

2016/17

Create@School: Medium term planning

Science: Respiration and Breathing

Year 8



Curricular Skills

By the end of this unit all children should be able to:

- Explain the differences between inhaled and exhaled air.
- Label a lung diagram.
- Measure pulse and breathing rate before and after exercise.
- Describe and label the diffusion process.
- How the diaphragm is used in the respiration process

Some may be able to:

- Describe the differences between aerobic and anaerobic respiration.

Create@School Skills

By the end of this unit all children should be able to:

- Understand the basic functions and navigation of Create@School and Pocket Paint.
- Understand some game design components and are able to apply them.
- Use backpacking and other features
- Create a science-based quiz game.

Some may be able to:

- Create their own mini-games.
- Import images and edit these in Pocket Paint

The Create@School skills reflect the level of a year 8 (12-13 year old) pupil.

It is proposed that these PocketCode-led lessons work alongside regular lessons and can be adapted to suit your needs.

The Curricular skills can be replaced by any subject, since the PocketCode activities can be adapted including downloadable games.



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Create@School: Respiration and Breathing MTP

Lesson No.	Learning objectives	Main Teaching Content	Differentiation	Plenary	Homework
1	<ul style="list-style-type: none"> • Create an interactive information board which is subject specific. 	<ul style="list-style-type: none"> • Create another interactive information board using the sources which are available, and selecting and organising relevant scientific information. • Record a description of the focussed areas of development 	<p>Extension: Make one of your objects move around the screen.</p>	<p>Select pupils to show one object and its related information to the class.</p>	<p>Think about what features are needed to create a game – note down to discuss next lesson.</p>
	<ul style="list-style-type: none"> • To begin to understand some elements of the respiratory system. 				
2	<ul style="list-style-type: none"> • Begin to use Looks, adapting a mini-game exploring changing looks. • To begin to discuss the creation a quiz which is subject specific. 	<ul style="list-style-type: none"> • Download the Correct or Incorrect program to understand changing a look, asking science-based questions and pupils showing their answer. • Discuss what game features do we need to make a quiz? • label images of the respiratory system. 	<p>Support: Vocab on board. Extension: show the 2 looks of the photo – 1 with labels, 1 without – tap between them.</p>	<p>Peer testing on labelling photos.</p>	
	<ul style="list-style-type: none"> • Correctly label areas of the respiratory system. 				
3	<ul style="list-style-type: none"> • Begin to use broadcast adapting a mini-game exploring broadcasting and receiving messages. 	<ul style="list-style-type: none"> • STARTER: Activity Cards - Broadcasting • Show how the diaphragm helps us breathe in and out through Broadcast mini-game – clarifying inflating and deflating 	<p>Support: Vocab on board. Extension: Record the information using a sound brick.</p>	<p>Use: <i>Correct or incorrect - Broadcasting.</i></p>	<p>Think about the term 'inventory' and how this is connected to gaming. Give examples.</p>
	<ul style="list-style-type: none"> • To understand how the diaphragm causes the lungs to inflate and deflate. 				



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4	<ul style="list-style-type: none"> Begin to use variables creating a mini-game exploring an inventory. 	<ul style="list-style-type: none"> STARTER: Correct or incorrect – Pupils to answer quick-fire questions. Building on the mechanism of breathing to move air in and out of the lungs, create the variable mini-game to build vocabulary within this action. Adapting and debugging a template. 	<p>Extension: Explain the differences between the air we breathe in, and out.</p>	<p>Explain the respiration process in the program</p>	
	<ul style="list-style-type: none"> To reinforce understanding on how the diaphragm causes the lungs to inflate and deflate. 				
5	<ul style="list-style-type: none"> To use a timer in Create@School. 	<ul style="list-style-type: none"> STARTER: Respiration Bingo – with suggested keywords. Use timer to work with activities during the lesson. Measuring of pulse and breathing rate during rest. Short exercise routine – measure again. Labelling the diffusion process. 	<p>Extension: Note down and/or discuss the process of diffusion.</p>	<p>Play <i>Diffusion (5419)</i> in partners – Discuss questions that would link to the diffusion process.</p>	<p>Note down questions based on the respiratory system to add to your quiz</p>
	<ul style="list-style-type: none"> To demonstrate understanding on what happens to breathing rate when we exercise. To begin to understand and label parts of the diffusion process. 				
6	<ul style="list-style-type: none"> Understand game design components, and apply to a mini-game through backpacking. 	<ul style="list-style-type: none"> STARTER: Correct or incorrect – Pupils to use Broadcast in the starter as quick-fire questions. Developing understanding of game design components through the use of a quiz template. Developing use of backpacking 	<p>Extension: Can you add sound effects to the game?</p>	<p>Pupils to discuss quiz questions so far</p>	<p>Note down questions on Specific areas for revision</p>
	<ul style="list-style-type: none"> To know that gases move to and from the blood by diffusion. 				



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7	<ul style="list-style-type: none"> To analyse structure of the quiz. 	<ul style="list-style-type: none"> STARTER: Respiration bingo Finish creating the quiz, analysing all components 	Plan out the next questions/statements with a partner.	Download game: Aerobic Vs Anaerobic respiration.	
	<ul style="list-style-type: none"> To reinforce knowledge of lung structure. To reinforce aerobic and anaerobic respiration knowledge. 				
8	<ul style="list-style-type: none"> Demonstrate how to upload programs 	<ul style="list-style-type: none"> STARTER: Correct or incorrect – Pupils to use Broadcast in the starter as quick-fire questions. When the games have been peer-tested, upload them to the PocketCode site. 	Extension: Complete and ensure all game design elements work correctly, add sound effects throughout the quiz.	Upload; play another's game. Brainstorm: Was using PocketCode useful in this topic?	
	<ul style="list-style-type: none"> To reinforce knowledge of the respiration system and apply this to your quiz 				



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Downloadable content for this module	
Create@School Programs	Create@School Edu: Guides and Resources
<p><i>Correct or incorrect – Changing looks (11993)</i></p> <p><i>Broadcast template (11863)</i></p> <p><i>Broadcast: Science (5370)</i></p> <p><i>Correct or incorrect – Broadcasting (11992)</i></p> <p><i>Variables: Science Respiration (5398)</i></p> <p><i>Variable template (11864)</i></p> <p><i>Bingo - Respiration card (12914)</i></p> <p><i>Bingo – Respiration caller (12915)</i></p> <p><i>Creating a basic timer (5404)</i></p> <p><i>Aerobic Vs Anaerobic (5411)</i></p> <p><i>Diffusion (5419)</i></p> <p><i>Quiz template (9992)</i></p>	<p><i>Game-making framework</i></p> <p><i>Teacher training guide 1</i></p> <p><i>Make a quick classroom starter game</i></p> <p><i>Edit your object in Pocket Paint</i></p> <p><i>Broadcast activity</i></p> <p><i>Broadcast Component - Science</i></p> <p><i>Variable template guide</i></p> <p><i>Variable program guide - Science</i></p> <p><i>Bingo game guide</i></p> <p><i>Create a basic timer guide</i></p> <p><i>Backpacking guide</i></p> <p><i>Quiz template guide</i></p> <p><i>Pocket Paint: importing images</i></p>

