

View of Earth



Location

First floor, Space gallery exhibition

In a nutshell

See the view of our planet as seen from the International Space Station (ISS)

What to do

The view is set up to give a feel of looking out of the windows of the ISS. The complete video lasts approximately 5 minutes and shows the views during the day and night. The information board is useful for information about the relative distances above the Earth's surface of different objects and some of the forces experience by the ISS.

Time Required

KS3 & KS4 3 minutes per student.

What's happening?

The International Space Station circles the Earth at a height of 400 kilometres and travels at 8 metres per second. It's in low Earth orbit, not outer space.

The structure is still affected by the friction of the atmosphere and is slowly being pulled in towards Earth. A regular little bump from incoming spacecraft sets it back into orbit.

Curriculum links

| Curriculum links | |
|------------------|--|
| KS3 | <p>Science - Forces and motion</p> <ul style="list-style-type: none"> - forces being needed to cause objects to stop or start moving, or to change their speed or direction of motion (qualitative only) <p>English - Reading</p> <ul style="list-style-type: none"> - learning new vocabulary, relating it explicitly to known vocabulary and understanding it with the help of context and dictionaries <p>Mathematics - Number</p> <ul style="list-style-type: none"> - understand and use place value for decimals, measures and integers of any size |
| KS4 | <p>Science - Forces and their interactions</p> <ul style="list-style-type: none"> - recall examples of ways in which objects interact: by gravity, electrostatics, magnetism and by contact (including normal contact force and friction), and describe how such examples involve interactions between pairs of objects which produce a force on each object; represent such forces as vectors - describe examples of the forces acting on an isolated solid object or system; describe, using free body diagrams, examples where several forces lead to a resultant force on an object and the special case of balanced forces when the resultant force is zero (qualitative only) <p>Science - Forces and Motion</p> <ul style="list-style-type: none"> - explain with examples that motion in a circular orbit involves constant speed but changing velocity (qualitative only) <p>Science - Space Physics (single)</p> <ul style="list-style-type: none"> - explain for circular orbits how the force of gravity can lead to changing velocity of a planet but unchanged speed, and explain how, for a stable orbit, the radius must change if this speed changes (qualitative only) <p>English - Spoken</p> <ul style="list-style-type: none"> - listening to and building on the contributions of others, asking questions to clarify and inform, and challenging courteously when necessary - using Standard English when the context and audience require it |

Relates to:

| Workshops & Theme Days | Shows | Trails | Other exhibits |
|--|--|--------|--|
| <ul style="list-style-type: none"> • Destination space (KS3) • The Force of Attraction (KS3 & KS4) • Atoms to Astrophysics (KS3 & KS4) • Is there anybody out there? Theme day (KS3 & KS4) | <ul style="list-style-type: none"> • Exploring the galaxy (Planetarium, KS3) • We are Aliens! • (Planetarium, All ages) | | <ul style="list-style-type: none"> • Thermal challenge • Nothing matters |

