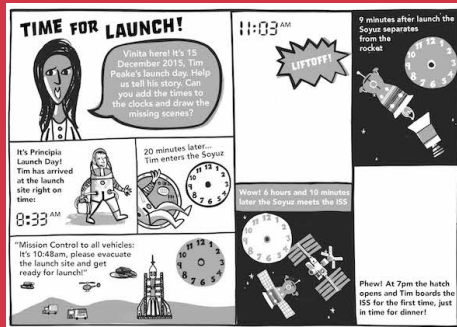


EXTENSION ACTIVITY 1.1 BUILD YOUR OWN SOYUZ

Supporting Chapter One of the
Principia Space Diary
[http://principiaspacediary.org/
activities/time-for-launch](http://principiaspacediary.org/activities/time-for-launch)

LEARNING LEVEL

Can be adapted for all primary levels



Resources Required

- Balloons (various sizes and colours)
- String
- Sellotape
- Straws
- Coloured pens

Background to this Activity

The Soyuz is a Russian spacecraft. It carries astronauts and supplies to and from the International Space Station. It can carry three people at a time, plus food and water supplies.

The Soyuz has two parts: the capsule and the rocket. Astronauts travel safely in the capsule, while the rocket is what launches the capsule from Earth into space.

In this activity, students can build their own Soyuz rocket. This can be done in a number of ways.

KS1: Balloon rockets

Lower KS2: Make your own Soyuz from a pattern

Upper KS2: Design and make your own rocket from an image.

Learning Objective

To create your own rocket.

KS1: Balloon Rockets

Make and race balloon rockets across your classroom with this easy to run practical.

Running the Activity

- Give each student a balloon.
- Ask them to draw some windows on it, or decorate the balloon. This should be done before blowing up.
- Run a piece of string through half a drinking straw.

- Tie this across your classroom. This is your balloon race track.
- Blow up the balloons, do not tie them. Hold the end and sellotape onto the straw.
- Let go and watch it shoot across the room.

Extension Ideas

- Set up more than one track and race the balloons.
- Add nose cones – does this increase or decrease the speed?
- Time them – which shape of balloon is fastest? Why do you think this?

Lower KS2: Make your own Soyuz

Download your Soyuz template from the Principia activity pack here: [principia.org.uk/wp-content/
uploads/2015/11/Activity-Pack1.pdf](http://principia.org.uk/wp-content/uploads/2015/11/Activity-Pack1.pdf)

Upper KS2: Design and build your own rocket

Give your students a photograph of a Soyuz rocket and a range of materials. They can use the image to decide on materials for each part of the Soyuz – either the capsule or the rocket. They will need a range of coloured cards, tin foil, bubble wrap, cardboard. You could even make rockets out of clay!

Extension Ideas

- Use a 2L drink bottles as your base and fire them into space using a rocket launcher or bicycle pump.