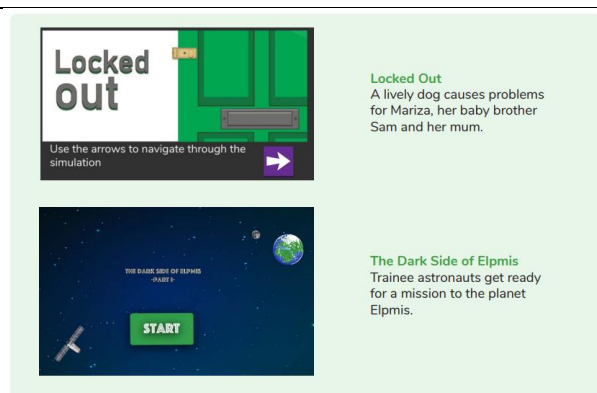


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Subject: Purple Mash unit 3.7 Simulations		
Key Concept/ Theme: To consider what simulations are. • To explore a simulation. • To analyse and evaluate a simulation.		
Prior Learning links: Year ½ Cycle 1 Unit 1.7 Coding • Following instructions • Creating simple programs • Computer simulation of real life events Unit 1.9 Technology Outside School • Understanding the term ‘technology’ • Recognising the use of technology around them Unit 2.1 Coding • Algorithms • Collision detection - simulating air traffic control • Object types • Debugging Cycle 2		
<div> <div> Analysis A detailed examination of something. </div> <div> Simulation A program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life. </div> <div> Evaluation To judge the value, condition or effectiveness of something. </div> <div> Modelling The act of representing something, often on a smaller scale. </div> <div> Decision The act or result of making a choice after careful thought. </div> </div> Vocabulary:		

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Key images

Resources needed for each lesson – 2dos to set.

Lesson 1:

- [About Simulations: Writing template](#) to be set as a 2Do.
- Extension: [Why Simulate? Table writing frame](#). Set this as a 2Do if you wish to use it.

Lesson 2

- [2Simulate Locked Out simulation](#). 2Simulate is found within the English tools in Purple Mash.
- **Make sure you read the Introduction (for teachers) on the pdf lesson plan before commencing the lesson.**

Lesson 3

Ensure that you have read the Teacher Introduction in the PDF lesson plan in preparation to help decide which resources to use.

- [Equipment Requisition](#) – see slide 8 instructions and decide whether to set this as a 2do for the class.
- [Equipment Cards for Groups](#) – one set per group.
- [Emergency Resource Cards](#) – one or two per group.
- [Speaking and Listening Reward Cards](#) – if you wish to use them to determine a winning team, then between two and five copies of each card, depending how generous you are with your rewards!

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- [Equipment Scoring Sheet](#) – you could display this on the whiteboard or print and distribute **AFTER** the mission. They can be used to discuss the effectiveness of the equipment selected.
- [Group Scorecard](#) – one per group, if you wish to score the groups.
- [Simulation Evaluation](#) – sheets to be set as a 2Do.

1. Unit 3.7 Lesson 1	<p>Deeper learning questions: When would a simulation be a good thing? Can you think of any problems with simulations?</p> <p>Reconnection: prior online learning. – remind children of the idea of online safety and why it is important to be safe online. introduce new vocabulary. The vocabulary is repeated at the end of the lesson where it can be used to review lesson vocabulary.</p> <p>LO: To find out what a simulation is and understand the purpose of simulations.</p> <p>Activity: Go over vocab for lesson. Discuss what a computer simulation is and when it might be used. Ask children if they can think of any examples of simulations.</p> <p>Use the photos to prompt further discussion of simulations used in real life.</p> <p>Discuss with the children why a simulation could be a good thing. After their feedback, click to share the suggested reasons.</p> <p>Discuss the potential problems with simulations. After their feedback, click to share the suggested reasons.</p> <p>Introduce the activity where children write about simulations. Set the writing frame as a 2Do in advance so children can access and complete the worksheet on their own devices. (You could print this in advance if you want the children to complete it on paper, although you will not have access to the pictures for question 2). Clicking the icon on the slide will open a copy of the file. Remind children to save their work in their My Work folder when they are finished.</p> <p>Recap vocab and success criteria.</p>
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	<p>Extension: Introduce an optional extension activity: ‘Why Simulate?’. You will need to set this as a 2Do if you wish the children to use it</p>
<p>2. Unit 3.7 Lesson 2</p>	<p>Deeper learning questions: What makes a simulation realistic?</p> <p>Reconnection: prior online learning. – remind children of the idea of online safety and why it is important to be safe online. introduce new vocabulary. The vocabulary is repeated at the end of the lesson where it can be used to review lesson vocabulary.</p> <p>LO: To explore a simulation, making choices and discussing their effects.</p> <p>Activity: Go over vocab for lesson.</p> <p>Introduce today’s simulation. Open the activity from 2Simulate and then click the arrows to navigate through the simulation forwards and backwards. Most of the text is read aloud.</p> <p>Before the end of the lesson and during the simulation, spend some time discussing in which ways this simulation was or was not realistic, e.g. by how animated the graphics were, was it a likely real life situation etc.</p> <p>Recap vocab and success criteria.</p> <p>Extension: Introduce an optional extension activity. Children may have needed to have completed Unit 3.6 – Branching Databases to understand this task.</p>
<p>3. Unit 3.7</p>	<p>Deeper learning questions: what objects were most useful</p> <p>Reconnection: prior online learning. – remind children of the idea of online safety and why it is important to be safe online. introduce new vocabulary. The vocabulary is repeated at the end of the lesson where it can be used to review lesson vocabulary.</p>

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Lesson
3

LO: To work through and evaluate a more complex simulation

Activity:

Go over vocab for lesson.

Introduce today's simulation. Split the class into groups of four to six children – they will be working in their group later on in the session. Open the activity from 2Simulate and then click the arrows to navigate through the simulation forwards and backwards.

Look through the first scenes of the simulation, listening to the voice over to set the scene. Continue to the point that you are presented with a choice to save yourself or the crashed crew. Allow children to think about what they want to do, and give reasons. Hopefully, they will decide to help the crew by choosing “Warn Shuttle”; otherwise their mission is over, and they have failed! You can explore this aspect of the simulation if you wish, and then return to this point to explore the outcome if you make a different decision.

Continue through the simulation. When you reach the screen with the incoming message from the shuttle, discuss the questions on the presentation. Click on the button to be taken to an email simulation, the ‘Shuttle Messaging Centre’. Suggest that the children take notes about what they learn from the email received.

Read through the email simulation as a class. Discuss what the message says. In groups, children can discuss which questions might be most important to write in our reply. A selection of the best questions from each group can be entered here and sent to the stranded astronauts. Type out your reply as an email message. When you have sent it, you will receive a further email with some answers. If any questions are not answered and are particularly deserving of an answer, you might have to make up the answers and could ‘receive’ them via your own mobile phone.

Continue working through the email simulations until the Captain asks the children to use the [equipment requisition](#) to decide on which equipment they should take on their mission. The equipment requisition is also available in the resources section of the lesson plan. Opening in a new tab allows the ‘feel’ of the simulation to continue. Alternatively, you could set this as a 2Do for the class. Equipment cards should now be given to each group. Only seven items can be taken.

Children must decide on which 7 items they think should be taken on the mission to save the stranded astronauts (see **slide 9**). The Equipment Requisition form can be completed by each group, or you may choose to feed back and complete it as a class. Reply to the captain one more time with your chosen items and follow the link in the reply to open Part 2 of the simulation.

Follow the link in the captain’s last email, or open Part 2 of the simulation to continue.

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	<p>Children should discuss what should be done next, making use of the equipment they have. The key point to note here is the ledge. The crevasse is 100m deep – if the group has brought the 70m rope, they may be able to lower someone down to the ledge. But how will they get back up? Again, weaker gravity will help with throwing things further. They may decide to leave him/her but will lose points at the end. On the next screen, feed back some of the best solutions to the crevasse problem. Then watch the buggy continue to the dark side of the planet.</p> <p>Children will be asked at this stage of the simulation whether they brought a torch with them. If not, an Emergency Resource Card can be used – at your discretion. This will provide a torch to light up the crew on the dark side of the planet.</p> <p>Discuss the final problems with the children. Encourage them to make notes in their groups according to how they will proceed. Complete the rest of the simulation and then, if required, use the Equipment and Group scoring sheets (the former feeds into the latter) to assess each group’s progress and achievements if you are keeping scores.</p> <p>Discuss the final problems with the children. Encourage them to make notes in their groups according to how they will proceed. Complete the rest of the simulation and then, if required, use the Equipment and Group scoring sheets (the former feeds into the latter) to assess each group’s progress and achievements if you are keeping scores.</p> <p>Recap vocab and success criteria.</p> <p>Extension: Introduce an optional extension activity where children can have a go at creating their own simulation activity. You may wish to extend this over another lesson.</p>
	<p>End of unit quiz & reflect on gaps from the unit:</p> <p>Unit 3.7 Quiz – found on unit page on PM</p> <p>Read the information above and drag the words into the missing place to make it correct.</p> <p>Select all the situations on the right that simulations are most useful for.</p> <p>Which statements are true about simulations?</p> <p>A person is learning to fly an aircraft. How could a simulator help them?</p>

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	<p>Engineers are helping to create a new theme park ride. How could a simulator help them?</p> <p>Simulators are used in medicine to help train people in a variety of things.</p> <p>Why would a racing driver do training both in a simulator and in a real car?</p>
<p><u>End Points:</u></p> <p>What is a computer simulation? A program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life.</p> <p>What kind of simulations are there? Some simulations represent dangerous situations for training such as flying in space, carrying out medical operations or piloting an aeroplane. Others simulate activities for fun, such as racing simulations.</p> <p>Are there any problems with simulations? Simulations are often too simple; and unexpected problems can still occur in real life that are difficult to simulate. Simulations can also be very expensive.</p>	
<p><u>Evaluation:</u> What have the end of unit quizzes, pupil self-reflections and termly work told you about what the children can remember and recall? What are the gaps? Ensure that the areas that need further reinforcement are documented in the next subject unit MTP. Plan in time to revisit gaps within units, determined by the quizzes.</p> <ul style="list-style-type: none">•	