



# Need to Know Books (NTKB)

Outcomes Focused, Child Centred

# What is it?

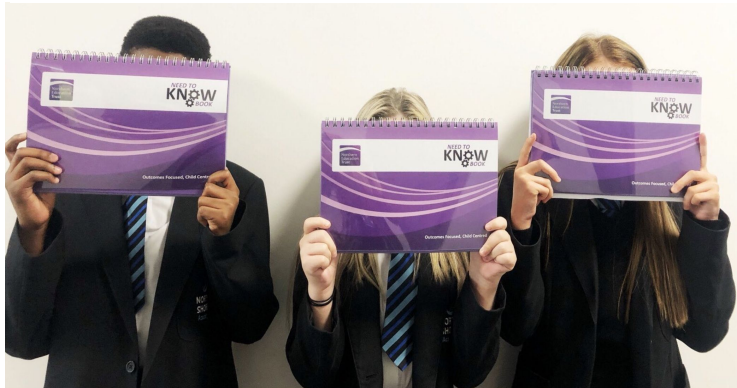
You have been given a 'Need To Know Book' (NTKB) which contains essential information that you **MUST** learn for each of the subjects that you study. You must carry it with you every day (like your planner) and put it on the desk in every lesson (like your planner).

*NEED TO*  
**KNOW**  
*BOOK*



# Why do you need it?

## NEED TO KNOW BOOK



It is really important to make sure that you know the essential knowledge you need for each subject **off by heart**. This will help your understanding in lessons and will help ensure that what you have learnt **sticks in your long-term memory**, meaning you won't forget it. The NTKB is the tool we will provide to support you in achieving this.



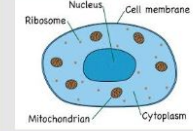
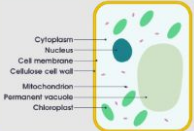
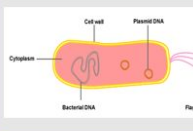
# What does it look like? 1. KRS Information Page

## KS3 Y9 KRS 1 – Science: Cells & Transport, Atoms & Maths in Science

### Key Vocabulary:

1	<b>Nucleus</b>	Contains the DNA
2	<b>Cell Membrane</b>	Controls what substances can enter or leave the cell
3	<b>Mitochondria</b>	Where respiration takes place
4	<b>Ribosomes</b>	Where proteins are made
5	<b>Chloroplasts</b>	Where photosynthesis takes place
6	<b>Eukaryotic Cell</b>	Cells with a nucleus such as animal & plant cells
7	<b>Prokaryotic Cell</b>	A cell without a nucleus such as bacterial cells
8	<b>Isotope</b>	The same element with a different number of neutrons
9	<b>Ion</b>	A charged particle created when an atom has gained or lost electrons
10	<b>Range</b>	The difference between the largest and smallest value
11	<b>Uncertainty</b>	Half the size of the range

### O5 Cells & Transport:

14	<b>Animal cell</b>	15	<b>Plant Cell</b>	16	<b>Bacteria Cell</b>
					
17	<b>Diffusion</b>	18	<b>Osmosis</b>	19	
The movement of particles from an area of <b>high</b> to <b>low</b> concentration		The movement of <b>water</b> from a <b>dilute</b> solution to a <b>concentrated</b> solution through a <b>partially permeable membrane</b>		<b>Active Transport</b> The movement of particles from a <b>low</b> to <b>high</b> concentration. <b>Requires energy</b>	

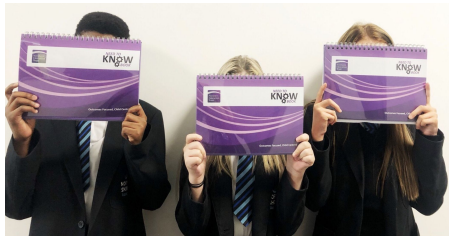
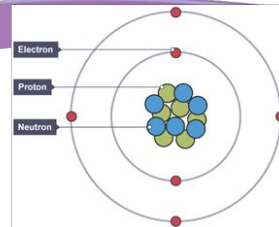
### M5 Atoms:

	Particle	Mass	Charge
20	<b>Electron</b>	almost 0	Negative (-1)
21	<b>Proton</b>	1	Positive (+1)
22	<b>Neutron</b>	1	Neutral (0)

23	<b>Nucleus</b>	The <b>nucleus</b> of an atom contains the <b>protons</b> and <b>neutrons</b>
24	<b>Electrons</b>	Are arranged on <b>shells</b> Maximum number of electrons each shell can hold: First shell – 2 Second shell – 8 Third shell – 8
25	<b>Periodic Table Groups and Reactivity</b>	Group 1 - <b>Alkali metals</b> : more reactive as we go down the group  Group 7 - <b>Halogens</b> : more reactive as we go up the group  Group 0 - <b>Noble gases</b> : unreactive

### Maths in Science:

12	<b>Percentages</b>	13	<b>Solving Equations</b>
$\frac{\text{Quantity}}{\text{Whole Amount}} \times 100$		F	Write down the formula
		I	Insert the values
		F	Fine tune
		A	Calculate the answer



# What does it look like? 2. KRS Questions Page

## KS3 Y9 KRS 1 – O5 Cells & Transport, M5 Atoms & Maths in Science

### Key Vocabulary:

1	What is the role of the <b>nucleus</b> ?
2	What is the function of the <b>cell membrane</b> ?
3	What happens in the <b>mitochondria</b> ?
4	What happens in the <b>ribosomes</b> ?
5	What happens in <b>chloroplasts</b> ?
6	What is a <b>eukaryotic cell</b> ? Give an example
7	What is a <b>prokaryotic cell</b> ? Give an example
8	What is an <b>isotope</b> ?
9	What is an <b>ion</b> ? How are they formed?
10	What is the <b>range</b> of a set of data?
11	What is the <b>uncertainty</b> of a set of data?

### O5 Cells & Transport:

14	<b>Animal cell</b>  Name three structures in an <b>animal cell</b>	15	<b>Plant Cell</b>  Name three structures in a <b>plant cell</b>  How are plant cells different to animal cells?	16	<b>Bacteria Cell</b>  Name 2 structures found in a <b>bacterial cell</b>  How are the bacterial cells different to an animal cell?
17	<b>Diffusion</b>  What is diffusion?	18	<b>Osmosis</b>  What is osmosis?	19	<b>Active Transport</b>  What is active transport?  What is needed for active transport?

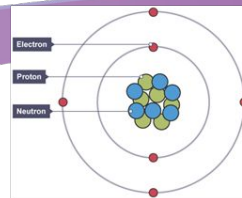
### M5 Atoms:

	Particle	Mass	Charge
20	<b>Electron</b>	What is the <b>mass</b> of each sub-atomic particle?	What is the <b>charge</b> of each sub-atomic particle?
21	<b>Proton</b>		
22	<b>Neutron</b>		

23	<b>Nucleus</b> Which sub-atomic particles are found in the nucleus?
24	<b>Electrons</b> Where are electrons found? What is the maximum number of electrons which can be held on each of the following shells? <ul style="list-style-type: none"> <li>• First shell</li> <li>• Second shell</li> <li>• Third shell</li> </ul>
25	<b>Periodic Table Groups and Reactivity</b> What is the name of the elements in the following groups? Describe their reactivity <ul style="list-style-type: none"> <li>• Group 1</li> <li>• Group 7</li> <li>• Group 0</li> </ul>

### Maths in Science:

12	<b>Percentages</b>  Describe how to calculate a percentage	13	<b>Solving Equations</b>  What are the stages we should follow to solve equations?
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# How can you use it?



## TOP TIP

# 1

### LOOK, COVER, SAY, WRITE, CHECK

- open your **Need to Know Book**, choose a subject and find the appropriate information page for the current STEP
- practise 'look, cover, say, write, check' independently on a whiteboard, in your book or on a piece of paper
- Write your score and try to beat it next time



[https://www.youtube.com/watch?v=nes8jlsFKMI&feature=emb\\_logo](https://www.youtube.com/watch?v=nes8jlsFKMI&feature=emb_logo)

# How can you use it?



[https://www.youtube.com/watch?v=JnKBAb4q768&feature=emb\\_logo](https://www.youtube.com/watch?v=JnKBAb4q768&feature=emb_logo)

## TOP TIP



### IF THIS IS THE ANSWER, WHAT IS THE QUESTION?

- open your **Need to Know Book**, choose a subject and find the appropriate information page for the current STEP
- Practise 'if this is the answer, what is the question?' with your shoulder partner or someone at home.

# How can you use it?



## STICK



[https://www.youtube.com/watch?v=2lPiEkMhdK0&feature=emb\\_logo](https://www.youtube.com/watch?v=2lPiEkMhdK0&feature=emb_logo)

## TOP TIP

# 3

### QUICK LOW-STAKES QUIZZING

- open your **Need to Know Book**, choose a subject and find the appropriate questions page for the current STEP
- Practise 'quick low-stakes quizzing' either by yourself, with your shoulder partner, or with someone at home.



# How can you use it?



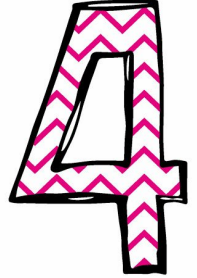
**MAKE  
IT  
STICK**

NET



[https://www.youtube.com/watch?v=HLhmquY7icY&feature=emb\\_logo](https://www.youtube.com/watch?v=HLhmquY7icY&feature=emb_logo)

**TOP TIP**



**FLASHCARDS**

- open your **Need to Know Book**, choose a subject and find the appropriate information page for the current STEP
- create **FIVE** flashcards for definitions or facts you struggle to remember
- Use the flashcards to test yourself, or ask someone else to test you using them

# Things to remember ...

Ensure you don't always do the same subject.

The NTKB is portable, so you can take it with you as a revision tool ... you can use it on the bus, on an aeroplane, waiting for a sibling to do an activity etc.

The NTKB is your main homework task - learning the knowledge within it is crucial to success.

Having a NTKB allows you to take control of your learning. If you've been absent from school, make sure you catch up using it.

**YOU MUST BRING IT TO SCHOOL DAILY - IF YOU LOSE IT YOU WILL HAVE TO PAY TO REPLACE IT.**