

SPACE ROCKET - LEVEL 1

Now you're going to build a space rocket using geometric shapes. Start by cutting out the geometric shapes you need to construct your rocket, and then assemble them step-by-step to make geometric solids!

STEP 1 – CUT OUT THE SHAPES YOU NEED!

Cut along the **solid black lines** on all the shapes. You can find all the shapes to cut out on the last two pages of this document.

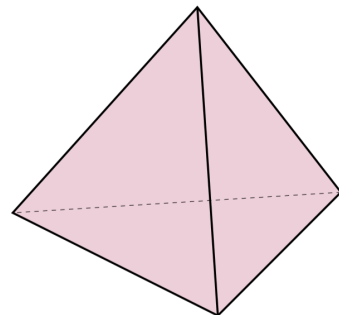
When you have finished cutting them out, you should have the following shapes in front of you:

1. Four pink equilateral triangles
2. One yellow rectangle
3. Four green squares

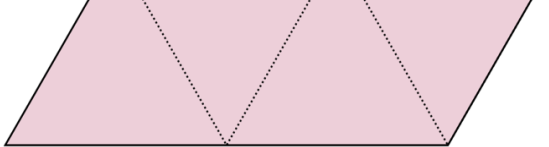
STEP 2 – BUILD YOUR SPACE ROCKET!

The nose of your rocket:

The nose of your rocket will be the geometric solid called a **tetrahedron**. Build your tetrahedron using the four pink equilateral triangles. A tetrahedron looks like this:



Build it by following these instructions:

- Place all four triangles next to each other so they form a **rhombus**. A rhombus looks like this:
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- Stick some tape where the sides of the triangles meet, making sure the tape covers their entire length and all the triangles are stuck together. Then fold the triangles where the tape is, to make a three-dimensional solid.
 - Tape the pieces together where they join up.

Did you know?

Astronauts sit in the nose of the rocket when they travel into space. Perhaps you have seen a space rocket and know that they are long and thin. This is because they need lots of fuel to get into space, and all the fuel is kept in the long and narrow body of the rocket. Now it's time build the **cylinder** that will be the long part of the rocket, where all the fuel is.



Now you are going to build a **cylinder**. This will be the long part of the rocket, where all the fuel is.

The body of your rocket:

The space rocket's body will be the geometric cylinder. You build your cylinder from the yellow rectangle. A cylinder looks like this:

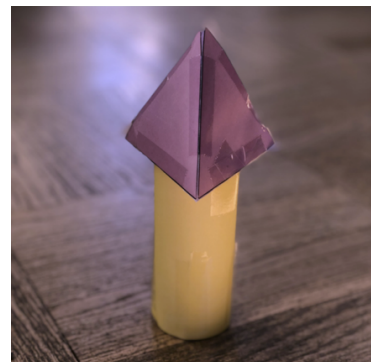


Build it by following these instructions:

- Take the rectangle you cut out.
- Place the short sides of the rectangle next to each other. Then tape them together to make a cylinder.

Put the nose and the body of the rocket together:

You have made a tetrahedron and a cylinder, so now it's time to **put them together**. Put the tetrahedron on one end of the cylinder. Try to get it as centred on the cylinder as you can. Then tape the cylinder and the tetrahedron together. It should look like this when you have finished:



Now it's starting to look like a rocket! The last thing you need for your rocket's construction is the four fins at the bottom of the rocket.

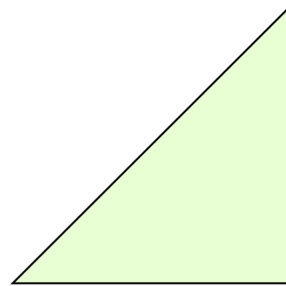
Did you know?

Some rockets have fins at the bottom. These fins can help steer the rocket and make it more stable. You need four fins in total, and they will be made from triangles that you make from four squares.



Build the rocket's fins

The rocket's fins will be the geometric shape called a right-angled triangle. You build the fins using the green squares. A fin looks like this:

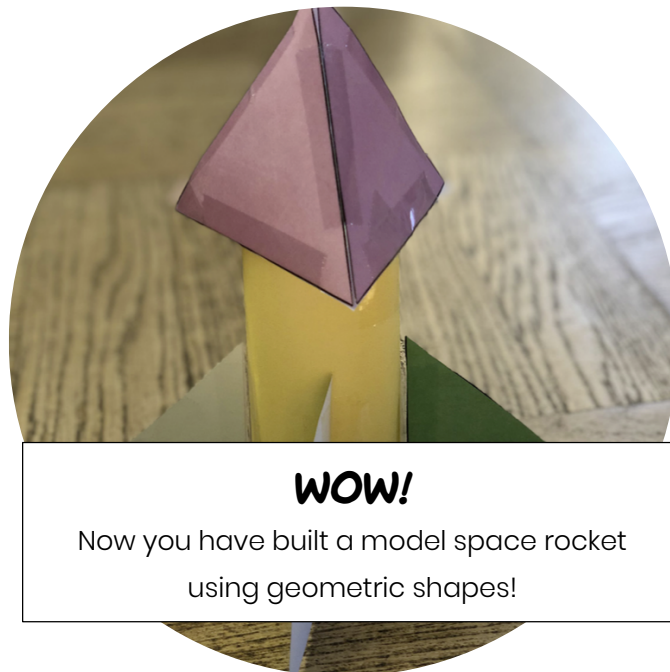
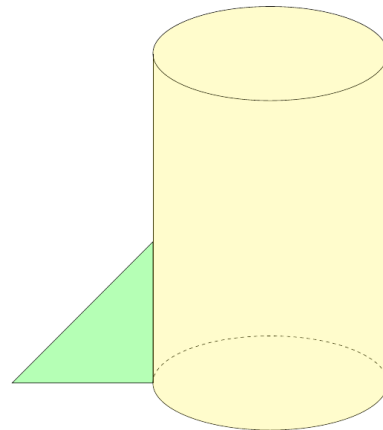
**Build your fins by:**

- Folding the green squares along the dotted line so you can see the green colour on both sides.
- Taping the edges so the fin stays together, and you have a green triangle.

Mount the fins on the space rocket:

The last thing you need to do is to put all the pieces together by taping on the fins.

- Place the **triangle** so the **right angle** is at the bottom of the rocket, like this:
- Then put a piece of tape on each side of the triangle.
- Do the same thing for all four fins.
- Try to make sure that the distance between each fin is about the same.

**WOW!**

Now you have built a model space rocket using geometric shapes!



PICTURES TO CUT OUT

