

2A2

Investigating diseases

What is the difference between communicable and non-communicable diseases and what can you find out about an infectious disease?

Investigate the meaning of communicable and non-communicable diseases. Identify examples of each of these types of disease and choose a communicable disease to research in depth. Use your findings to produce a patient leaflet about the causes, symptoms and treatment of this disease and ways to reduce the risk of infection.

What you'll do

You will:

- find out the difference between communicable and non-communicable diseases and identify examples of each type of disease
- research a communicable disease such as tuberculosis, measles or COVID-19 and create a patient leaflet about it
- include information about what causes this disease, what the symptoms are, how it is spread and treated, and what people can do to reduce the risk of infection
- present this information in a clear, accessible and engaging way.



✓ Skills I used:

	Learning	☐
	Decision-making	☐
	Communicating	☐
	Team working	☐
	Thinking	☐
	Self-awareness	☐

How I might show the skills

Skills	Examples
 Learning	Explains the difference between communicable and non-communicable diseases and provides 2-4 examples of each type. Uses 2-4 reliable information sources to find out more about their chosen disease.
 Decision-making	Chooses a suitable disease to research. Selects important and relevant information to include in their leaflet. Makes design and structural choices to create their content and gives reasons for the decisions made.
 Communicating	Organises the content in their leaflet in a clear and logical way, effectively using features such as headings, sub-headings and text boxes. Includes information about the causes, symptoms and treatment of a disease, and advice for reducing the risk of infection.
 Team working	Produces content to support the learning of others. Considers ways to make their leaflet accessible to a range of audiences.
 Thinking	Thinks about what information about this disease would be useful for people to know. Considers the audience for their brochure and tailors the structure and content accordingly.



Self-awareness

Describes how researching and creating the leaflet improved their own knowledge and skills. Reflects on any difficulties they experienced in completing the challenges and how they overcame these.

5A4

Space facts

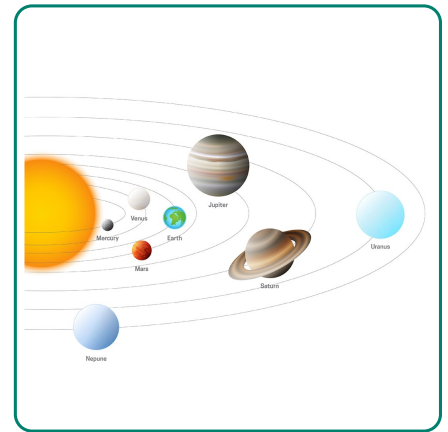
What interesting facts can you find out about space and how could you design a quiz to share this knowledge with others?

Space is amazing and vast – there is still a lot we do not know about it. In this challenge, you will use research to find interesting facts about the planets, stars, galaxies and space exploration. Use digital or paper tools to create a short quiz about space for use as a revision aid. Invite someone to try your quiz. Collect feedback on what you have produced and reflect on your learning during the challenge.

What you'll do

You will:

- use a variety of reliable information sources to find facts about the planets, stars, galaxies and space exploration
- make notes to record key information
- apply your findings to make a short quiz about space for use as a revision aid
- invite someone to try your quiz and collect feedback on how accurate, informative and engaging it is.
- reflect on what you have learned through completing this challenge.



✓ Skills I used:

	Learning	☐
	Decision-making	☐
	Communicating	☐
	Team working	☐
	Thinking	☐
	Self-awareness	☐

How I might show the skills

Skills	Examples
 Learning	Uses 2-4 information sources to collect and cross-check facts. Applies knowledge to design at least 10 quiz questions. Identifies gaps in their understanding and takes steps to address these.
 Decision-making	Selects important and relevant information for quiz content. Chooses which question types to include and why. Decides on a format for sharing their quiz with others.
 Communicating	Writes clear and understandable quiz questions and answers. Speaks clearly when reading questions aloud or presenting the quiz. Uses examples or explanations when giving feedback on someone else's answers.
 Team working	Shares their quiz with a partner or group and is open to the feedback and ideas of others. Tries out another person's quiz and suggests improvements in a respectful and positive way.
 Thinking	Questions or evaluates information to determine how reliable and relevant it is. Sorts facts by different themes to help structure their quiz. Reflects on what makes a quiz question fair, challenging, or clear.



Self-awareness

Reflects on what was difficult or easy in making the quiz. Identifies facts they discovered that were surprising or interesting. Explains one thing learned by completing the challenge.

7B2

Designing an earthquake-proof building

What happens to buildings during an earthquake, and how can we design structures that can withstand the powerful shaking and stay standing?

Research how buildings are affected by earthquakes and investigate how different methods and materials are used to construct earthquake-resistant structures. Design and make your own model earthquake-proof structure. Test it on a 'shake' table' and evaluate how well your design performed. Produce a poster to share your design and explain different ways of making buildings more resistant to earthquakes.

What you'll do

You will:

- research how buildings are affected by earthquakes and what engineering techniques are used to help structures withstand the powerful shaking – you could use online sources, books and/or talk to an engineer working in this field
- apply your learning by designing and constructing your own model earthquake-proof structure using recycled materials
- test your building on a 'shake' table and evaluate the effectiveness of your design
- create a poster to explain how different methods can make buildings more resilient to earthquakes; include a labelled diagram or photograph of your model.



✓ Skills I used:

- | | | |
|---|-----------------|--------------------------|
|  | Learning | ☐ |
|  | Decision-making | ☐ |
|  | Communicating | ☐ |
|  | Team working | ☐ |
|  | Thinking | ☐ |
|  | Self-awareness | ☐ |

How I might show the skills

Skills	Examples
 Learning	Locates and uses a combination of information sources to investigate how buildings are affected by earthquakes and methods for making structures more earthquake resistant.
 Decision-making	Makes design and material choices to build and test an earthquake-proof structure. Chooses information to include in their poster and selects an effective layout and design. Explains the reasons for their decisions.
 Communicating	Designs an engaging poster containing clear and concise content. Includes explanations, interesting facts and a labelled photograph or diagram of their model.
 Team working	Shares their ideas with others. Presents their product to at least one other person and asks for feedback on its clarity.

 Thinking	Describes different engineering techniques used to make buildings more resistant to earthquakes. Relates their learning to real-world contexts. Considers the effectiveness of different layout and design elements for use in their poster.
 Self-awareness	Reflects on how easy or difficult it was to make decisions and describes one way they could further develop their decision-making skills. Recognises the impacts of earthquakes, as well as the inequalities in the capacities of communities to prepare for and respond to these events.