

Cells

The activities are related to the work in the KS3 Science Scheme of Work Unit 7a: Cells.

Pupils explore cell structures and differences between plant and animal cells and learn about some functions of cells.



Organisation of the Materials

The SMART Notebook™ file is saved as “KS3 cells.notebook”. It consists of nine pages, the first of which is a title page. There are six pages to support the activity. These can be used

as lesson starters, lesson plenaries or to support the main part of the lesson. Page 8 contains links to some useful websites and page 9 contains teachers notes.

The materials can also be used for Year 9 SATS revision.

Activity 1

This is designed to remind pupils of some of the keywords they should have met during this unit.

Use the highlighter pen to highlight the key words hiding in the word search grid.

The words that are in the grid are underneath an orange box. You can remove this box at the end to check if all the words have been found. With less able groups you may wish to reveal the words at the start.

You can generate your own puzzles at this website: puzzlemaker.school.discovery.com and then use the camera tool to capture it and bring it into your own Notebook files.

How many cell-related words can you find in this grid?

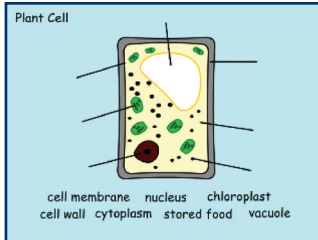
C	A	H	V	E	M	Q	C	E	S	O	C
H	E	E	J	U	V	W	L	T	X	L	H
U	O	L	R	A	C	R	O	G	L	S	L
C	V	W	L	G	L	R	A	B	A	I	O
L	V	A	Y	H	E	P	C	O	X	S	R
B	N	G	C	D	E	T	O	W	B	Z	O
D	T	H	F	U	N	H	N	T	Y	H	F
S	J	O	E	A	C	N	B	Z	X	B	L
A	O	M	L	A	W	E	H	R	N	C	A
D	H	E	Z	J	G	H	E	N	A	R	S
L	L	E	C	L	A	M	I	N	A	N	T
C	E	L	L	W	A	L	L	Y	A	E	S

animal cell	chloroplast	plant cell
chloroplast	cytoplasm	nucleus
plant cell	stored food	vacuole

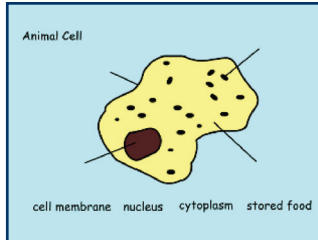
Activity 2

Pages 3 and 4 show large diagrams of a plant and animal cell. You might like to print these slides out to act as a worksheet so the pupils can label their own versions.

Once the pupils have had a chance to label their own versions, ask one or several pupils to come up to the SMART Board™ to drag the labels into the correct place on the diagram.



Page 3

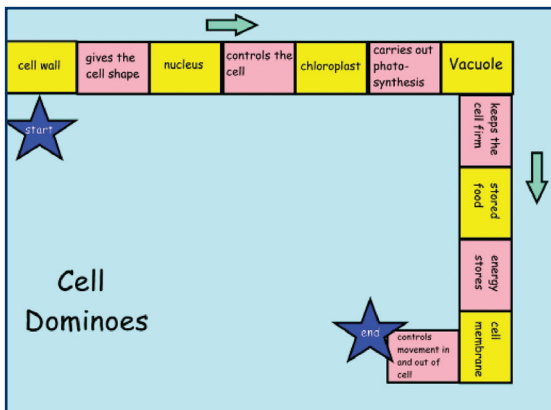


Page 4

Activity 3

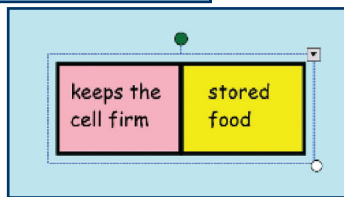
Use the arrow tool to move the 'dominoes' to match up the pink end to the yellow end of the previous domino. This should match up the part of the cell with the job it performs.

Again, allow the pupils some time to work this out on their own or in groups first before inviting them up to the board to move the dominoes.



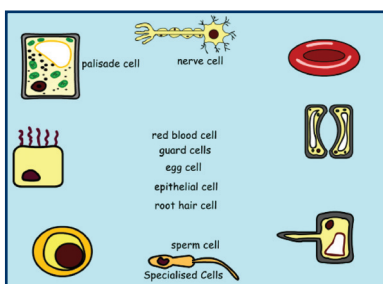
Page 5

Use the green circle to rotate the last two dominoes through 90° so that they can complete the sequence.



Activity 4

Page 6 shows a selection of different specialised cells. Ask the pupils to match the name of the cell to the image.



Page 6

Use the 'selection' tool to move the labels and put them next to the corresponding image.

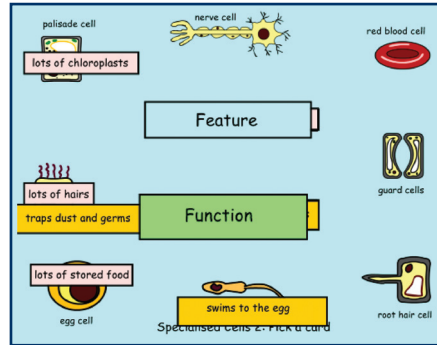
These images have been put in the 'Attachments' panel of the Notebook file for you to use in your own Notebook files.

Activity 5

This activity involves the use of feature and function cards which are stacked in the centre of the screen.

Invite pupils up to the board to pull out a feature card and then drag it to the corresponding cell. Once all the feature cards have been used, they can then drag out a function card and again drag it to the corresponding cell.

This could be used as a lesson plenary at the end of a lesson about specialised cells or it could be used as a lesson starter for the following lesson to see what pupils can remember.



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Other Notes

The SMART Notebook Gallery has an Education area, within which is a Science and Technology area. Within the Biology area there are some useful images and diagrams that you can drag into a Notebook page, resize and manipulate.

Notes

- Photographs make good source material when looking at cells - you can use a digital camera, scan images from books or find images on the Internet or CD
- You can write and draw over any image to add annotations and labels
- Lock diagrams in place (right click, lock in place) to stop them accidentally moving when adding labels to the diagram
- A digital microscope can also be used to project images of cells onto the SMART Board. Use the camera to capture these images into a Notebook file.

Page 9

Google is a great source of images to use with your Notebook files. Use the camera tool to capture images and bring them into your notebook.

If you have access to a digital microscope you can use that to display images of real cells onto your SMART Board. Again use the camera to capture these images.

You can modify the "KS3 cells.notebook" Notebook file in any way you like - but it would be a good idea to save it with a different name in case you want to access the original again in the future.

www.smartboard.co.uk

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