

## Pre-launch Activities in the Classroom

1. Divide the students into their groups.

*Generally, there are 2 Flight Engineers and 2 Mission Specialists in each group. The students should know what role they chose when we built the rockets.*

2. Go over the **Launch Site Safety Procedures** so the students will know what to do when they get to the field.

*Answers to most asked questions - Mrs Mitchell or each home room teacher decides the order of launching the rockets, and Mr. Phillips launches the rockets.*

3. Give the Mission Specialists in each group 1 raw quail egg, and have them pack the quail egg in the payload tube. The students will know how to pack their quail egg.

- *The egg is fragile, but we have never had one break in the classroom. There are extras, if needed.*
- *The Mission Specialists should use **only** the packing material inside the payload tube to pack the raw quail egg in the payload tube. **Please don't add or subtract any packing material!***

4. After the egg is safely tucked inside the payload tube, demonstrate how to insert the **parachute wadding** into the rocket's body tube. (*demonstration*) Then, have a Flight Engineer in each group insert the three sheets of parachute wadding into the rocket's body tube.
5. After the parachute wadding has been inserted into the rocket, demonstrate **folding the parachute** to the class. (*demonstration*) Then have a Flight Engineer in each group fold the parachute. Folding the rocket parachute video - <https://www.hopirockets.com/gallery/video/479>
6. Someone from each group should be in charge of carrying the rocket to the field on the bus.
7. Please arrange for a parent volunteer to be at the launch to measure the altitude of the rocket. Training will be provided at the launch site on launch day.
8. Please bring two copies of the list with the launch order for the rockets. One copy is for me, and one is for the parent volunteer who will be measuring the altitude of the rocket.

## Launch Site Safety Procedures

The Launch Field consists of a table, the launch pad on one side of the table, a Downrange Observer who measures the altitude of the rocket, and a lot of open space.

- All students need to stand behind the table on the side opposite the launch pad.
- No running/walking between the table and the launch pad.
  - There are wires connecting the launch pad to the launch controller on the table, and if someone trips on these wires, it may destroy the launch pad or launch controller, and then we cannot launch the rockets.*
- As each group is called, the Flight Engineers bring the rocket to Mr Phillips and the Mission Specialists run across the field to the Downrange Observer.
- Once the countdown starts, freeze in place and all eyes on the rocket. Do not move during the entire flight of the rocket until it lands.
  - If it appears the rocket will land near you as it descends on its parachute, just take 2 steps away from where you are standing and watch the rocket land.
- Only the Mission Specialists and Flight Engineers recover the rocket **after** it lands.
- Take the rocket Mrs Ruderman to inspect the egg.
- Return to the rest of the students behind the table.
- *If there is a misfire (e.g. the engine does not ignite), everyone should stay behind the table while Mr Phillips inspects the rocket and launch equipment.*

### Launch Site Plan

