



## Adventures Through Open Minds Science™

(A.T.O.M. Science Club)

Dear Parents,

This summer, A.T.O.M. Science Club will take a journey like no other into the past to explore the origin and evolution of life. Participating in this thrilling adventure will help campers understand from a scientific perspective how we became who we are today.

Our theme, **Exploring the Amazing Rise of Human Life on Earth**, will unfold over ten weeks, divided into three sections, each devoted to a different area of science: **geology, biology/paleontology, and physical anthropology.**

We start at the beginning of the action-packed story of how early Earth began as a lava ball and eventually became a welcoming home where life could flourish. Campers will learn how the building blocks of life were formed in stars that blew up long before our Sun formed, and discover how these critical elements and compounds were (and continue to be) delivered to Earth via meteorites. We will learn how various amazing and gradual geological processes transformed the toxic chemistry of Earth's early atmosphere and oceans so it became a perfect place for life to form and continue to exist today.

**To make this journey a hands-on reality**, campers will search for stardust in their backyards! Just like real scientists, they will use their own microscopes to observe and analyze what they find.

Then we'll delve into how our distant ancestors shaped our bodies and our lives in surprising ways. Our DNA holds an incredible story of our past—why we're built the way we are and how our bodies evolved from the first life on Earth. Today's simple single-cell microorganisms like bacteria and archaea are believed to be close examples of this first life. Campers will learn how their skeletons, teeth, organs, and remarkable five senses all can be traced back to a single cell that evolved on Earth called LUCA (last universal common ancestor of all life).

Campers will use special charts provided by Madame Atom to show the current hypothesis of how humans evolved from simple single-celled prokaryotes to more highly evolved eukaryote-celled organisms. With the help of carefully selected videos, we will marvel over the amazing transformation of these eukaryotic cells as they began to live together in colonies, setting the stage for multi-cellular life like sponges, jellyfish, and flatworms.

**To make this a hands-on reality**, campers will use their 1200X microscopes to observe eukaryotic plant cells and food they get from their own kitchens. With a clean, soft Q-Tip, they will rub the insides of their mouths and see what their own eukaryotic cheek cells look like!

The final third of the extraordinary story of our evolution will take us through the age of fish (AKA the Cambrian explosion), the age of amphibians, and on to the age of mammals, where we will meet the early primates and trace how they evolved into Homo Sapiens (us!) and our cousins, including various species of early humans, monkeys, and apes.

**To make this a hands-on reality**, campers will undertake a three-month study of the life cycle of an animal, the tardigrade! Using their microscopes, they will see the challenges life faces as they care not only for the tardigrade community but also for the live algae needed to feed it.

Please [see this PDF](#), which is intended to give you all the details you need about this exciting 2023 summer camp program and covers the following:

- Material Covered in Each Section
- Two Special Summer Highlights!
- Start Dates and Two Free Bonus Weeks
- Meeting Days
- Times and Levels
- Special Saturday Evening Activities
- Good News for Families Planning Vacations
- Benefits of the 2023 A.T.O.M. Science Club Summer Camp Experience
- Pricing and Materials
- Signups Open Now!!!

For the thrill of a lifetime, please join A.T.O.M. Science Club's STEM-based summer camp adventure. I am looking forward eagerly to taking this journey through time with your children!

If you have any additional questions after reading this letter or the PDF, please do not hesitate to call Madame Atom at (650) 271-2035.

Enthusiastically,

Leslie Herleikson  
aka Madame Atom

Founder, Director, and Educator of **Adventures Through Open Minds Science Club**

aka **A.T.O.M. Science Club**

San Mateo, California 94403

(650) 271-2035

<http://www.atomscienceclub.com>