



SATELLITES FACTSHEET



SATELLITE INSTRUMENTATION

There are some fantastic scientific instruments within satellites. Here are some of the common ones, along with information on how much they weigh in kilograms (satellites have got to be designed to be lightweight).

HOW MUCH DO THESE INSTRUMENTS WEIGH IN KILOGRAMS?

A kilogram is the same as one bag of sugar you might buy from the supermarket!



RADAR

CAPTURES DATA ABOUT MATERIALS BENEATH THE SURFACE. 3KG.



HEAT SENSOR

MEASURES SURFACE TEMPERATURES ACROSS THE PLANET. 8KG



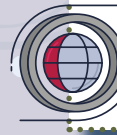
GRAVITY PROBE

MEASURES GRAVITY FIELDS ACROSS THE PLANET'S SURFACE. 12KG.



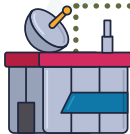
SOLAR WIND PARTICLE ANALYSER

MEASURES SOLAR WINDS AND INTERACTIONS WITH THE ATMOSPHERE. 8KG



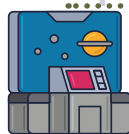
MAGNETOMETER

MAPS THE MAGNETIC FIELD OF A PLANET. 9KG.



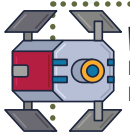
ORIENTATION DEVICE

GATHERS TRACKING DATA ON THE SATELLITE'S POSITION IN SPACE. 3KG



IMAGING SPECTROMETER

IDENTIFIES THE TYPE OF SURFACE BY ITS CHEMICAL COMPOSITION. 12KG.



LASER ALTIMETER

MAPS THE SURFACE FEATURES BY DETERMINING THEIR HEIGHT. 2KG.



COMMUNICATIONS ANTENNA

RECEIVES INSTRUCTIONS AND RETURNS DATA BACK TO EARTH. 4KG.



SOLAR CELLS

CONVERTS SUNLIGHT INTO ELECTRICITY TO POWER THE ELECTRONICS. 1KG.



CONTEXT CAMERA

CAPTURES WIDE-ANGLE IMAGES OF THE PLANET. 10KG.



HIGH-RESOLUTION CAMERA

CAPTURES CLOSE-UP IMAGES OF THE PLANET'S SURFACE. 25KG.

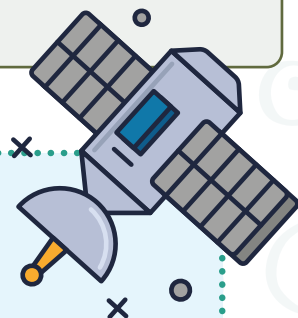


RECHARGEABLE BATTERY

PROVIDES POWER TO THE SATELLITE WHEN IT IS NOT IN SUNLIGHT. 6KG

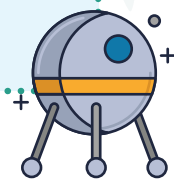


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SO, WHAT ARE THE BIG BENEFITS OF SATELLITES?

- ✓ Satellites are great for sending information from space to Earth enabling us to understand more about our planet and the solar system.
- ✓ Satellites will play a vital role in the future. Future satellites will focus on things including ocean data and the Earth's atmosphere. The expanding number of satellites will send massive amounts of data a day to lots of receiver stations spread around the Earth.
- ✓ More advanced satellites will provide us with better internet connection and communications.
- ✓ New satellite technologies revolutionise industries across communities and companies in countries all around the world. These jobs bring prosperity to people.



KEY TERMS USED WHEN DISCUSSING SATELLITES

ORIENTATION

positioning something relative to the points of a compass.

SPACE INDUSTRY

companies involved in the space economy, providing goods and services related to space.

SOLAR CELL

a device that converts sunlight into electricity.

ATMOSPHERE

envelope of gases surrounding the Earth or another planet.

SCIENTIFIC INSTRUMENT

any type of equipment or device for scientific purposes.

REVOLUTION

movement in a circular orbit around something.

