Solid Fuel Rockets

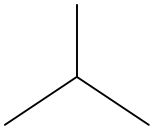
Student Handout #2– Important Information

Centre of Gravity

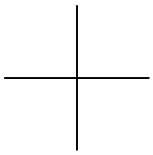
- Determine what 1/8 the length of your rocket is
- The centre of gravity should be at least this distance from your fins
- Find the centre of gravity on your rocket by balancing it on a knife or finger.

Fins

- Use at least 3 fins
- More than 4 makes it difficult to keep it stable
- Number of Fins
  - TRIFORM – three - 120 degrees



  - CRUCIFORM – four - 90 degrees



- Do **NOT** put any fins ahead of the centre of gravity
- Put the fins on as far back as possible
- Fins should be at least this big
  - Length should be at least 2 times the diameter
  - Width should be at least 1.5 times the diameter
- Please use the fin template page when considering your fin shape

Body

- Use a long body to make it more stable (for beginners)
- The length of the body should be about 10 times the diameter

Swing test

- Tie a string or rope around the centre of gravity on your rocket
- The model should balance at a 90 degree angle with the string if you have found the centre of gravity
- With the rocket suspended at its center of gravity, swing it overhead in a circular path
- If the rocket is very stable, it will point forward into the wind created by its own motion. Some rockets which are stable will not point forward of their own