

Presenting Natural Selection with Playing Cards:

A Story Strategy by Rhoda Garcia, Florida Teacher

With all my units and lesson I try and include stories about the history of science. What problems were people trying to solve at the time? What ideas did they have about things, for example, the idea that the genetic code must be in proteins because they are more complex molecules. How did it come to be that ideas were changed? I give the stories titles such as “The Monk That Lied”. Lots of drama, that’s my motto.

So with my evolution unit I start by asking my kids what they want to be when they grow up. Then I say, **“Let’s go back to upper middle class England about 1830. If you are a young woman you don’t have a choice. You either get married and do what your husband says, or you live with a male relative and take care of his children. If you are a young man you can be a lawyer, a military officer, a clergyman or a doctor.”** I tell them about Charles (no last name), elaborate on his lack of a “calling” (job prospects) and lack of success in medical school. I ask **“How many of you are looking forward to dissecting? How about if the specimen was alive and had no anesthetic?”**

“What would you do if someone asked you if you wanted to take a trip around the world?” I elaborate on that, tell them about Charles’s trip. **“Guess how long it took him to sail around the world?”** [5 years]. I always relate it back to them: such as, **“Have you ever been sea sick?”** Around here, they have. At this point I tell them that **“People had not explored the world in the detail that we have today and they were just getting used to the idea that plants and animals were very different in distant places, and they had apparently changed through time. Many species were extinct, and the Earth might be a lot older than we once thought. People also were beginning to wonder if species had changed over time, how that might have happened.”** I tell them that **“Charles spent the next 23 years thinking about it, gathering evidence for it and thought he’d figured it out.”**

“So what was his idea?” my kids always ask

“I’ll tell you tomorrow” I always say to them. Nothing like a little suspense I feel, for a good story.

By then a few of them have figure out that Charles is Charles Darwin, but they don’t know his idea is called natural selection. I use various activities for that.

I tell them that this idea and survival of the fittest seem obvious to us now, but 200 years ago no one had a clue to it. I think the idea that things that might seem obvious to us now were not always clear to people then. This is a point that needs to be stressed. Kids also enjoy thinking that they are more knowledgeable and sophisticated than adults of 100 to 200 years ago, which I tell them and which surprises them.

So NOW we are ready for Natural Selection of Playing Cards, which I knew the minute I saw it was just my style.

First, yes I think it is very important concept for kids at this point in the overall understanding of evolution As the PBS video says, evolution is a *tinkering* process, not starting from scratch every time. I think experiencing the activity and seeing the video clips help reinforce the idea. I’ve noticed that it helps to say at the start that our goal is to build an organism. We are going to try doing that two different ways. The group that does not get to accumulate changes needs a lot of encouragement. They get frustrated very quickly. I tell them “Remember, in statistics you need a lot of trials, so go to it. Let’s see what happens.

Rhoda Garcia