



The Hobby Shop: Rocket Module

Inquiry With Rockets

*Note to teachers: The following are suggestions for student use of the rocket-building activity at The Hobby Shop On-line, accompanied by some thoughts about assessment. The Hobby Shop can be found through the [Knowitall.org](http://www.knowitall.org) educational Web portal at <http://www.knowitall.org/>.

Experimenting methods could be taught using the rocket module. For instance, students could find which engine will make the rocket go the highest by keeping the fins and nose cone constant as they change their engine. Students should be able to explain *constants* and the *variable* in this situation. Make sure the students understand the significance of having only one *variable* at a time. Follow the same procedures for finding the fins and nose cone that will make the rocket go the highest.

Students could be led through these experimenting exercises or this activity could be developed into an inquiry-based lesson. To make it an inquiry-based lesson, tell the students only to find the rocket that will go the highest. Students could find the rocket that goes the highest within only one of the colored rockets, or to make it harder, they could use all four types of rockets. Students will check and guess for a while and then probably think of a better way to test once the guessing and checking becomes very tedious and confusing. Students will most likely “discover” changing one item and keeping the others constant. Once students find out which rocket goes the highest, have them write a report telling about the process of testing or discuss the processes as a class. During the class discussion or after the reports have been turned in; be sure to discuss the terms *variable* and *constant*.

Students could be assessed on finding the rocket that goes the highest or on how hard they worked. They could also be assessed on finding the rocket that goes the highest and then complete one of the worksheets in the teacher resources. The first time you do a project like this, it might be best to do an informal assessment or give extra credit for “correct” procedures, instead of having a formal assessment on the experimenting procedures.