

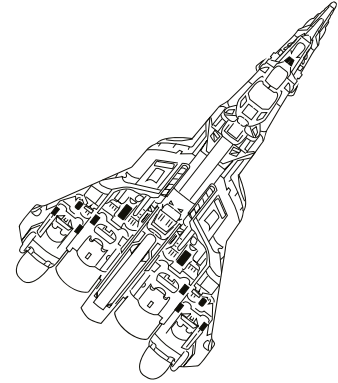
# SPACECRAFT DOCKING

When Space Rangers or astronauts are travelling to another spacecraft they face a crucial challenge on arrival: docking. The two spacecrafts must align perfectly to ensure the hatches can be opened with no dangerous air leaks. Normally the whole process is managed by a computer, but if something goes wrong, the crew takes over and performs the docking manually. They need a steady hand and good eye for distances to get there as smoothly as possible while still moving at speed: for example, when a Soyuz docks on the International Space Station, both crafts are travelling at about 17,000 miles, or 28,000km an hour.

## The Docking challenge

### You will need:

- A toy (maybe space themed?) on a keychain
- One long string for each participant (we recommend 2 to 4)
- A carabiner clip for each participant (optional)
- A bucket



### What to do

Each participant needs to tie one end of their string to a carabiner clip, and one end around their waist.

The carabiners should all then be clipped to the keyring attached to the toy (if you don't have any carabiner clips, you can tie each string to the keyring).

Now all the participants need to work together to manoeuvre the "spacecraft" (the toy on the keyring) into the bucket – without knocking it over! And without using their hands!

### Hints and tips

Try starting with the strings held taught. Think about moving up and down by bending your knees. Most importantly, consider how you need to co-ordinate your movements together – and make sure you communicate!

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This resource was created by Life Science Centre with support from ASDC as part of Project Lightyear: Disney and Pixar have teamed up with ASDC to engage people with exciting science topics inspired by the film *Lightyear*.



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