

Mission To Mars

Our **iCAN** mind map

THE BIG IDEA

One day, humans may need to leave the Earth and settle on another planet. Mars is our most likely destination – a world that we believe once harboured life and, with our intervention, may do so again in the future.

1. Why might humans need to move to Mars to live?
2. How could humans survive on Mars?
3. What would it be like to live on Mars?

iCAN
British
International
School

ipc
international
primary
curriculum

Science

As scientists at iCAN we will be investigating:

- The planets in our solar system
- Mass and weight, and the effects of gravity
- How to grow seeds and plants, and choose those that will be suitable for Mars
- How to identify a living organism
- Different energy sources
- How to choose the best energy source/s for our Mars shelter

Learning Goals

- 3.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around us
- 3.2 Be able to conduct scientific investigations
 - Posing scientific questions
 - Choosing an appropriate way to investigate a scientific issue
 - Using our scientific knowledge and understanding to predict the outcome
 - Relating the outcome to our original prediction
 - Making systematic and accurate measurements from our observations
 - Drawing conclusions based on the evidence
 - Explaining and justifying our predictions, investigations, findings and conclusions
 - Recording and communicating our findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions
 - Repeating investigations, observations and measurements to check their accuracy and validity
 - Identifying patterns in the results using scientific language to explain any differences found in the results of investigations
 - Suggesting ways in which their investigations and working methods could be improved
 - Relating our own investigations to wider scientific ideas
- 3.3 Be able to gather evidence from a variety of sources
- 3.4 Be able to discriminate between evidence and opinion
- 3.5 Understand the importance of using evidence to test scientific ideas
- 3.6 Understand some of the effects of what we learn on people's lives
- 3.9 Know that changes in the environment have effects on living things
- 3.11 Be able to recognise and name the major plants and animals in Cambodia
- 3.13 Be able to recognise and name the major plants and animals in our home country
- 3.14 Understand the relationship between living things and the environment in which they live
- 3.25 Know about the functions of the major parts of a plant
- 3.26 Know about factors that affect the growth of plants
- 3.27 Know about the function of roots in anchoring and feeding plants
- 3.30 Know about the conditions needed for germination
- 3.36 Know that matter is made up of particles
- 3.48 Know about the nature and effect of gravitational force
- 3.50 Be able to measure forces
- 3.59 Know about the relationship between the Earth and the rest of the solar system
- 3.65 Know about the major sources of energy
- 3.66 Know how energy sources occur
- 3.67 Know how energy sources are obtained
- 3.68 Know how energy sources are used
- 3.69 Know the basic principles of renewable and sustainable energy

Geography

As geographers at iCAN we will be learning:

- About the geographical features of Mars
- How we can prove that there was once water on Mars

Learning Goals

- 3.1 Know that the study of geography is concerned with places and environments
- 3.2 Know about the main physical and human features and environmental issues in particular localities
- 3.3 Know about similarities and differences between particular localities
- 3.13 Be able to use a variety of sources to gather geographical information
- 3.14 Be able to collect and record evidence to answer geographical questions
- 3.15 Be able to identify geographical patterns and to use our knowledge and understanding to explain them
- 3.16 Be able to use appropriate geographical vocabulary to describe and interpret our surroundings
- 3.18 Be able to use appropriate techniques to gather information
- 3.19 Be able to make plans and maps in a variety of scales using symbols and keys
- 3.20 Be able to use and interpret globes and maps in a variety of scales
- 3.22 Be able to explain how physical and human processes lead to similarities and differences between places
- 3.24 Be able to communicate our knowledge and understanding of geography in a variety of ways
- 3.25 Understand how localities are affected by natural features and processes

Physical Education

As athletes at iCAN we will be exploring:

- How to ensure we are fit and healthy for our space mission
- How to plan and test our own exercises suitable for space travel

Learning Goals

- 3.1 Know that the study of physical education is concerned with healthy lifestyles and performing a range of movement activities
- 3.4 Be able to perform with control, coordination, precision and consistency
- 3.5 Be able to plan our own performance
- 3.8 Be able to identify the features of a good performance
- 3.9 Be able to evaluate our own performance
- 3.10 Be able to refine and improve our performance based on our understanding of what is needed
- 3.11 Be able to apply the rules and conventions of a range of sports and activities
- 3.14 Understand how physical activity affects the body
- 3.16 Understand the importance of hygiene
- 3.17 Understand the importance of safety procedures

History

As historians at iCAN we will be investigating:

- What people in the past used to think about Mars
- The evidence to prove and disprove intelligent life on Mars

Learning Goals

- 3.1 Know that the study of history is concerned with the past in relation to the present
- 3.6 Know about the ideas, beliefs, attitudes and experiences of people in the past
- 3.10 Be able to find out about aspects of the past from a range of sources
- 3.11 Be able to describe and identify reasons for and results of historical events, situations, and changes in the periods we have studied
- 3.12 Be able to describe and make links between the main events, situations and changes both within and across periods
- 3.14 Be able to describe how the history of one country affects that of another
- 3.15 Be able to ask and answer questions about the past
- 3.16 Be able to select and record information relevant to an historical topic
- 3.17 Be able to place the events, people and changes in the periods we have studied into a chronological framework
- 3.18 Be able to use dates and terms relating to the passing of time
- 3.19 Be able to communicate our knowledge and understanding of history in a variety of ways, making appropriate use of dates and historical terms

Society

As members of society and our iCAN community we will be finding out:

- How to work as a team
- How to assemble a successful team for our mission to Mars

Learning Goals

- 3.1 Know that the study of society is concerned with learning about living as members of groups
- 3.5 Understand our own responsibilities in the groups to which they belong
- 3.6 Understand the responsibilities of others in those groups and in the wider community
- 3.7 Understand that the way in which people fulfil their responsibilities affects the lives of others
- 3.8 Understand that the behaviour of individuals has an effect on the lives of others

Technology

As designers at iCAN we will be learning:

- About the technology that has been used to explore Mars
- How to design and make a robot to explore Mars
- How to design and make a suitable shelter for living on Mars

Learning Goals

- 3.1 Know that technology affects people's lives
- 3.4 Be able to respond to identified needs, wants and opportunities with informed designs and products
- 3.5 Be able to gather and use information to suggest solutions to problems
- 3.6 Be able to devise and use step-by-step plans
- 3.7 Be able to consider the needs of users when designing and making
- 3.8 Be able to select the most appropriate available tools and materials for a task
- 3.9 Be able to work with a variety of tools and materials with some accuracy
- 3.10 Be able to test and evaluate our own work and improve on it
- 3.13 Understand the need for accurate design and working
- 3.14 Understand the ways in which technology can be used to meet needs, wants and opportunities
- 3.15 Understand that different techniques, tools and materials are needed for different tasks
- 3.16 Understand that the quality of a product depends on how well it is made and how well it meets its intended purpose

International

As international citizens at iCAN we will be learning:

- How to write our own international rules and regulations for Mars
- About the reasons why we might one day need to live on another planet

Learning Goals

- 3.1 Know about the key features related to the lives of people in their home country and, where appropriate, our parents' home countries
- 3.2 Know about the key features related to the lives of people in Cambodia and/or, where appropriate, other countries in which we have lived
- 3.3 Know about ways in which the lives of people in the countries we have studied affect each other
- 3.4 Know about similarities and differences between the lives of people in different countries
- 3.5 Be able to explain how the lives of people in one country or group are affected by the activities of other countries or groups
- 3.6 Be able to identify ways in which people work together for mutual benefit
- 3.7 Understand that there is value both in the similarities and the differences between different countries

ICT

As digital learners at iCAN we will be exploring:

- Aspects of computing and ICT

Learning Goals

- 3.2 Know about an increasing number of applications of ICT for leisure, communication and work
- 3.3 Be able to frame questions appropriately when gathering and interrogating information
- 3.4 Be able to interpret our findings