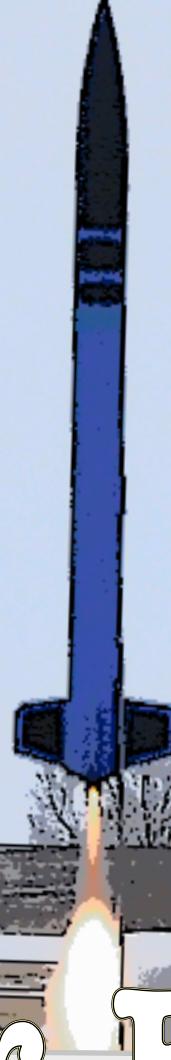


# Preparing a Rocket



Before a rocket can be launched it must be prepared by installing a **rocket motor (engine)**, some **recovery wadding** and an **ignitor**.

## for Flight

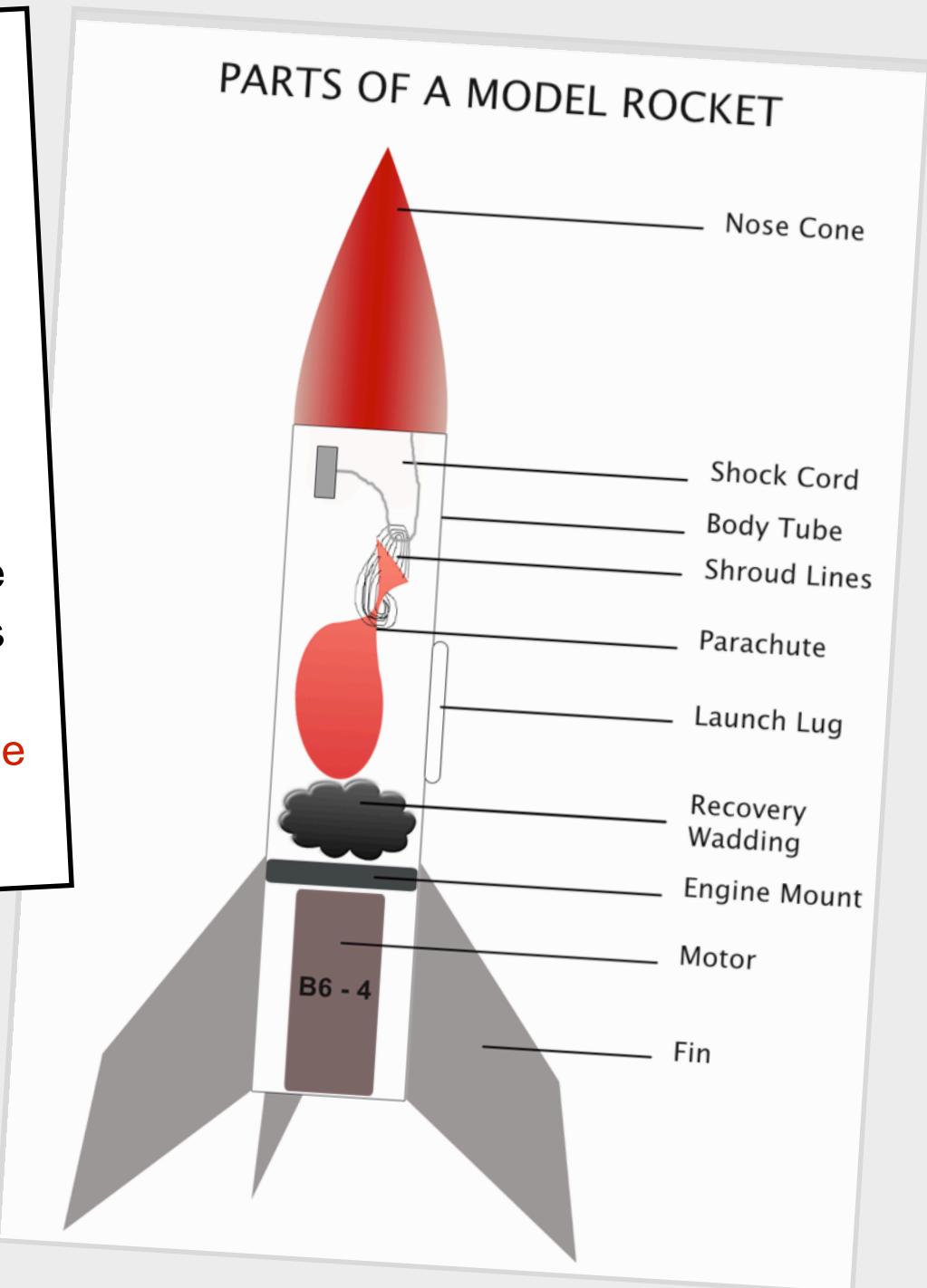
**SEE OUR VIDEO -  
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[www.sigmarockets.com/launching-a-rocket](http://www.sigmarockets.com/launching-a-rocket)



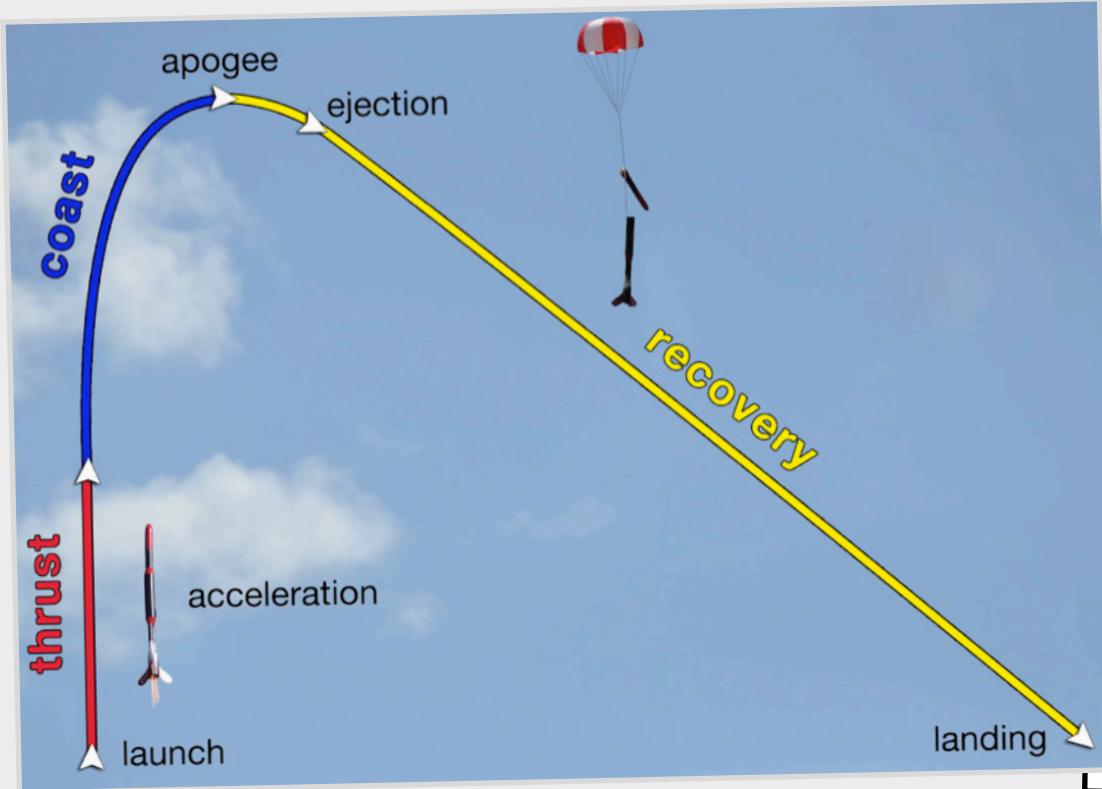
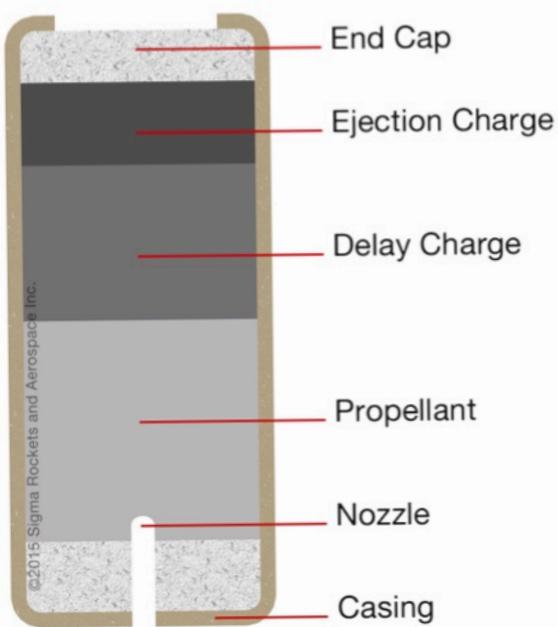
# Parts of a Model Rocket

The parts of a model rocket are shown on the right. Note the **recovery wadding**. It is used to protect the **recovery device** (parachute or streamer) from the hot ejection gases that are used to push the **nose cone** out of the rocket.



# Flight of a Model Rocket

## ANATOMY of a basic **MODEL** **ROCKET** **ENGINE**



The rocket engine is lit with an electric match inserted through the nozzle. The propellant is the first to burn and it provides thrust for the rocket. A delay charge with no thrust follows and provides the coast phase of the flight. The ejection charge pushes the nose cone and recovery device out of the rocket for the recovery phase of the flight.

# Types of Wadding



This type of wadding is made by Estes Industries and is the most popular.



Cellulose fibre insulation may be used as recovery wadding. It is made from 100% recycled newspaper fibres which have been treated to make it fire retardant. It is non-toxic and non-irritant and makes for an eco-friendly choice.

# Installing Estes Wadding

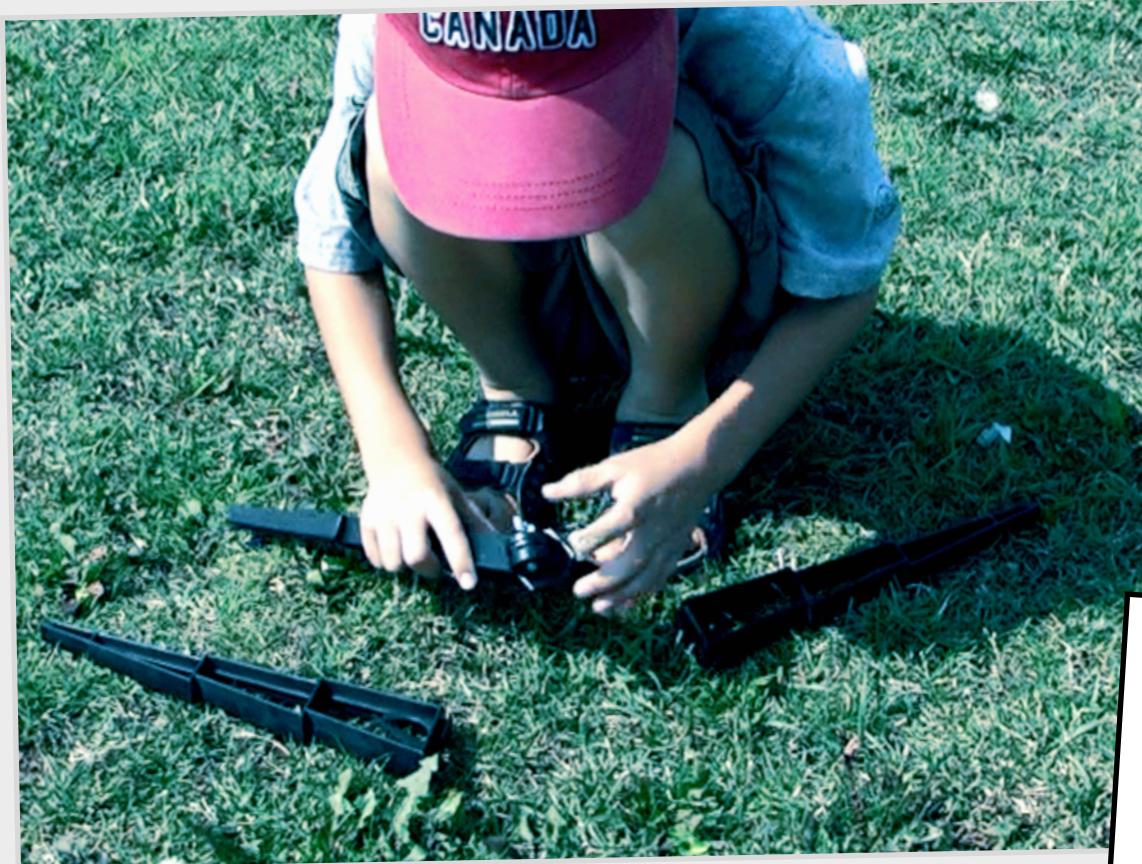


Estes Wadding is broken up in series of small sheets. It is installed into the body tube before the streamer or parachute.

The number of sheets is dependent on the diameter of the rocket tube.

Body Tube Diameter	Number of Sheets
19 mm (0.74 in)	2-3
25 mm (0.98 in)	3-4
34 mm (1.33 in)	5-6
41 mm (1.63 in)	7-8
66 mm (2.60 in)	10-11

# Assembling the Launch Pad



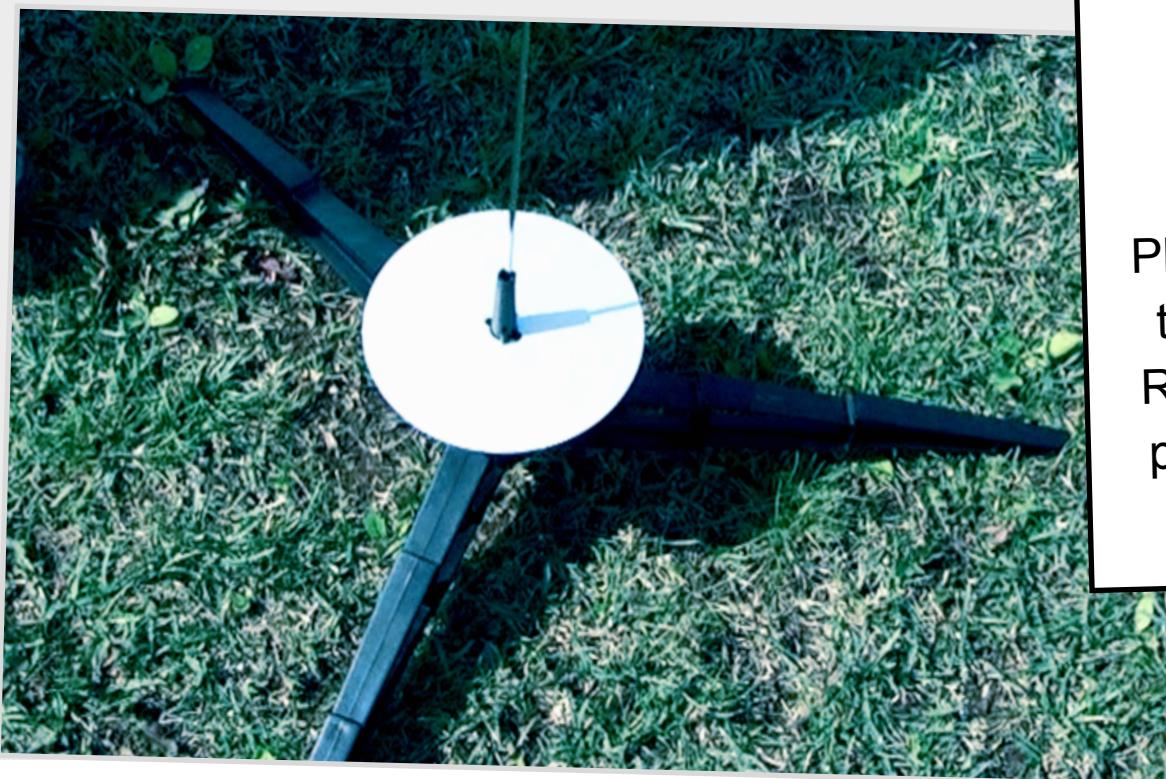
Slide each  
leg into the  
base of the  
Launch Pad.



# Assembling the Launch Pad



Insert the  
Launch Rod  
into the  
base and  
tighten.



Slide the  
Blast  
Deflector  
Plate through  
the Launch  
Rod and into  
place above  
the base.

# Launching the Rocket



Slide the Rocket down  
the Launch Rod through  
the Launch Lug.



Connect  
the Launch  
Controller  
clips to the  
Ignitor.



Stand back as far as  
the cord of the Launch  
controller will let you.

Hold down the Safety  
Key before pressing the  
Ignition button.



**WE HAVE  
LIFT-OFF!**