



Adventures Through Open Minds Science™
(A.T.O.M. Science Club)

2024 Summer Camp: Real Rocket Science

An Exciting Journey Into Physics, Engineering, And Space

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1) Invitation To Build And Launch Real Rockets

You are cordially invited to a summer filled with adventure and exploration. In addition to the Rocket Science Summer Camp offered below, we will also be gifting FREE [Bonus Weeks](#) and FREE [Family Field trips](#) to make this a summer you'll never forget!

Who: Children ages 7-18

What: Rocket Science Summer Camp

Where: Online via Zoom & (optional In-person)

When: June 17, 2024 - August 8, 2024 (**8 weeks**)

Why: To have fun & learn "Rocket Science" by building and launching a real rocket

Days: Mon/Wed **OR** Mon/Wed/Thurs (3 days Highly Recommended)

Times: 4pm - 5:30pm for Elementary Students
6pm - 7:30pm for Middle/High School Students

FREE & Optional Bonuses

- **3 FREE Bonus Weeks:** Campers are gifted a total of 3 FREE optional bonus weeks of **Online Zoom meetings (June 3 - June 13 and August 12-August 15)**. These weeks are great for campers whose summer begins earlier or ends later than others. Join for as many or as few meetings as you wish! See the [Bonus Weeks section](#) for more details.
- **9 FREE Family Field Trips:** Campers are invited to join us on 9 in-person and online field trips throughout the summer at no additional cost. See the [Family Field Trip section](#) for more details.

Vacation make-ups should be scheduled in advance

We are happy to offer make-ups for campers who miss meetings due to family vacations. Please see the [Family Vacations section](#) for more details.

2) Elementary School Students (7-10yr)

A.T.O.M. Science Summer Camp is offering 8 exciting weeks of [Online Zoom meetings \(June 17 - Aug 8\)](#) (plus an additional 3 bonus weeks) that meet up to 3 days a week. This summer camp has been designed to be taken 3 days a week. To receive the optimal experience, students will benefit from taking all 3 days.

While attending twice a week will be an enriching addition to the summer, the additional 3rd meeting will take your child deeper into that week's topic for a greater understanding and an even more enlightening experience. However, if the 3-day/week option does not work, you can choose the twice-a-week option. All campers are also invited to attend two additional [FREE BONUS weeks](#) as well as several [FREE BONUS field trips](#).

Package	Meeting Days / Time of day	Age	Grade	Camp Level
3 Days per Week	Mon/Wed/Thurs @ 4:00 - 5:30 p.m.	7 - 10 yr	1st - 5th	Elementary
2 Days per Week	Mon/Wed @ 4:00 - 5:30 p.m.	7 - 10 yr	1st - 5th	Elementary

3) Middle & High School Students (11-18yr)

A.T.O.M. Science Summer Camp is offering 8 exciting weeks of [Online Zoom meetings \(June 17 - Aug 8\)](#) (plus an additional 3 bonus weeks) that meet up to 3 days a week. This summer camp has been designed to be taken 3 days a week. To receive the optimal experience, students will benefit from taking all 3 days.

While attending twice a week will be an enriching addition to the summer, the additional 3rd meeting will take your child deeper into that week's topic for a greater understanding and an even more enlightening experience. However, if the 3-day/week option does not work, you can choose the twice-a-week option. All campers are also invited to attend two additional [FREE BONUS weeks](#) as well as several [FREE BONUS field trips](#).

Package	Meeting Days / Time of day	Age	Grade	Camp Level
3 Days per Week	Mon/Wed/Thurs @ 6:00 - 7:30 p.m.	11 - 18yr	6th - 12th	Middle / High
2 Days per Week	Mon/Wed @ 6:00 - 7:30 p.m.	11 - 18yr	6th - 12th	Middle / High

4) Camp Calendar

Dates	Activity	Location
June 3 through June 13 (Mon.,Wed.,Thurs)	Optional 2 FREE Bonus Weeks! (See details)	Online (Zoom)
June 15 - In-Person Option June 16 - Online Option	Summer Camp Kick-off Weekend! (See details)	San Mateo, CA or Online (Zoom)
June 17 through August 8	Online Summer Camp for Everyone! (See details)	Online (Zoom)
August 8 through August 15	Optional FREE Bonus Week! (See details)	Online (Zoom)
Aug 24 or Sept 28 (Depending on weather conditions)	Launch Day - In Person Option (See details)	Hollister, CA or Online (Zoom)

5) Topics Covered Each Week

Mondays and Wednesdays will be dedicated to building the rockets. As soon as we complete the week's building activities, we'll begin exploring the topic of the week.

	Session	Dates	Topics
BONUS	BONUS Week 1	June 3 - June 6	To the Moon
	BONUS Week 2	June 10 - June 13	To Mars and Beyond
Summer Camp & Rocket Building	Week 1	June 17 - June 20	Parts of the Rocket
	Week 2	June 24 - June 27	Newton's Laws of Motion: What is motion? F = ma How does this simple equation tell us so much?
	Week 3	July 1 - July 3	Holiday Fun: Surprise space movie if time allows <i>* No meeting on the 4th of July Holiday</i>
	Week 4	July 8 - July 11	Energy: What is it? What is a rocket engine? What is power?
	Week 5	July 15 - July 18	Force: "Let the Force be with... the Rocket" What is Force? Fuel, thrust and their relationship to force during launching a rocket.
	Week 6	July 22 - July 25	Cushioning: Why are we cushioning an egg and what does that have to do with launching a rocket?
	Week 7	July 27 - Aug 1	Past, Present & Future: Journey through time as we follow a rocket's story from past, to present, to the future.
	Week 8	Aug 5 - Aug 8	NASA Field Trip
BONUS	BONUS Week 3	Aug 12 - Aug 15	What's Next?: You're part of the adventure now. Will you continue this awesome exploration?

6) Three Bonus Weeks - (FREE & Optional)

All campers are invited to attend a total of 3 FREE bonus weeks of **Online Zoom meetings (June 3 - June 13 and August 12-August 15)** filled with amazing information about the journey our space program has taken. The three FREE weeks are **OPTIONAL** and **NOT required** to attend summer camp. If your child does not attend the bonus weeks, they will NOT miss any rocket building or information needed to understand the summer theme. There are 3 camp meetings (Monday, Wednesday and Thursday) each week during Bonus weeks. Feel free to attend as many or as few as you wish.

Dates	Meeting Days & Times	Age	Grade / Level
June 3 - June 13 (2 Weeks) Aug 12 - Aug 15 (1 Week)	Mon/Wed/Thurs @ 4:00 - 5:30 p.m.	7 - 10 yr	1st - 5th (Elementary)
June 3 - June 13 (2 Weeks) Aug 12 - Aug 15 (1 Week)	Mon/Wed/Thurs @ 6:00 - 7:30 p.m.	11 - 18yr	6th - 12th (Middle / High)

7) Summer Camp Kickoff Weekend

Summer camp officially begins the weekend of **June 15 & 16** with a meet and greet. Campers may choose from an “in-person field trip option” (**June 15**) or an “online option” (**June 16**) as their first meeting. If you choose the in-person option, you will receive your rocket and materials from Madame Atom while at the park. If you choose the online option, A.T.O.M. Science Club will mail your materials to you ahead of the first meeting. Both meetings will contain the same content.

In-Person - June 15

Come meet other summer campers at a park in San Mateo County. (More information to follow upon sign up.) Bring your family and a picnic lunch if you'd like. There will be time for families to socialize and kids to play.

Tentative Schedule

11am - 1pm Lunch and Meet & Greet
1pm - 2pm Distribute summer camp materials & introduce parts of the Rocket
2pm - 3pm Begin building
3pm - 6pm Optional: Families welcome to stay and play

Online - June 16

Virtually meet other summer campers from the comfort of your own home on **Sunday, June 16 (tentatively @ 5pm-6:30pm)** via Zoom! We'll Kick off Summer Camp by going over your materials, introduce parts of the rocket, and begin building! Please enroll as soon as possible to ensure the materials can be mailed to you on time.

8) Launch Day (In-Person) Saturday, Aug. 24 or Saturday, Sept. 28

The thrilling Grand Finale will be Launch Day! All campers are invited and highly encouraged to attend launch day. Campers are welcome to invite friends and family to watch and cheer on their rockets! All children will need to be supervised at all times by a parent or guardian during launch day. Due to the need to oversee the events of the day, Madame Atom, A.T.O.M. Science Club, will not be responsible for any child before, during, or after the launch.

As these are genuinely real rockets with **REAL ROCKET ENGINES**, we will join the Livermore Unit of the National Association of Rocketry to do a safe launch. To add to the thrill of launch day, each camper is going to put a quail egg in the nose cone of the rocket they built to learn about the importance of designing a safe and gentle landing.

During summer camp, we will discuss what is being carried in the nose cones of rockets launched by NASA, such as a very delicate rover or lander— or more importantly, an astronaut! To make this a reality, shortly before launch day I will ask each family to purchase a carton of quail eggs. Campers' challenge will be to engineer a cushioning system to pack around the egg to protect it. Before launch day, they will test their invention/cushioning material by wrapping it around the quail egg, putting it in a small zip lock bag, dropping it out a window of their house, and seeing if the egg's shell survived! **Please note that parent supervision is required for this activity.**

On this exciting final day, campers (under expert supervision) will launch their own rocket (and quail egg) by putting their rocket on the launch pad and then going back to the launch control where they will go through the countdown, press the ignition button, watch their rocket soar into the sky, hopefully see their rocket deploy its parachutes, observe the rocket's return to Earth, and after they retrieve their rocket and nose cone, open the nose cone and see if their quail egg survived the landing! I promise, this will be a day everyone will never forget.

On launch day, I will provide the rocket engines and igniters. **These rocket engines and igniters are NOT toys.** You can purchase new engines and igniters in the future to use the rockets again! Each camper will end launch day by taking their rocket home for future fun launching it again. If parents plan to have their children launch again, they will need to adhere to safety regulations set by the county and fire department. The people at Livermore Unit of the National Association of Rocketry that you will meet during launch day can assist you in learning how to safely launch again.

Safety Information

Rockets should only be launched under the supervision of experts certified to oversee safe conducting of rocket launches. They should only be launched from locations approved and supervised for safe rocket launches to mitigate risks of fires and other mishaps. Over the years, I have built relationships with experts who will make sure that our campers enjoy a safe, exciting, and educational experience as they launch the rockets they have built, streaking up into the sky!

Alternative Launch Day

For those unable to attend Launch Day with us in the San Francisco Bay Area, I will meet with families online to discuss requirements for a safe launch and try to help them find a proper location for their launch. Rocket engines and igniters will need to be bought by you as it is illegal to mail them. I will try to help you find a location for you to purchase them.

9) Family Field Trips - (FREE & Optional Real Life Adventures)

A NEW exciting addition this summer are In-Person Field Trips! This summer, all campers and their families are invited to attend a number of in-person and online bonus family field trips for FREE. Each student must be accompanied by an adult and they may register to bring along additional family members and friends. Those who live in the San Francisco Bay Area are highly encouraged to attend the field trips. We'd love campers and their families from afar to join us if they are able to make the trip.

If unable to attend these BONUS field trips, your child will not miss any material needed to ensure a fulfilling and exciting summer camp experience. These BONUS field trips are meant as additional opportunities to experience fun science together.

Please note, the field trips below may be weather dependent and canceled or rescheduled as needed. For example, launching the rockets and telescope viewing may be canceled due to cloudy or rainy weather conditions. Additionally, some facilities require a minimum number of people to participate.

	BONUS Family Field Trips	In Person	Online	Dates
1	Family Park Day - Summer Camp Kickoff! See Summer Kickoff Weekend section for details	X		Saturday, June 15
2	Meet and Greet - Summer Camp Kickoff! See Summer Kickoff Weekend section for details		X	Sunday, June 16
3	Family Park Day We'll picnic and have fun at an outdoor covered facility at a park in San Mateo County. After lunch, there will be time for Madame Atom to look over your rockets and check your progress.	X		Sunday, July 7
4	NASA Ames in Mountain View	X		August 8
5	Daytime Telescope Viewing	X		TBD
6	Night Time Telescope Viewing	X		TBD
7	Nike Missile Base If families would like, we can take a fun trip to an historic Nike Missile base now preserved as a museum and go to an underground magazine there to view real rockets. (Minimum number of people required)	X		TBD
8	Lick Observatory I am also working to finalize a tour of Lick Observatory which is a world-famous scientific institution operated by the University of California right here in the Bay Area.		X	TBD
9	Launch Day! Date is weather dependent. See Launch Day section for more details.	X		Saturday, Aug. 24 OR Saturday, Sept. 28

10) Technical Requirements

All weekly camp meetings (Monday/Wednesday/Thursday) will be held online via Zoom. Please ensure your child has access to a device with a functioning camera and microphone. We ask that someone be available to help your child with any technical difficulties.

While we make every effort to start on time, due to unforeseen technical difficulties with both instructor and campers equipment, start times may be slightly delayed to ensure all participants can be present. We ask that your child log on a few minutes early to account for any technical issues they may encounter with their cameras and microphones.

Please be aware that sessions may end 10-15 minutes after the listed end time. If students are engaged in a question or activity, we always aim to provide them with a complete answer or give them time to complete the activity. If your child needs to leave at the stated end time, they are free to do so.

11) Materials List

A.T.O.M. Science Club will provide each camper with a "Science Box." In the beginning, we ask you to help teach your child the importance of having ALL their materials within arm's reach before they log on to each summer camp session. The idea is the same as going to a sports class where each child is required/responsible to bring all their sports gear to class. This is a valuable and confidence-building skill I am teaching the summer camp members. Please note: I will not stop the class for an unprepared camper, as this becomes a problem for everyone.

Below are two materials lists for all science campers.

#1 - Materials with NO Substitutions

This list of items is to be purchased with **NO** other options or exceptions. **Please do not substitute** items as they were carefully selected for a reason. Thank you for your understanding. I will send you links to where you can purchase these materials after you register.

- Wood Glue
- Quail Eggs - Please do not purchase until directed to do so.

#2 - Materials with Substitutions

Options are allowed. Should you already own these items or something equivalent, you do not need to purchase new items.

- Tinker Toys or the equivalent. If you do not have tinker toys or something similar, please purchase [this set](#) before summer camp begins.
- A [tray](#) ~14in x 10in for a workspace. Any cafeteria tray or cookie sheet will work.
- Binder with binder paper or a spiral notebook
- Pencils with erasers & pens
- 12" ruler
- Safety glasses to be worn when sanding the fins

12) Tuition

In summary, tuition covers all of the items in the table below.

Item	Description	Provides
8 Weeks of Camp	1.5 Hour classes 3 times per week	Total of 36 Hours of Instruction
Camp Materials	Rockets will be provided. Please see camp materials list for more details.	A REAL ROCKET campers can reuse
3 BONUS weeks of classes	1.5 Hour classes 3 times per week	Total of 13.5 Hours of Instruction
9 BONUS Field Trips	In-Person and Online Field Trips to: <ul style="list-style-type: none"> ● NASA Ames (10-3pm) ● Park Day Meet & Greet (10-3pm) ● Online Meet & Greet (TBD) ● Park Day Rocket Check (10-3pm) ● Telescope Viewing (Day: 10-3pm) ● Telescope Viewing (Night: 8-11pm) ● Nike Missile Base (10-3pm) ● Lick Observatory (1-2pm) ● Launch Day (10-3pm) 	Total of ~ 35 Hours of Instruction
BONUS Help	Online Hours by Appointment Only. In the event you are unable to attend science summer camp due to vacation , you may have a makeup session with Madame Atom FREE of charge in order to make sure your camper is prepared to continue building when they resume. Please see section on family vacations for more details.	~ 2.5 Hour
		TOTAL * ~ 87 Hours of Instruction * 11 Weeks (8 Camp + 3 Bonus)

Benefits of the A.T.O.M. Summer Camp includes the following:

- 87 hours of instruction
- Building and launching a REAL rocket that can be reused
- Up to 9 field trips (Subject to change due to unforeseen circumstances, for example weather)
- Opportunities to interact with REAL scientists

Level	Package	Camp Days	Tuition	Discounts
Elementary 1st - 5th Grade	3 Days per Week	Mon / Wed / Thurs	\$1,200	~11% off 2 days per week price
	2 Days per Week	Mon / Wed	\$900	
Middle/High 6th - 12th Grade	3 Days per Week	Mon / Wed / Thur	\$1,200	~11% off 2 days per week price
	2 Days per Week	Mon / Wed	\$900	

SIGN UP BEFORE APRIL 15 for an additional 5% DISCOUNT! (\$1,140 / \$855)

Financial assistance is available based on need. Campers will never be turned away simply because they cannot afford Summer Camp tuition. Please reach out for any financial aid concerns so we can ensure your child can attend.

13) Vacations: Good News for Families Planning Vacations

I will be recording **selected** summer camp meetings held over Zoom. YOUR CHILD WILL BE SEEN AND/OR HEARD IN THESE ZOOM RECORDINGS. The recordings will be used **only so your child can catch up** with missed camp meetings. These camp meeting recordings will be available until August 29, 2024, which is three weeks after the date of the final camp session. At least two-weeks notice via email is required for all recording requests, which are granted only in special circumstances. Recordings will be shared (password protected) only with the requesting family(ies). On the rare occasion that I might record, if you do not wish your child's image to appear in the video, you are free to have them turn off their camera and microphone during the meeting.

If a student has to miss a class due to vacation, you must call me (650-271-2035) to discuss options, one of which is to receive a recording of the meeting.

14) Registration Open Now!

You can below to reserve your spot. Space is limited! Please sign up early to ensure your child can participate. Early registrations before April 15 will receive a 5% discount.

- [Elementary - 3 Days a Week Program](#)
- [Middle/High - 3 Days a Week Program](#)
- [Elementary - 2 Days a Week Program](#)
- [Middle/High - 2 Days a Week Program](#)

If you have other special requests, like forming your own group or this schedule doesn't work for you, please contact me.

Thank you so very much for being a part of A.T.O.M. Science Club's Summer Camp 2024. I can't wait for our exciting summer of science exploration!

Enthusiastically,

Madame Atom

Leslie Herleikson

aka Madame Atom

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

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

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