

## TEACHING & LEARNING JOURNAL - EDITION 24

### Improving Literacy in the KS3 Science Curriculum

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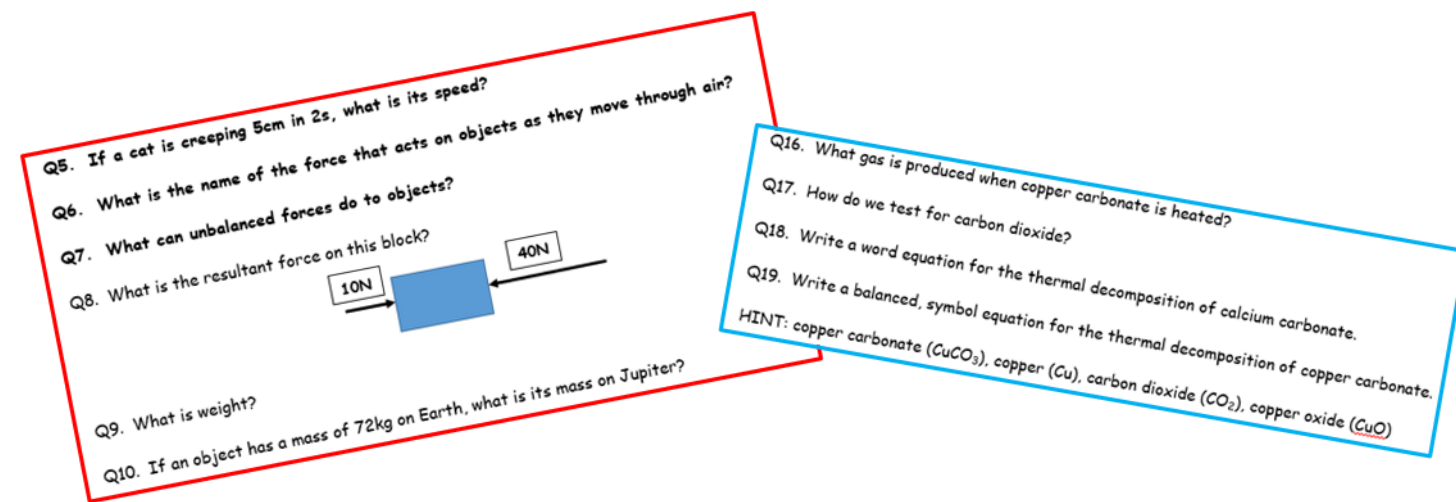
Although I joined the literacy working party at the start of the academic year with the aim of creating a resource that could be used to enhance the quality of answers given in long-answer questions (affectionately known as 6 markers) at GCSE level, COVID-19 put paid to this as was unable to trial it with Year 11 before they left so I decided to use my time to enhance the KS3 Curriculum we have in Science.

As part of my role as Assistant Team Leader I oversee the Year 7 & 8 curriculum in Science and over the last 5 years we have created a “teachable, well planned curriculum” which is accessible to all the Science staff to aid planning and give teachers a starting point for any lessons they wish to adapt for specific classes. This year has seen these continue to evolve and during “lock down” additions have been made to help our learners achieve.

#### Low Stakes Questioning

There has been a huge amount of research carried out on the benefits of low-stakes questioning and knowledge retrieval and with the large subject content Science has (three separate subjects) this is vital to our students’ success.

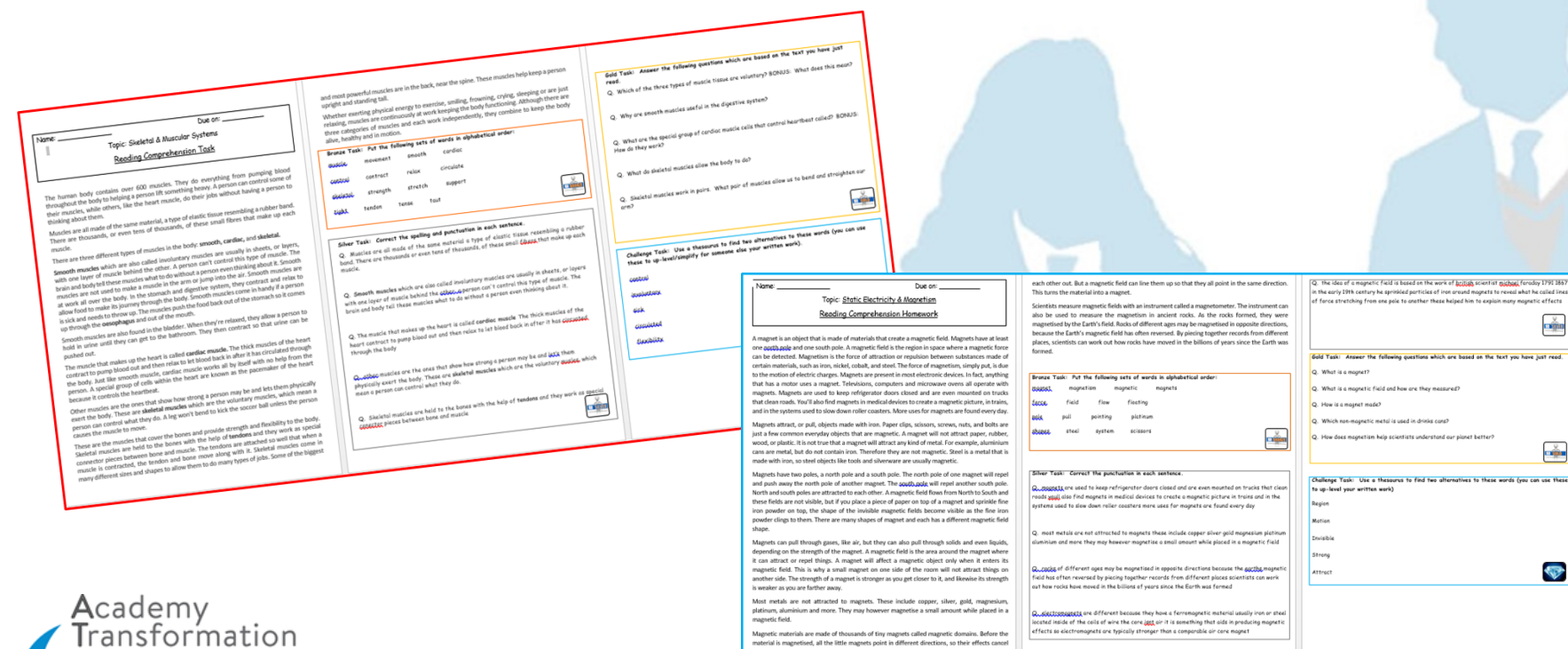
In late February, I was asked by GCo to help with a piece of research he was undertaking on “Low-stakes questioning” which involved exposing students to 25 questions at the start of a unit, peer/self marking these and then using a random 5 at the start of every lesson before re-introducing the questions at the end of the unit. COVID-19 stopped this research before any meaningful data could be collected by Science but I feel it will reap rewards so during “lock down” 25 questions have been added to every Year 7 & 8 unit and 5 random questions are tested at the start of each lesson.



#### Reading Comprehension Activities

We are all aware of how important reading is as a key to success as evidenced by CPD/”stop and read” initiative etc. Science, like many subjects has a large number of subject specific vocabulary that some of our students find particularly challenging. To try and address this it is important we introduce these words early so they are embedded by Year 11.

To aid this, during “lock down” I have written a reading comprehension task for each Year 7 & 8 unit. They are all the same format and are levelled Bronze to Challenge. These can either be set as home-learning tasks or used as an activity within a lesson.



Lock Down Spelling Tests

Another literacy initiative we have introduced as a department throughout lock down is a weekly key word spelling test across all years. 10 spellings have been created for each topic, these tests are set on SMHW and are accompanied by a knowledge organiser. The latter encourages students to read about the subject and generates greater success in the spelling tests (if students look for the words in the knowledge organiser first). This initiative will continue after lock down and we will also regularly revisit spellings from previously taught units.

I also check spellings in class using scrabble tiles. Students are given a clue to a word and they need to spell it and work out the score the word would achieve in scrabble. This is a quick activity and just requires the purchase of a large amount of scrabble tiles.

Literacy Starter Activities

Many lessons have a literacy based starter activity which tries to introduce keywords and topics in a more “interesting” way and many students do not really realise they are completing a literacy based activity.

Definition puzzles are easily created using <http://puzzlemaker.discoveryeducation.com/> and anagrams/missing letter activities take minutes to make but just get students looking at keywords in a different way.

Animal & Plant Cell Structures Starter

Unscramble the cell structures.

sun clue  
n\_c\_l\_\_s

lancer emblem  
c\_\_l l m\_br\_n\_

to my scalp  
c\_yt\_pl\_sm


boom rises  
r\_b\_s\_m\_s

hit iron modca  
m\_t\_ch\_ndr\_\_

veal ouc  
v\_c\_\_l\_

lace will  
c\_\_l l w\_\_l l

clop art shlo  
c\_h\_l\_r\_pl\_st



Extension: What is the significance of the colours I have used in the words?

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2	6				26							23													
5	7	3	16	3	22	16	3	5	7	16	3	3	13	9	8	3	13	5	18	5	7	3			
F																	F								
26	9	16	3	5	16	9	22	1	20	12	3	22	1	8	9	26	22	1	25	13	9	8	3		
				M								F			C										
9	13	23	9	13	13	9	1	20	22	26	9	16	3	6	22	1	1	18	5	2	3				
12	9	5			18	24	25	20	3	1	9	13	22	12	15	22	25	13	1	3	3	8	3	8	
					F						C	M	B												
					26	18	16	6	18	23	2	17	13	5	9	18	1								

Next steps

Continue to add to the Science curriculum encouraging more literacy into lessons.

Come back to my original project of creating resources to help GCSE groups answer “6 mark” questions.

Increase the “Science Capital” in our schemes. This will help students understand the importance of Science and career paths they could pursue.

