



Pre-visit activities for 7- 11 year olds

Prior to your visit for your Destination Space workshop you may wish to do some of these activities with your pupils. None of these are compulsory but doing some or all of them will help to give your pupils the necessary background information to get more out of the workshop. Some of the activities are only applicable to certain parts of the workshop. Please speak to your presenter in advance to find out which parts you will be doing.

Find out about the ISS

Information about the ISS can be found here:

http://www.nasa.gov/mission_pages/station/main/index.html

Find out about Tm Peake

A message from Tim Peake: <http://www.nationalstemcentre.org.uk/elibrary/resource/10630/tim-peake>

Biography: http://www.esa.int/Our_Activities/Human_Spaceflight/Astronauts/Timothy_Peake

Pressure

One of the activities in the workshop is about pressure. It talks about what happens in space when you are exposed to zero pressure. Please speak to your presenter in advance to find out if you will be doing this activity.

Pressure is a force acting over an area of a surface. If you take a sponge and exert a force on it with your hand it becomes smaller. The more force you apply the smaller the sponge becomes.

We have air pressure acting on us all in the same way. While you may not think the air weighs anything, in fact, each square metre of the ground has 10 tonnes of air above it. That means you have approximately one tonne on your head! The reason you don't get squashed is because the pressure of the fluids (liquids and gases) in your body are pushing back just as hard.

The experiment with the sponge shows that as pressure increases things get smaller, so if you decrease pressure what do you think will happen? Things will get bigger of course.

In reality we don't blow up like a balloon if we are depressurised, but fluid will start to come out of us wherever it can as it expands.



Dissolving

One of the activities in the workshop is about filtering water. It talks about what we need to do to filter various things out of water. Please speak to your presenter in advance to find out if you will be doing this activity.

To fully understand this activity pupils will need to understand what dissolving is and that some things will dissolve while others won't.

Pupils should investigate which substances dissolve in water and which don't. Substances you might try are sugar, salt, sand, soil and oil.

For sugar and salt students could investigate how much of these substances dissolve so that they can find out that only a limited amount will dissolve. They should find that the other things don't dissolve.