

# Our Cosmic Journey: A Big History Adventure!

## Materials You'll Need:

- Large roll of paper (e.g., butcher paper, easel paper, or several A3/A2 sheets taped together)
- Markers, colored pencils, crayons
- Scissors
- Glue or tape
- String or yarn (optional, for measuring/marketing long stretches of time)
- Access to the internet for research (age-appropriate videos, images, and simplified articles like those from DK Find Out!, National Geographic Kids, or Big History Project student materials)
- Printed images or cutouts representing key events (optional)
- A long wall or floor space for the timeline

## Hello Cora! Get Ready for an Epic Adventure Through Time!

Today, we're going on a "Big History Light" journey! That means we'll explore the most amazing story ever – the story of everything, from the very beginning of the universe all the way to us! We're not going to worry about memorizing tons of dates and names. Instead, we'll focus on the big ideas, how things changed over super-duper long periods, and then we'll get creative and make our own giant "History of Everything" spiral timeline!

### What is Big History?

Imagine history, but zoomed ALL the way out. So far out that you see the birth of stars, the formation of our planet Earth, the first tiny life forms, dinosaurs, and then, finally, humans. Big History connects all these incredible events into one giant, interconnected story. It's like the universe's own autobiography!

## Part 1: Exploring the Thresholds - The Big Chapters of Our Universe

Think of these "thresholds" as major turning points where something completely new and more complex appeared. We'll explore these together using simple videos, cool pictures, and stories. As we learn about each one, think about what made it special and how it led to the next big thing!

- **Threshold 1: The Big Bang!** (About 13.8 billion years ago) - Kaboom! The universe begins from a tiny, hot, dense point. Everything we know starts here. What do you think it was like?
- **Threshold 2: Stars Light Up!** (A few hundred million years after the Big Bang) - Gravity pulls matter together, and the first stars ignite, like giant cosmic lighthouses. These stars are like factories, creating new elements!
- **Threshold 3: New Chemical Elements are Forged!** - When big stars die, they explode (supernovae!) and scatter new, heavier elements (like carbon and oxygen – stuff we're made of!) into space.
- **Threshold 4: Earth and Our Solar System Form!** (About 4.5 billion years ago) - Dust and gas from older stars gathered to form our Sun and planets, including our very own Earth. What makes Earth so special for life?
- **Threshold 5: Life on Earth Appears!** (Around 3.8 billion years ago) - Tiny microbes, the first living things, emerge in Earth's oceans. How amazing is that? Life begins!
- **Threshold 6: Humans Emerge!** (A few hundred thousand to a couple of million years ago, depending on how you define "human") - After a long journey of evolution, early humans

appear. We develop brains, tools, and language. What makes humans unique?

- **(Optional Extra) Threshold 7: Agriculture & Civilization!** (Around 10,000 years ago) - Humans learn to farm, build villages, and create complex societies. This changed how we live forever!

*(Teacher Note: For each threshold, spend some time discussing it. Use resources like short, age-appropriate YouTube videos (e.g., from Kurzgesagt - In a Nutshell, SciShow Kids, or TedEd student talks about cosmology/evolution simplified), or pages from children's encyclopedias. Encourage Cora to ask questions like "What happened next?" or "How did that lead to...?")*

## Part 2: Let's Create Your "History of Everything" Spiral Timeline!

Now for the super fun part! We're going to take all that incredible history and put it onto a giant spiral timeline. A spiral is great because it can show how time keeps expanding and how later events happen in a smaller *\*proportion\** of the total time, even if the events themselves are important.

### How to Make Your Spiral:

1. **Find Your Space:** Clear a large space on the floor or a wall where you can lay out your paper.
2. **Prepare Your Paper:** If you have a roll of paper, unroll a long piece. If you have sheets, tape them together to make a long strip. The longer, the better, to really show the scale!
3. **Start the Spiral:** In the center of your paper (or one end if it's a very long strip that you'll curve), draw a small dot or circle. This is the Big Bang! Write "The Big Bang - 13.8 Billion Years Ago (BYA)" next to it.
4. **Draw the Spiral Outwards:** From this central point, start drawing a line that spirals outwards, getting wider with each turn. This line represents time.
5. **Marking Key Events:** Now, we'll place our Big History Thresholds (and any other cool events you want to add!) onto the timeline. This is where it gets a bit tricky with scale, but we'll focus on the *\*order\** and the *\*idea\** that early times were VAST.
  - The Big Bang is at the very center.
  - The formation of stars and galaxies would be very close to the center, in the first part of the spiral.
  - The formation of Earth (4.5 BYA) would be further out along the spiral, but still quite a way from the "present day" end of your spiral.
  - First life (3.8 BYA) would be a bit after Earth's formation.
  - Dinosaurs (ruled from about 230 million years ago to 65 million years ago) will be much further along the spiral, closer to the outer edges.
  - The emergence of humans (a few million to a few hundred thousand years ago) will be VERY close to the very end of your spiral. It's like the last tiny bit!
  - Recorded human history (last few thousand years) is like the very, very, VERY tip of the spiral line.
6. **Be Creative!** For each event you mark:
  - Write its name and approximate time.
  - Draw a picture or symbol that represents it. (e.g., a swirling galaxy for early universe, a bacterium for first life, a T-Rex for dinosaurs, a cave painting for early humans).
  - Use different colors!
  - You can even glue on printed pictures if you find some cool ones.
7. **Think About Scale (Loosely):** You don't need to measure perfectly, but try to show that the time between the Big Bang and the formation of Earth was HUGE, and the time humans have been around is tiny in comparison. Maybe use a piece of string: if your whole spiral represents 13.8 billion years, how much string would represent 1 billion years? How much for 1 million? (This is more for concept than precision).

*(Teacher Note: Help Cora approximate where events go. The key is relative order and the idea of immense time scales for early events, with events becoming more "cramped" towards the modern day on the spiral. Focus on the narrative flow and the "wow" factor of deep time.)*

## Part 3: Your Amazing Timeline - Let's Talk About It!

Once your spiral timeline is full of cosmic wonders, take a step back and admire your incredible work!

- Walk along your timeline from the Big Bang to today.
- Pick 3 events that you think are the MOST amazing or important. Tell me why you chose them.
- How does seeing everything laid out like this change how you think about history or your place in the universe?
- What was the most surprising thing you learned or put on your timeline?

This timeline is your unique creation, a map of everything! You can keep adding to it as you learn more, or even hang it up as a reminder of our incredible journey through time.

### Extension Ideas (Optional Fun!):

- **Research a "Threshold" Deeper:** Pick one threshold and find out 3 more cool facts about it.
- **"What If?" Scenarios:** What if one of these thresholds hadn't happened? For example, what if giant stars didn't create new elements? What would the universe be like?
- **Your Personal Timeline:** On a much smaller scale, create a spiral timeline of your own life!

Great job, Cora! You've navigated billions of years of history today!