

EXTENSION ACTIVITY 3.1 BUILD YOUR OWN ISS

Supporting Chapter Three of the
Principia Space Diary
[http://principiaspacediary.org/
activities/your-new-home](http://principiaspacediary.org/activities/your-new-home)

LEARNING LEVEL

Can be adapted for all primary levels

Resources Required

- Images of the ISS as references
- Craft and modelling materials
- Scissors
- Glue and sticky tape

Background to this Activity

Build your own ISS. This can be done in a number of ways to allow all ages to access.

KS1: 'Build challenges' in groups; ask each group to make a different part of the ISS.

Lower KS2: Make your ISS following a method in groups.

Upper KS2: Design and build a compartment of the ISS in a shoebox – to be added to class model of the ISS.

Learning Objective

To build a model of the International Space Station.

Running the Activity

This activity can be done using junk modelling. Ask your class to bring in old boxes, tubes and materials in preparation for this activity. Some top tips for making your own ISS are listed below:

Modules: Service modules, laboratories, nodes, storage modules, etc. For the modules you can use the empty cans or the crisp tubes. To connect two cans together glue half a toilet roll in between. This makes it look as though the different modules are connected by a corridor. Use paper and coloured felt-tip pens to decorate each of your modules and give them a name matching their use: service module? scientific laboratory? node?

Solar panels: Solar panels are very big, flat and long so they can catch a lot of light from the sun. Use 15 cm

of the aluminium foil and cut it into strips of 5 cm wide. Put two sticks inside with 1 cm in between and fold the aluminium round the sticks. To attach the solar panels, put a stick through the panel and the toilet roll.

Radiators: Cut two strips of white paper of 1.25 cm wide and 12.5 cm long. Fold the strips in half over the top of the stick and secure the ends with tape. The radiators should point downward.

To let the station float in space: When you have fixed all the modules together, tie the string around the module in the middle so both ends are in balance and hang it up in the classroom. Now you can let your station float freely.

Extension Ideas: Shoebox Modules

Give each pupil a shoebox or cereal box (various sizes have a lovely end effect) and ask them to design a different module, perhaps a module for exercise, a module for observation, a module for cooking, for washing, or for growing plants.

Using a range of resources students can create a mini-module using matchsticks and modelling clay to create their own astronauts. At the end, they can join them together in the ISS shape using old kitchen and toilet rolls.

Useful Links:

A narrated tour of the ISS, including 3D animation of the outside of the ISS: [www.esa.int/spaceinvideos/
Videos/2016/05/Narrated_tour_of_the
International_Space_Station](http://www.esa.int/spaceinvideos/Videos/2016/05/Narrated_tour_of_the_International_Space_Station)

Photo of the ISS: [www.nasa.gov/sites/default/files/
thumbnails/image/final_configuration_of_iss.jpg](http://www.nasa.gov/sites/default/files/thumbnails/image/final_configuration_of_iss.jpg)

