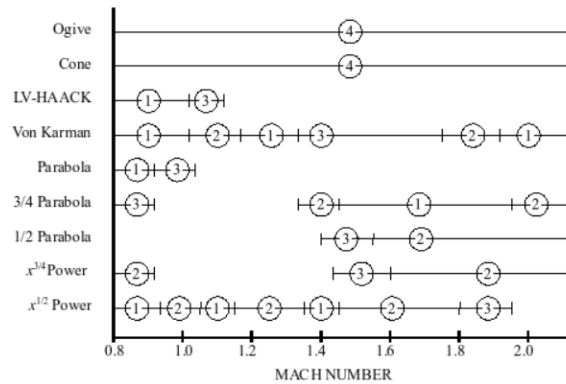


## General Guidelines for Level 1

- **Nose Cone** shapes can be viewed here: [https://en.wikipedia.org/wiki/Nose\\_cone\\_design](https://en.wikipedia.org/wiki/Nose_cone_design)
  - The following chart details the best nose cone type vs. Mach number



- For our purposes, please use either an Ogive, conical, parabolic, or ellipsoidal nose shape
- If your rocket is going over Mach 1, reduce the speed as much as possible. Aim for less than 0.8 Mach
  - This can be viewed in the simulation tab under velocity. Type the velocity into google and convert to Mach value
- **Couplers** should be twice the length of your body tube diameter i.e. 2.6" diameter tube equates to a minimum 5.2" long coupler
  - Coupler outer diameter (OD) should be the same as the body tubes inner diameter (ID)
- **Fins** should not be extremely tall
  - Tall fins can rip off much easier which causes loss of stability
  - The following chart outlines fairly standardized shapes to aim for when designed your fins

