

Washington Co. 4-H Rocketry

<http://www.4hrocketry.org>



Choosing a Rocket

All commercial model rocket kits carry a designated skill level. Skill levels that manufacturers assign to models are based only on the difficulty of the rocket. When you choose a model you should also consider the age of the rocketeer - an older 4-H'er that is new to rocketry should be able to start out at a slightly higher skill level than a younger member.

We have listed suggestions for various skill levels. These are just suggestions; there are many, many choices from a variety of suppliers. Just keep in mind our "Do's and Don'ts":

Do's

- Choose a rocket with balsa fins (laser or die-cut fins are OK).
- Choose a rocket suitable to your skill level. Harder rockets not only take skill, but much more patience. Don't overreach on skill level just because you want to build a 'cool' rocket. It can get very frustrating and you will become discouraged.
- Build more than one! You can take more than one rocket to the County Fair. Start with an easier one and work your way up.

Don'ts

- Don't choose a "Ready-to-Fly", "E2X", or "Quick Kit" rocket.
- Avoid rockets with plastic fins or pre-assembled fins ("fin cans").
- Avoid rockets based on jet airplanes (F-15, SR-71, etc.). We have found these to be difficult to build and very unpredictable when flying.

Skill Level 1: Beginner

Skill level 1 model rocket kits are a perfect first choice for modelers just beginning the hobby of model rocketry.

Skill Level 2: Intermediate

Skill level 2 models are designed to use the skills learned with skill level 1 models while teaching new skills on more complex rockets.

Skill Level 3: Advanced

Skill level 3 model rocket kits extend the modelers skills with more complex designs, requiring more time and patience to complete. Models in this category may include clusters, multi-stages, scale, boost gliders and rocket gliders as well as helicopter recovery models.

Skill Level 4: Expert

Skill level 4 model rocket kits allow the modeler to explore all of the skills he or she has learned and apply them to the most complex models. These models require great patience and attention to detail, often requiring the modeler to fabricate their own parts from the provided materials.

Skill Level 5: Master

Beyond skill level 4, the rocketeer is expected to design their own rockets. Rocket design software such as RockSim or SpaceCad is used to ensure the rocket will be stable and fly safely. The software can also be used to predict altitude based on different motors.

Note: There is no direct relationship between model rocket skill levels and the 4-H project designations (Aerospace 2, 3, or 4), although they have similar intent.

Washington Co. 4-H Rocketry

<http://www.4hrocketry.org>

First Year Rocketeers (or 9 and 10 year olds)

If you have never built a rocket before, look for a Skill Level 1 rocket from Estes or Quest.

Suggestions:

Estes Alpha
Estes Wizard
Estes Yankee
Quest Full Moon

First and Second Year Rocketeers (9 - 12 year olds)

If you've already built a rocket or two, consider a bigger Skill Level 1 rocket or easier Skill Level 2 such as:

Quest Big Betty
Quest Astra I
Estes Big Bertha
Estes StormCaster

Third and Fourth Year Rocketeers (12 - 14 year olds)

You should choose a more challenging rocket, either a Skill Level 2 or easier Skill Level 3.

There are dozens of suitable kits. Some of the more popular:

Estes Bull Pup	Fliis HERC-5
Estes Guardian	Fliis Long Overdue
Estes Scissor Wing Transport	Fliis D-Nelson Tomahawk
Quest Spin Fin	Fliis Borealis
Quest Terrier-Orion	Fliis US TOG

Fifth Year and Beyond (14++)

You should pick out a challenging Skill Level 3 or 4. Look for multi-stage or clustered motor rockets, gliders, etc. Once you have mastered these skills, you can look at either very advanced kits (piston ejection, fiberglass fins, rail launch, F & G motors, etc.) or build a rocket of your own design. Youth should contact Pat or Doug for more advice if you feel you fit into this category.

Local Model Rocket Kit Dealers

- John's Hobbies, Main St., Hartford (4-H discount available)
- Hobby Lobby, West Bend
- Hobbytown USA, Germantown
- Greenfield News & Hobby, 68th and Layton, Milwaukee (long drive but a large selection)

Rocket Supplier Websites

<http://www.fliskits.com>

<http://www.estesrockets.com>

<http://www.questaerospace.com>

<http://www.semroc.com>

There are many smaller model rocket kit manufacturers as well that can be found through simple Internet searches.

Most of the "antique" kits from years gone by that are no longer being manufactured can be found on eBay. Although you pay a premium, many of the kits from the 70s and 80s have unique features and can be a lot of fun to build and fly.