosmic Walk

(adapted from several sources by Dr. Nita Penfold)
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(A 50 foot rope with approximate time marked with embroidery floss is set out on the floor in a spiral pattern with a bowl containing a tall black pillar candle and water in the center; smaller black candles are placed in glass holders at each marker and are lit when their portion is read by the participants. It helps to have participants walk into the spiral to light their candle and read their piece, then walk out again, setting a slower pace and the awesomeness of the time involved. This has been used with adults and youth.)

Mystery generates wonder and wonder generates awe. Today we take a glimpse at the beauty of our Cosmic Story, something of its deep mystery. It is the story of the universe, the story of Earth, the story of the human, the story of you and me.

- (1) In the beginning is the great mystery, the churning quantum foam of potentiality. Through the mystery all things come to be. Not one thing has its being but through the mystery. From the great mystery, all of us come to be. From the void, from the dark, come the light and the spark. Some 15 billion years ago, a great ball of fire expands outward into the creation of the Universe—space and time, shadows and light. The universe expands and cools rapidly. After a million years, things cool sufficiently for hydrogen and helium to bring with them new forms of matter. *And the great mystery is there in the relationship. (light candle)*
- (2) A billion years later, Galaxies come forth. Stars are born, live, and die. Larger stars in their death throes explode and become supernovas. As they blast out into the cosmos, Supernovas create in their wombs the elements of life. *And the great mystery is there in the creation and destruction. (light candle)*
- (3) 10 billion years later or 4.6 billion years ago, our Grandmother Star becomes a supernova. She gives up her life in an explosion that gives rise to our Star, what we call the Sun. *And the great mystery is there in her sacrifice. (light candle)*
- (4) 4.5 billion years ago, our Solar System forms from the remains of the supernova explosion. The sun and a great disk of matter emerge—all the planets and other members of our solar system family. Here begins the story of what will become one blue-and-white pearl of a planet.
Great Bombardment! Comets and meteorites pelt the Earth's thickening crust as it cools off. The moon is born when Earth is impacted by a mars-sized body that causes the Earth to tilt to the side giving rise to the seasons of the year. *And the great mystery is there in the cycles. (light candle)*
- (5) 4.4 to 4.1 billion years ago—over hundreds of millions of years, Earth has grown from dust particles to a large, hot, molten planet with a thin rocky crust. The crust thickens as cracks and exuberant volcanoes expel hotly agitated deep Earth magma to the surface. As steam condenses above the Earth, the miracle of rain and

weather cycles begin. The first rains fall, then torrential rains fall on, and on, and on until rivers run over the land and pool into great seas. *And the great mystery is there in the rains. (light candle)*

- (6) 4 billion years ago, the rich chemical brew brings forth invisibly small creatures that we call bacteria. *And the great mystery is there in the first living cells.. (light candle)*
- (7) 3.9 billion years ago, bacteria run out of free food supplies. They invent new ways to capture energy from the sun, which they then use to create new sources of food from water and simple minerals. In the process, however, they give off oxygen, a deadly corrosive gas that eventually piles up in the atmosphere and threatens life. *And the great mystery is there in the process. (light candle)*
- (8) 2 billion years ago, oxygen loving cells emerge. The first global environmental crisis is averted by the creativity of these tiny cellular creatures who invent a use for oxygen as they breathe it in (like we do) and use its energy. Oxygen levels continue to rise until they reach near present-day levels. Individual bacteria learn to cooperate and specialize within giant cell cooperatives. Within one cell, some creatures make food while others invent tiny electric motors that move the colony into sunlight, where others capture the energy of the sun. The individual parts become less independent but more secure as inseparable parts of the new wholes. These types of organisms are the same stuff of all plants and animals today. *And the great mystery is there in cooperation. (light candle)*
- (9) 1 billion years ago, Organisms begin to eat one another in the predator-prey dance that promotes the vast diversity of life as predators pick off the least healthy members among their prey species. *And the great mystery is there in the diversity. (light candle)*
- (10) 700 million years ago, some organisms begin living together in colonies, finding ways to communicate with each other using chemical messages. *And the great mystery is there in community. (light candle)*
- (11) 600 million years ago, light-sensitive eyespots evolve into eyesight. The Earth sees itself for the first time. The first animals to evolve in the oceans are soft-bodied. Over the next 70 million years, previously naked animals protect themselves with shells. Jaws, beaks, and skeletons follow suit. *And the great mystery is there in the seeing and in the protecting. (light candle)*
- (12) 460 million years ago—Leaving the water, animals such as worms and mollusks and crustaceans, seek the adventure of breathing air, surviving weather, and raising themselves against gravity. Algae and fungi venture ashore as well. The first plants evolve as mosses. Insects evolve with nearly weightless bodies that permit them to take to the air as the first flying animals. *And the great mystery is there in the algae, fungi, and insects. (light candle)*

- (13) 395 million years ago—The first amphibian animals hop and lumber onto land, trading in their gill slits for air-breathing lungs, transforming fins into stubby legs and continuing to return to the water to lay their eggs. Frogs and toads! *And the great mystery is there in the amphibians. (light candle)*
- (14) 335 million years ago, the first forests evolve. Over generations, these forests load themselves with carbon extracted from the atmosphere which later becomes fossilized as coal and oil. As the forests spread, amphibians transform into pre-reptilian creatures with the grand innovation of self-contained eggs that allows them to move inland. The Great Age of Reptiles begins. *And the great mystery is there in the forests and reptiles. (light candle)*
- (15) 235 million years ago, following the 4th and greatest mass extinction, the end of the Permian period is followed by the emergence of dinosaurs. For 170 million years these creatures flourish. Dinosaurs, sometimes as large as 40 meters, are social animals that often travel and hunt in groups. Dinosaurs develop a behavioral novelty unknown previously in the reptilian world—parental care. Some of them carefully bury their eggs and stay with the young after they hatch, nurturing them toward independence. *And the great mystery is there in the dinosaurs. (light candle)*
- (16) 225 million years ago, the first mammals, small and nocturnal, jump, climb, swing, and swim through a world of giants. Some rodent-sized insect-eaters evolve lactation, enabling mothers to spend more time in the nest keeping their young both fed and warm. *And the great mystery is there in the mammals. (light candle)*
- (17) 150 million years ago. Birds emerge as direct descendants of certain dinosaurs whose foreleg bones evolve into wing bones, jawbones into beaks and scales into feathers. Far larger than today's birds, wing spans are as large as 12 meters. *And the great mystery is there in the birds. (light candle)*
- (18) 114 million years ago, flowers evolve gorgeous and overt sexual organs, making themselves irresistible to insects by way of colors, perfumes, and delightful nectars. Insects, drawn to the nectar, unknowingly transport pollen from one flower to the next, fertilizing the plants on which they feed. The Earth adorns herself magnificently and invites the sky creatures into a new dance. *And the great mystery is there in the flowers. (light candle)*
- (19) 65 million years ago—shortly after primates appear on the scene, the Cretaceous period ends with the 5th mass extinction after an asteroid 6 miles in diameter hits the Yucatan peninsula leading, in time, to a severe drop in temperature. This marks the end of the age of dinosaurs and the beginning of the age of mammals, the Cenozoic Era. With the dinosaurs gone, the once dark and sheltered small mammals stride into daylight moving quickly to occupy available ecological niches. Over the course of the next 60 million years Earth greets rodents, whales, monkeys, horses, cats and dogs, antelopes, gibbons, grazing animals, orangutans, gorillas, elephants, chimpanzees, camels, bears, pigs,

baboons and the first humans. The Age of Mammals! *And the great mystery is there in the destruction and creation. (light candle)*

(20) 4 million years ago, Hominids leave the forest, stand up, and walk on two legs. The savanna offers the challenges and opportunities for these early creatures to evolve into humans. They move over the surface of the Earth eventually spreading themselves over all six continents.

- 100 thousand years ago, Modern Humans emerge. Language, shamanic and goddess religions, and art become integral with human life. Spirituality is born!
- 11,000 years ago, Agriculture is invented. Humans begin to shape the environment, deciding which species shall live and which shall die.
- 5,000 years ago, Classical Religions emerge. Hinduism, Confucianism, Judaism, Buddhism, Christianity, Islam.
- 250 years ago, scientists begin to calculate the Age of the Earth. Humans try to understand how old the Earth is through empirical observations.
- 70 years ago, empirical evidence of an Expanding Universe is discovered. 33 years ago, scientists find evidence of the Origin of the Universe as they see the Primordial Flaring Forth.
- 30 years ago, Earth is seen as Whole from space. The Earth becomes complex enough to witness her own integral beauty. *And the great mystery is there in the Universe becoming conscious of itself. (light candle)*

TODAY the story of the Universe is being told as our sacred Story. The Flaring Forth continues and the Great Mystery is here, as this moment, as us, as one.

(One of my students adapted it further by adding candles for each of the participants birthdays to further personalize the timeline.)