

## Mojo introduction lesson plan – Animal Cells

|                      |   |
|----------------------|---|
| <b>Aim of lesson</b> | <ul style="list-style-type: none"> <li>To introduce students to the idea of using their visual memory to improve their revision, particularly their memory and recall effectiveness</li> <li>To show students an activity from mojo</li> </ul>  |
| <b>Time required</b> | The activity can take 20 - 25 minutes, depending on the group / teacher   |
| <b>Resources</b>     | <ul style="list-style-type: none"> <li>Internet connected PC, projector with screen and speakers (wifi must be able to stream video)</li> <li>Teacher login to mojo website</li> <li>Worksheet (included below)</li> </ul>  |
| <b>Preparation</b>   | <ul style="list-style-type: none"> <li>Find the lesson plan, videos and worksheets on this page– <a href="https://www.s-cool.co.uk/mojo/memorise/want-a-mojo-freego/revise-it/teachers-introduce-mojo-your-class-animal-cells">https://www.s-cool.co.uk/mojo/memorise/want-a-mojo-freego/revise-it/teachers-introduce-mojo-your-class-animal-cells</a></li> </ul>   |
| <b>Activities</b>    |   |
| 1.                   | <p>3 mins. <b><u>Introducing the lesson:</u></b></p> <ul style="list-style-type: none"> <li>A key part of revision is remembering all the facts you need</li> <li>There are lots of ways to do this, with some being quicker and more effective than others.</li> <li>This lesson introduces one of the most effective, but least used methods – using your <b>visual memory</b></li> <li>One of the key benefits to this approach is that it creates really long term memories – so you can use it to memorise your Year 9 or 10 topics while you are being taught them – and you will not have to re-revise them later for exams, mocks or GCSEs</li> <li>Very useful for busy GCSE students who already have a very significant workload!</li> <li>Out of interest – it is now very clearly scientifically proven that just reading and re-reading words on a page or screen is a <b>really</b> inefficient way to remember things.</li> </ul> |
| 2.                   | <p>5 mins. <b><u>Watching the introduction video:</u></b></p> <p>The introduction video plays for 3 mins 34 seconds and covers this:-</p> <ul style="list-style-type: none"> <li>There is a lot to remember for GCSEs</li> <li>Your brain memorises in more than one way – and some are more effective</li> <li>Your visual is very good at remembering things quickly and for a long time</li> <li>Funny, whacky or rude things are easiest to remember</li> <li>To use your visual memory, you need to ‘translate’ lots of terms, ideas or vocabulary into images, and make them into stories – which is takes practice</li> <li>Answering questions / doing worksheets will make your brain re-use the content of the story and re-inforce the memory</li> </ul>   |

|    |           |  |
|----|-----------|--|
|    |           | <ul style="list-style-type: none"> <li>You will need to re-watch the videos to maximise your memory – after 1 day, 1 week, 1 month and 3 months.</li> </ul>  |
| 3. | 5 mins.   | <p><b><u>Now watch the mojo video</u></b> on ‘Animal Cells’ (4 m 41s).</p> <p>NOTE - It may be worth re-enforcing that students need to really concentrate while watching the video – in their head, they should try to imagine the scenes of the story as they hear them.</p>   |
| 4. | 5-10 mins | <p><b><u>Complete the worksheet</u></b> (and discuss / mark answers)</p> <p>To maximise long term memory, the key here is to:-</p> <ol style="list-style-type: none"> <li>Recall the story and the story images</li> <li>Then from that, work out the Biology</li> </ol> <p>Students (particularly the more academic ones) will be tempted to just write down the biology (because they have just heard it) and ignore / gloss over the story.</p> <p>However, studies show that in a day, as much as half of it will have been forgotten, and they will not have any device to use to retrieve it.</p> <p>Vivid story images, however, are far more powerful memory tools - and it is very easy to work out the correct Biology once you know the story elements.</p> <p>Consequently, focusing on the story first strengthens long term memory.</p>  |
| 5. |           | <p><b><u>Introduce the Free trial (if available)</u></b></p> <p>Students may have access to the mojo site free of charge for a limited time period.</p> <p>They will receive a voucher code in the homework.</p> <p>To redeem the voucher:-</p> <ol style="list-style-type: none"> <li>Go to <a href="http://www.s-cool.co.uk/mojo/cart1">www.s-cool.co.uk/mojo/cart1</a> (note – you need to be logged OUT to be able show this screen)</li> <li>Enter the code where prompted</li> <li>Click ‘Redeem voucher’</li> <li>Complete the registration form (NOTE – reminders to re-watch mojo videos will go to the email address used in the registration process – so choose one you look at regularly).</li> <li>You have completed the process – select the Biology topic you wish to memorise.</li> </ol> <p>Future visits (once subscribed):</p> <ol style="list-style-type: none"> <li>Go to <a href="http://www.s-cool.co.uk">www.s-cool.co.uk</a></li> <li>Select ‘mojo’ from the menu</li> <li>Click on ‘I’ve already subscribed’</li> <li>Choose ‘GCSE Biology AQA’</li> </ol> |

## FAQs

|   |   |
|---|---|
| <p>It feels like I have to remember twice as much – the story AND the biology</p> | <p>Some things are easy to remember – and some things are hard.</p> <p>Just remembering isolated biology vocabulary - e.g. ‘cell membrane’ - is really hard. Remembering things that are related to (or like) other things you already know is MUCH easier. (See the useful info below on the Baker : baker paradox for more on this.)</p> <p>So rather than learning the story AND the biology, actually all you have to do is learn the easy part – the story. Learning the story using the mojo quizzes and worksheets will make sure that each part of the story will remind you about the biology you need to learn.</p> <p>So just remember the ‘men’s brains’ work out how to smuggle substances into and out of their cells. Don’t worry about memorising what the cell membrane does – you can work it out from the story.</p> |
| <p>Is this a brand new way to remember things?</p>                                | <p>No – this technique for memorising things has been around for over 2,500 years. It has fallen out of use now that we have such easy access to information through the internet and books.</p> <p>Watch this for more info:- <a href="https://www.s-cool.co.uk/mojo/memorise/want-a-mojo-freego/revise-it/science-behind-mojo">https://www.s-cool.co.uk/mojo/memorise/want-a-mojo-freego/revise-it/science-behind-mojo</a></p>  |
| <p>Why do so few students use their visual memory for revising?</p>               | <p>To create the images and ideas you need to use your visual memory, you usually need to put in a lot of work up front. This often puts students off as they would rather just get on with it. But if you invest the time, you find that the facts will be much easier to recall months or even years later – and that will save you lots of time re-revising content later in your studies.</p>   |
| <p>So can I stop doing all other revision?</p>                                    | <p>No – mojo and other visual memorisation is focused on remembering things. You also need to understand the content and that is a different activity.</p> <p>Also, it is really important to spend time doing past papers to make sure that you know how you will get the most out of the content that you can remember.</p>   |

## Other useful ideas:

### **How does the brain remember things? (The Baker : baker paradox)**

How does the brain remember things best? Well, it’s pretty simple, actually. It turns out that the best way to remember something is to link it to things that you already know.

There is a great example of this. It is called the “Baker-baker paradox”. It goes like this.

*“I tell two people to remember the same word.*

*To the first, I say – I want you to remember a guy who is called Baker – that is his name*

To the second I say – I want you to remember that there is a guy who is a baker.”

If I come back a few days later and I ask, “what is that word I wanted you to remember?”, the person who was trying to remember the **name** is significantly LESS likely to be able to remember it compared to the one who is trying to remember the **job**.

It is the same word – but one is easier to remember than the other. Why? Well, the name Baker doesn’t actually mean anything. It is not connected to anything else that is going on in your brain.

But the job ‘baker’? Well, we know lots about bakers – they wear silly white hats, they are covered in flour, the work in kitchens that smell beautiful – the list goes on.

And when we hear that word - baker – our brain associates all those things with it. And those hooks allow us to pull that fact out of our brains much more easily at a later date.

And **that** is the secret of an excellent memory.

The whole challenge of remembering things better is to turn them into objects or ideas that are already meaningful to you – so that your brain can latch on and make sense of them.

## Animal Cells Worksheet (Answers in green)

1. What is the image that you recall for each of these elements of the story?

| Story element | Image to recall      |
|---------------|----------------------|
| Nucleus       | <i>New clothes</i>   |
| Ribosomes     | <i>Rib scones</i>    |
| Mitochondria  | <i>Mighty condor</i> |
| Cytoplasm     | <i>Site of Kazam</i> |
| Enzymes       | <i>Slime</i>         |
| Membrane      | <i>Men’s brain</i>   |

2. Why does the prison give you **new clothes**? *To control you*

3. What are the **new clothes** you are given? *Jeans (and T-Shirts)*

4. Why do they make you eat **rib scones**? *For the protein in the ribs*
5. What happens to you when you meet the **mighty condors**? *They knock you over with the energy from their wings*
6. What happens in the **Site of Kazam**? *Magical chemical reactions take place*
7. The **Site of Kazam** is covered in *\_slime\_*
8. What are the clever '**men's brains**' working out? *How to move substances in and out of their cells.*
9. Fill in the word(s) missing in these sentences:

The nucleus *\_controls\_* the cell and stores the *\_genetic\_* material.

The ribosome is the site for *\_protein\_* synthesis.

The mitochondria releases *\_energy\_* for the cell (using *\_respiration\_*).

The cytoplasm is where the *\_chemical reactions\_* take place.

The membrane controls *\_the movement of substances in and out of the cell\_*.