

How to Earn the CAP Model Rocketry Badge at Home

(Thanks to 2d Lt Richard Reynolds, SWR-TX-351, Pegasus Composite Squadron, Nov 2020)

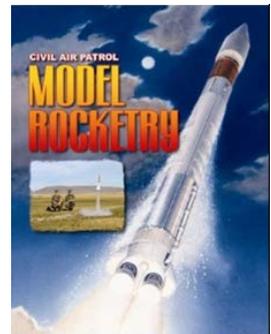
During the Covid-19 pandemic, most of us are practicing social distancing, working from home, or going to school online. Regardless of where you are, Civil Air Patrol believes in your success! During the extended meeting hiatus, you have an opportunity to take some time to work on achievements and projects at home, including the **CAP Model Rocketry Badge!**

The Civil Air Patrol rocketry program is an aerospace educational activity that includes rocket history, rocket science, and the safe building, launching, and recovery of model rockets in three stages. Cadets progress through each stage through written exams and various hands-on activities. Once you complete all tasks, cadets are authorized to wear the Rocketry Badge (Class A/B) and the Rocketry Patch (ABU):

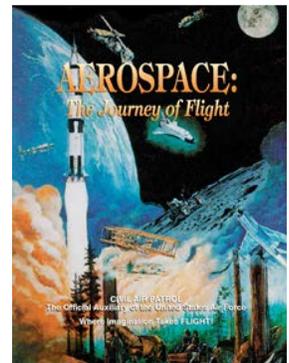


So, what do you have to do? You will need to study for the exams. You will also need to build and launch alternative-powered rockets and traditional rocket kits. In addition, cadets must demonstrate an understanding of the National Association of Rocketry's safety code, which is used to guide the safety of the CAP Model Rocketry program.

The *Civil Air Patrol Model Rocketry* guidebook has all the information about → the program, including step-by-step instructions for each phase. It is the **ONLY study guide needed for the exams.**



← Although the model rocketry guidebook has all the required information, including history and science, another great source of information is your *Aerospace Dimensions* Rocketry module.



Finally, chapters 5 & 6 of *Aerospace: The Journey of Flight* has additional material. →

If you do not have a copy these books, the electronic versions can be downloaded in the [CAP member portal, eServices/Aerospace Education/AE Downloads](#)

The specific requirements for each phase follow:

Redstone Phase

Build and launch **TWO** of the following non-solid propellant rockets with alternate sources of power (see pages 11-21 of the *CAP Model Rocketry* guidebook for step-by-step instructions):

- The rubber band powered **Goddard** rocket
- The Alka-Seltzer and water **Fizzy** rocket
- The air powered **Stomp** rocket
- The compressed air and water **Pop Bottle** rocket

Written exam on the history of rockets:

- https://www.capnhq.gov/CAP.LMS.Web/Quiz/quiz_start.aspx?qid=346

Titan Phase

Build and safely launch **TWO** model rockets, as follows:

- One Skill Level 0 (Beginner) or higher commercial single-stage model kit
 - Kits identified as “Ready to Fly” or “Almost Ready to Fly” are not acceptable
 - Kits identified as “Easy to Assemble” do qualify
- One Skill Level 1 (Intermediate) or higher commercial single-stage model kit

Written exam on Newton’s Laws of Motion and rocket aerodynamics:

- https://www.capnhq.gov/CAP.LMS.Web/Quiz/quiz_start.aspx?qid=347

Demonstrate an understanding of the safety code:

- <https://www.nar.org>

Saturn Phase

Build and safely launch **ONE** of the following model rockets:

- Skill Level 2 (Advanced) or higher two-stage model rocket that reaches 500’
- Skill Level 2 (Advanced) or higher model rocket capable of carrying a 2oz payload that reaches 300’
- Skill Level 2 (Advanced) or higher model rocket that has a separate glider attachment

Written exam on altitude determination, propulsion, and the rocket safety code:

- https://www.capnhq.gov/CAP.LMS.Web/Quiz/quiz_start.aspx?qid=348

Demonstrate an understanding of the safety code:

- <https://www.nar.org>

All of these activities can be done at home! Make sure to have someone take pictures of your construction work of each project to share with your aerospace education officer. When you launch your rockets, follow the safety code and make sure a parent is with you. Take video of each launch. The pictures and video will be used by the squadron testing officer for validation and the official witness log.

To “demonstrate a working knowledge of the safety code,” you have a couple options to achieve this from home. You can take a video of yourself reading the NAR Safety Code out loud and posting the video. Alternatively, you can hand-write the safety code and post a picture of your hand-written copy. Either will count, but make sure to follow the safety code as you launch your rockets! If you have any questions, reach out to a senior member in your squadron and Aim High!



See the [Rocketry Program video guide](#) for info on all aspects of the CAP Rocketry Program.