



# ORANGE HIGH SCHOOL

## ASSESSMENT TASK NOTIFICATION

<b>Subject</b>	Science: Chemistry concept model and detailed explanation
<b>Year</b>	9
<b>Weighting</b>	30%
<b>Teachers</b>	Ms Huggett, Mr Routh, Mr Kennard, Ms Townsend, Mrs Griffen, Ms Constant and Ms Paul
<b>Head Teacher</b>	Mr Shea
<b>Due Date</b>	Specific day to given by classroom teachers (Term 2 Week 2B)

### Assessment Outline

This task will further develop your scientific literacy skills and will build upon on your skills that you developed in Task 1 (breaking down a concept/idea and your use of PEEL to convey your understanding).

A model in science, can be described as any of the following, a physical model, a labelled picture or diagram, a mathematical equation or an online simulation.

You will need to research at least ONE Chemistry concept and ONE other concept from any other science discipline. You must submit a model for each concept to show how it can be used to demonstrate your understanding of the concept you have researched. You will also need to submit how you would explain the concept to a student in the year groups between Years 8 to 10 (upper Stage 4 and Stage 5 students in high school). Use the scaffold sheet supplied to help guide your responses.

In this task you must:

- Research and compose a paragraph using PEEL to answer the question, "Why do scientists use models to explain concepts in science?"
- Research **at least** ONE Chemistry concept and ONE other concept from any other science discipline
- Explain the science behind each of your chosen concepts (look at the main themes/ideas behind the concept)
- Create a model for each concept.
- Use the question sheet scaffold to guide your explanation of each concept and their corresponding model. (This guide should be used for each concept)
- For each concept/model use the scaffolded questions to create a PEEL style paragraph explaining how to use your model to teach a concept to others.
- Submit a bibliography to acknowledge where you collected your information from, as per the bibliography scaffold attached.

→ Make your model interesting and descriptive, think about the structure how to make the concept easy to understand, the model should be visually appealing.

### Non-completion of Task:

If you know you are going to be away on the day that the task is due, you must make alternative arrangements with your classroom teacher. If you are away on the day of the examination, you must catch up with your classroom teacher on the first day you return to make alternate arrangements to catch up on this task.

**Failure to follow the above procedures may result in a zero award.**

### Outcomes Assessed

**SC5- 7WS** Process and analyse data and information from secondary sources

**SC5- 8WS** Produce plausible explanations and solutions to identified problems

**SC5- 9WS** Present science ideas using appropriate text and representations

**SC5-16CW** Explains how models, theories and laws about matter have been refined as new scientific evidence becomes available

**SC5-17CW** Discusses the importance of chemical reactions in the production of a range of substances, and the influence of society on the development of new materials

## Steps to follow to complete this task

### Planning:

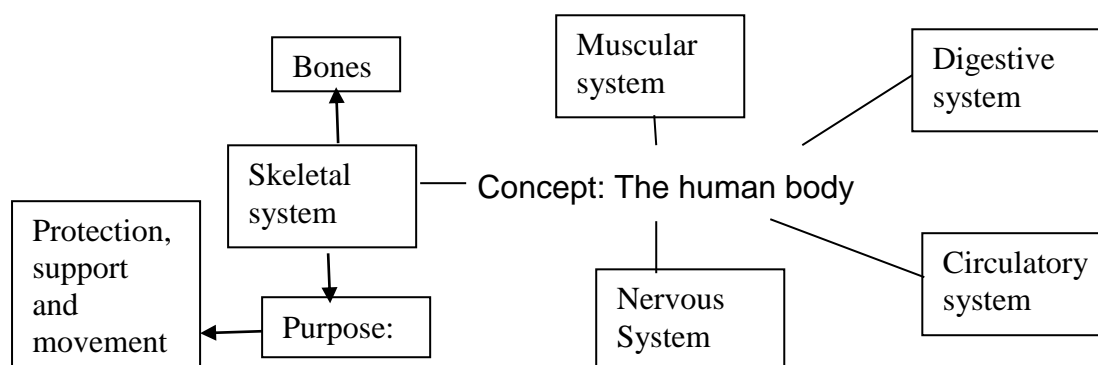
1. Choose your target audience (year group to explain your models too).
2. Research and compose a paragraph using PEEL to answer the question, "Why do scientists use models to explain concepts in science?"
3. Choose at least **TWO** concepts (one chemical and one other science-related) to research (more to possibly increase your marks). If you're unsure, please check your chosen concept with your teacher.

#### Possible Chemistry concepts:

- A. History of the atom
- B. What does an atom look like
- C. Periodic table trends
- D. Chemical reactions
- E. Conservation of mass and energy in a reaction
- F. A concept you're interested in. **GET THIS APPROVED BY YOUR TEACHER.**

4. For each concept break down the main themes/ideas, by using the concept building worksheet supplied by your teacher in Task 1.

#### Example concept breakdown (Year 8 Living World Topic)



5. Research your chosen concepts, and write a brief description about each, include images where possible (make sure you reference where you found your images).
6. Think about how you would explain your concept using a model and research a variety of model types.
7. Use the scaffolded questions on the next page to help guide your thoughts, ideas and research for each concept and model.
8. Think about your model design, what would it look like and how would you use it to explain the scientific concept?

**Answer the below questions for EACH model (The science behind the model):**

**Note:** The below is a scaffold, to obtain higher marks, you must go above and beyond to demonstrate a deep knowledge of each concept and how the model can be used to explain the science behind the concept that it represents.

1. What concept is your model trying to explain?

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2. Describe the features (different parts/sections/areas) of the model.

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3. Explain how your model explains the science behind the concept.

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4. How does your type of model help your target audience understand the concept?

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5. Describe any limitations (weakness in explaining a concept or leading to misinterpretation) that your model has.

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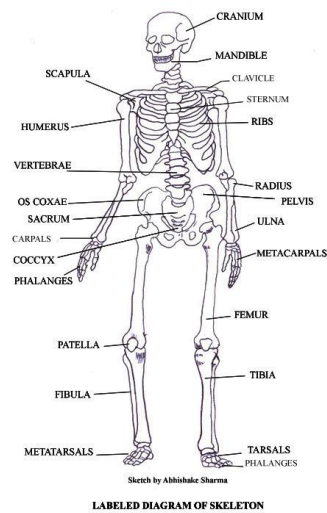
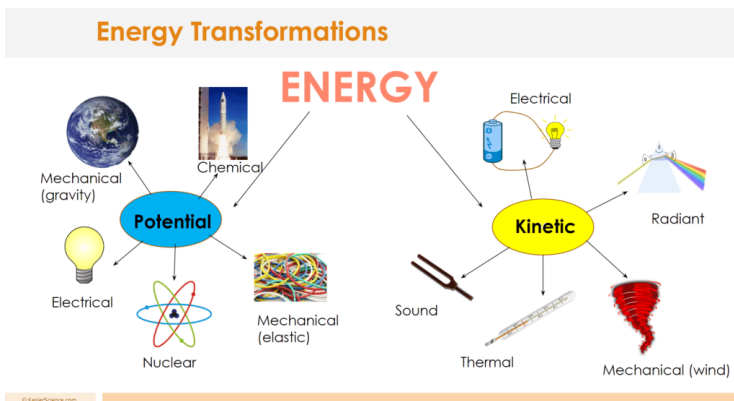
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## Presenting (making the model):

Example of a model:

The Wild Bunch Printable Kit



What needs to be handed in to your teacher in Term 2:

- ➔ Overall paragraph on “why do scientists use models to explain concepts in science”
- ➔ Paragraph on each concept using the PEEL structure
- ➔ Scaffold questions answered for each concept.
- ➔ The models you have created.
- ➔ The bibliography

## Bibliography Scaffold:

<b>BOOKS</b>				
<b>Author(s)</b>	<b>Date of publication in brackets</b>	<b>Title of book in italics</b>	<b>Name of publisher</b>	
<u>Example:</u> Keay, J.	(2000).	<i>The Great Arc.</i>	Harper Collins.	
<b>WEBSITES</b>				
<b>Author</b>	<b>Date published if available</b>	<b>Title of Article</b>	<b>Title of website in italics</b>	<b>From URL</b>
	If no date available write (n.d.)			
<u>Example:</u> Landsberger, J.	(n.d.)	Citing Websites.	<i>In Study Guides and Strategies.</i>	<a href="http://www.studygs.net/citation.htm">http://www.studygs.net/citation.htm</a> .
<b>MAGAZINES</b>				
<b>Author</b>	<b>Date</b>	<b>Title of Article</b>	<b>Name of Magazine</b>	<b>Volume, issue, pages</b>
<u>Example:</u> Tumulty, K	(2006, April).	Should they stay or should they go?	<i>Time</i>	167(15), 3-40.
<b>PERSONAL CONVERSATIONS AND EMAILS</b>				
<b>Person's name</b>	<b>Date</b>	<b>How you know them</b>	<b>Nature of communication</b>	
<u>Example:</u> Mr B. Rock	12/7/16	Geologist and uncle	email	
<b>VIDEOS, DVDS, TV SHOWS ETC</b>				
<b>Producer and writer / director or for youtube the person who uploaded video</b>	<b>Date</b>	<b>Title and type of resource</b>	<b>Country and company producing video / or the URL</b>	
<u>Example:</u> Fothergill, A. (producer), Attenborough, D. (narrator).	(2005)	The Blue Planet – Coral Seas [DVD]	UK, BBC.	

**Marking Rubric: Scientific Article (Due: Term 2 Week 2B)**

**Student Name:** \_\_\_\_\_

**Class:** \_\_\_\_\_

[illegible]

<b>Presentation SC5- 9WS</b> Present science ideas using appropriate text and representation	<b>Model Design</b>  (all presented models)  <b>MARKED WHOLISTI- CALLY</b>	6 Each of the models layouts are visually appealing and appropriate + Looks great and lots of detail present + Model submitted on time + Linked strongly and correctly to the responses given to the questions + All models are linked Stage 5 science or above	5 Each of the models layouts are visually appealing and appropriate + Looks good and some detail present + Linked satisfactorily and correctly to the responses given to the questions + All models are linked Stage 5 science or above	4 Looks good and some detail present + Linked satisfactorily and correctly to the responses given to the questions + All models are linked to science	3 – 2 Looks good and minimal detail present + Some link to the responses given to the questions + All models are linked to science	1 Model attempted	0	<b>WS9</b>  <
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<b>Result</b>	<b>Grade Total</b>	<b>A 38 - 32</b>	<b>B 33 - 26</b>	<b>C 25 - 12</b>	<b>D 11 - 5</b>	<b>E 4 - 0</b>	
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**Comments:**

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