UK esero

MARS CHALLENGE

TEACHING RESOURCES FOR COMPUTING

COMPARING MARS ROVERS

KS2 LESSON 8 - PLAN

UK SPACE AGENCY

Life SCIENCE FOR ALL

STEM DISCOVERY CENTRE
In partnership with NORTH HERTFORDSHIRE COLLEGE

Edinburgh Children's Hospital Charity
child first, patient second.

Mi3

LEARNING OBJECTIVES

This session provides the opportunity to consider an infographic and establish what makes a good one. Pupils will then design their own infographic to allow the reader to compare Mars rovers.

Each activity identifies essential employability skills as recognised by the Skills Builder Framework. You can download the free Skills Builder toolkit from the STEM Learning website: **https://www.stem.org.uk/rxfum6**

Objectives

- Collect, analyse, evaluate and present data and information.
- Understand that infographics aim to communicate information using pictures and words.

Advance preparation

You will need:

copies of **Lesson 8 Handout 1**. One A4 or A3 copy for each pair of pupils. If you have a good display screen that all pupils can see clearly, you may display slide 4 on the screen rather than printing the handouts.

Introduction

20 mins

- **Slide 1**. We are going to look at ways of presenting information to enable us to compare Mars rovers. The three rovers on the photo are all NASA rovers: Sojourner (small one), Spirit and Opportunity (medium size), and Curiosity (largest).
- **Slide 2**. Share learning objectives. We are going to be analysing and evaluating the way some information about Mars rovers has been presented. We will also use this to collect some information. We will consider how easy or hard it is to understand information presented in this way. We will then try to come up with our own way to present information, so it is clear and easy to understand.
- **Slide 3**. **These are the questions we are going to answer when we look at the next slide.**
  - How many pieces of information can you find out from Lesson 8 Handout 1 (or the slide)?
  - How useful is the information?
  - How easy was it to find the information?
  - What made it easy or hard to find the information?
- **Slide 4**. This is the infographic to look at while answering the questions on the previous slide. After the pupils have been given about 5–10 minutes to consider these questions, share some answers with the whole class.
- A few thoughts on weaknesses of the way the information is presented:
  - Not clear if size of landing ellipse is a length, width or area.
  - Rover size is in cubic feet. Does this mean the volume of a box it would fit in?
  - Max power in watt hours/sol. I know a sol is a Martian day, but I do not understand what this means.
  - Number of science instruments – without knowing what they are, can I decide if more is better?
  - It leaves me asking more about Spirit and Opportunity – their curvy line splits after six wheels with no explanation why.
- Teacher or pupils to record some ideas on the whiteboard that can be used as evaluation tools when the pupils come to design their own infographic.

Main lesson

35 mins

- **Slide 5**. Here is a picture of Rosalind Franklin, the ESA Mars rover. The slide also includes a few facts.
- **Slide 6**. You are going to be creating your own infographic to allow Mars rovers to be easily compared. Think about the things that made it easy or hard that you discussed earlier. Think about what you know about presenting data in maths. This might give you some ideas about how to present the data you have been given. Using the information they have, pupils sketch out what their infographic might look like.
- Ideally, pupils will be given a follow-up lesson where they can use a single PowerPoint slide (or other appropriate software) to actually create their infographic. They may wish to create graphs in Excel to import or use images from the internet to incorporate.

Plenary

5 mins

- **Slide 7**. Pupils evaluate each other's designs using the evaluation criteria discussed earlier.

Cross-curricular links

Data-handling skills learned in maths lessons will be useful.

Support and Extension

Support – some pupils might need support interpreting the data on the infographic.