

NOTICEBOARD

Mission X: Train like an astronaut

registration is now OPEN!

This is a free educational programme developed by space scientists and fitness professionals working with astronauts and space agencies across the world. It is an excellent scheme that ignites children's imaginations and links science, PE, PHSE and art.

Check out this link to register your school and access the free resources on offer:

www.stem.org.uk/missionx



Nature grants

Grants are available from *Learning Through Landscapes* through their Local Schools Nature Grant, which allows schools to apply for packages of both products to the value of £500 and training. This can be a great support in utilising any outdoor space your school may have. Click here to find out more:

www.ltl.org.uk/nature-grant



1001 Inventions



1001 Inventions celebrates Muslim contributions to science and their website provides lots of free-to-access resources for teachers, including videos, lesson/activity ideas, posters, and so on. Last year, they funded a number of schools in north-west England to

hold science fairs based on these resources.

This year, the project is spreading UK-wide and, while there will not be grants, a limited number of resource packs of posters, books, and so on, will be available to schools that register to hold an event. For further details go to:

www.1001inventions.com/UK-SchoolFair2020



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Science Swap Shop

In this issue's *Science Swap Shop* pull-out, Tom Pringle explores activities that turn 'wow into how' and provoke moments of genuine discovery united by the common theme of forces and motion. Each demonstration also links to environmental themes

by reusing disposable plastics to promote 'rubbish as a resource'.

Conceptual development of forces and movement

During early years, children see and feel how things move around them. When something moves, or its shape changes, forces are involved. Children talk about *pushing* or *pulling* forces.

Children can then become 'force detectors', spotting examples of simple forces like pushing and pulling and then moving onto complex forces involved in actions like bending, stretching, twisting, squashing, kicking and throwing. Extending this, children could spot speeding up (*accelerating*) or slowing down (*decelerating*) forces, like when throwing or catching a ball. Changes of direction, like dodging someone in a chasing game, also involve forces.

Progressing from here, learners develop more subtle understanding of forces of *resistance*, like *friction* and *air resistance*. For example, when they rub their hands together friction forces resist their hands moving back and forth. Varying how quickly they rub their hands or the material they rub or the area of contact can all change the resistance force. Similar descriptions can be built around objects rubbing against the air as they move. This 'air resistance' slows them down. Exploring aeroplanes, kites, racing cyclists, parachutes and so on, helps children build a kinaesthetic understanding of these concepts. They can also investigate ways to make things move faster (e.g. streamlining in racing cars) or slower (e.g. parachutes).