

LOCATING LUNAR LANDERS



10-13



OVERVIEW

This lesson goes into more detail about the specific Apollo missions that returned the Lunar samples in this kit. It also combines coordinate systems with high resolution Lunar Reconnaissance Orbiter images to challenge students to locate the lunar landing sites and hardware that was left behind on the surface of the Moon.

This lesson can be used both to introduce coordinate systems or as a reinforcement lesson since an explanation of how to find coordinates is given in the presentation.

CURRICULUM LINKS

Understanding coordinate systems.

Using map grid systems.

Giving coordinates for items on a set of axes.

WHAT YOU NEED

A11 PowerPoint

11.1 Locating Lunar landers worksheet

11.2 Returning to the Moon worksheet

Computer with Google Earth installed and connected to the internet

Google Moon activity guide

(Optional) A5 Space race PowerPoint

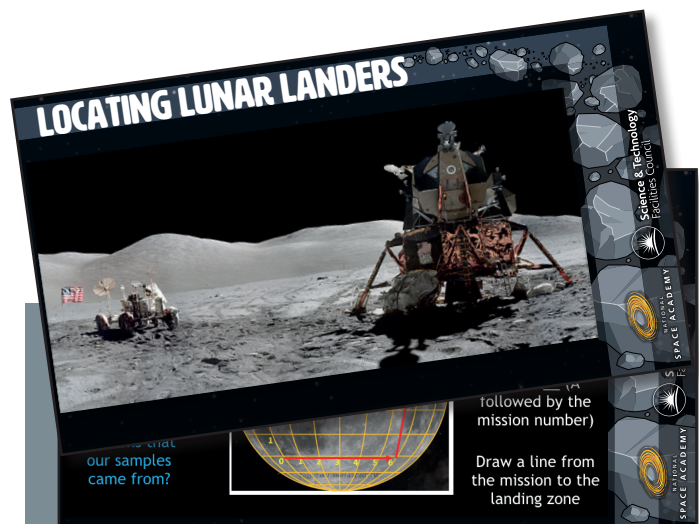


If you have not done Activity 5 with your students, you may wish to give this lesson some additional background by going through the space race PowerPoint presentation.

STARTER

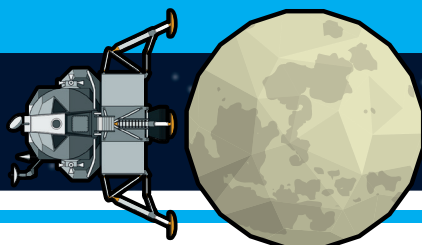
Explain to students that in this lesson they are going to use a combination of high resolution images taken of the surface of the Moon, and coordinate systems to locate the landing sites and left-over hardware from the four Apollo missions that brought back the samples in this kit (slides 1-10).

Then introduce the two activities the students will be doing (slides 11-13). If pupils are new to the idea of coordinates, you can also use these slides to show them how to read and locate coordinates.



A11 PowerPoint

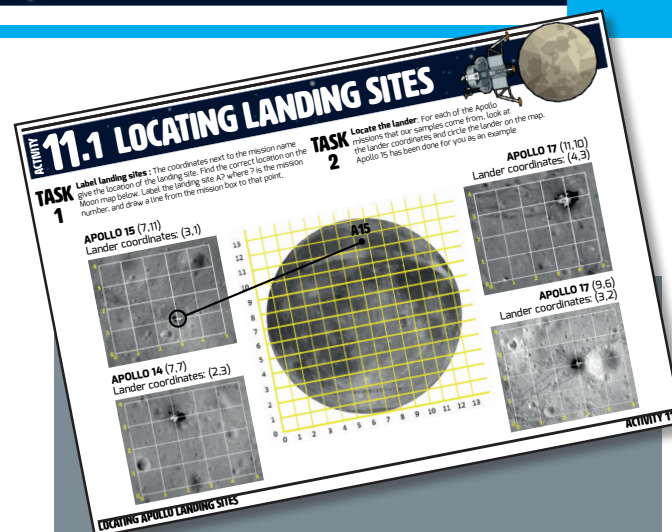
LOCATING LUNAR LANDERS



MAIN ACTIVITY 1

Students locate the Apollo landing sites and the hardware that was left behind for Apollo missions 14-17, following the guidance on the worksheets.

Students can complete this individually or in pairs.



11.1 Locating Lunar landing sites



MAIN ACTIVITY 2

Students locate and give the coordinates for the four pieces of hardware left behind Apollo 15.

If students finish early, ask them to think about what it would be like to drive the Lunar Roving Vehicle on the surface of the Moon.

What would happen as you drove over bumps in the lower gravity?

Would the risk of puncturing your suit in the event of a crash make you more careful?

What would they like to try if they were on the surface of the Moon within the limits of a space suit?

They could note these ideas on the back of their worksheet and feedback at the



11.2 Returning to the Moon

end of the lesson. Once activity 1 and 2 are complete, run through the answers using the PowerPoint (slides 14-16).

Get the pupils to mark each other's work and feedback to each other.



PLENARY

Using the Google Moon activity guide, explore the Apollo landing sites using Google Earth. While looking at the view from the landing sites, get students to think about what their first words on the Moon would be. Perhaps these could be written down on coloured speech bubbles and used as part of a display.

Emphasise the point that the four Apollo missions focused on in this lesson were the ones that brought back the samples in the loan box, and that they will get to look at the real life Lunar samples as well as other interesting rocks in the next lesson.