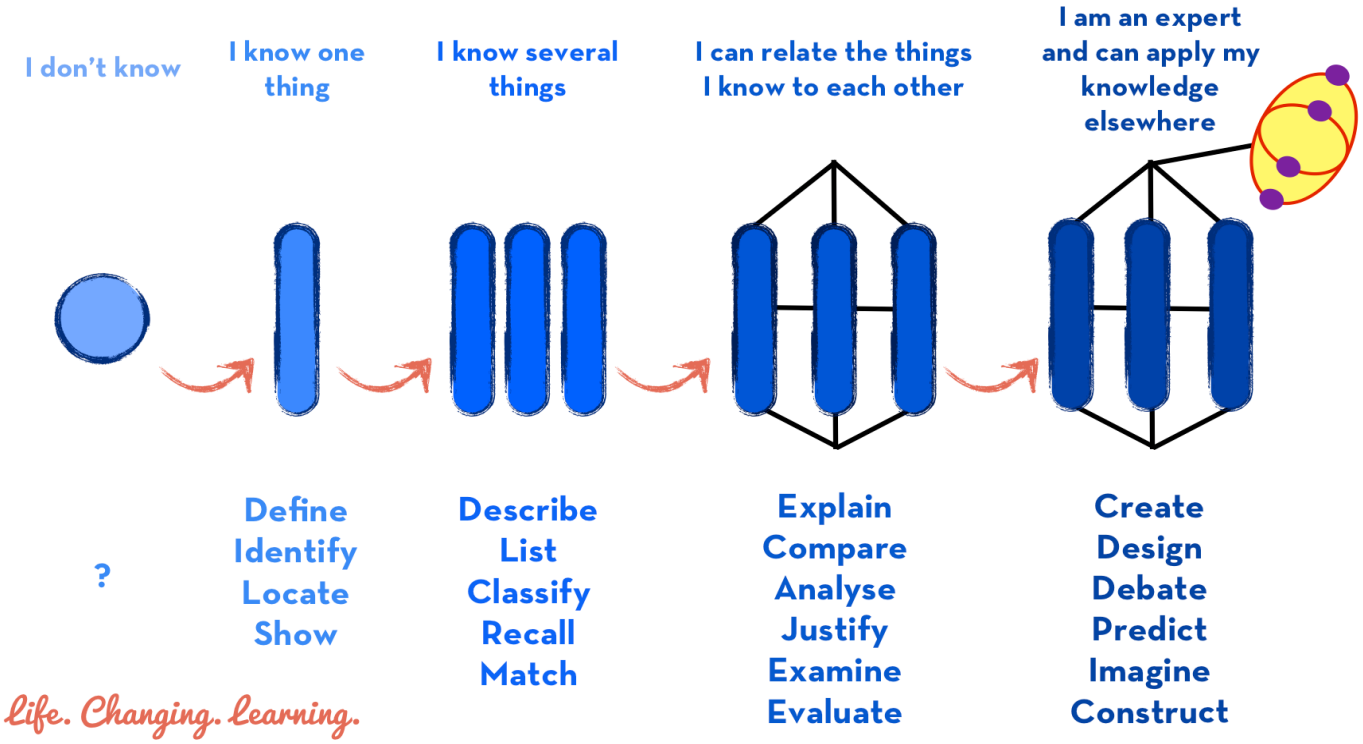
SOLO Taxonomy and Year 7 Learning

In order to improve further the quality of teaching and learning for students we have adopted the SOLO Taxonomy **(Structure of Observed Learning Outcomes)** to enhance our teaching. This enables the following:

- Effective scaffolding of learning to engage all students
- Development of higher order thinking skills so that students are stretched and challenged
- Clear feedback and a way of structuring 'feedforward' allowing students to reflect upon their work and to improve it further.

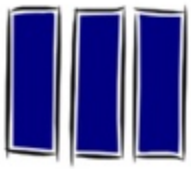
Through SOLO we are able to use a **common understanding** and **language of learning** that helps teachers and students to facilitate and accelerate the learning process. SOLO helps us to describe levels of increasing complexity in the understanding of subjects. The complexity grows from surface (e.g. knowing and comprehending) to deeper conceptual understanding (applying, analysing, evaluating and creating). SOLO allows the teacher to precisely target learning intentions, making the learning visible and transparent for all learners.

This diagram explains the stages of SOLO and the skills that are associated with each stage.

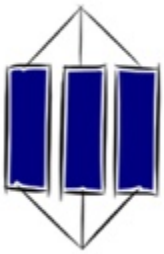


Pre-structural (Emerging):
The learning outcomes show unconnected information with no organisation. The student may complete the task with no real connection or understanding, they may have missed the point or need support to make a start. This is the 'I have no idea!' stage. This an important pre-learning stage that is often overlooked. It is essential that students feel comfortable in placing themselves on this stage. The **pre-structural** stage could be at the start of a new topic or possibly at the start of a learning journey.

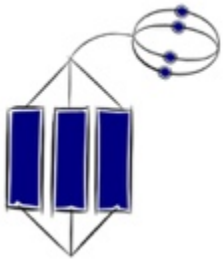
Uni-structural (Foundation):
This stage is associated with the students understanding a single fact or a single piece of information. The learning is often disconnected and limited. This stage is an example of shallow learning. This is the 'I know one thing about what we're learning!' stage.



Multi-structural (Developing):
This stage is an example of quantitative learning, where the students can simply recall a series of separate pieces of information and facts. The multi-structural stage differs from the uni-structural stage simply by the number of facts. The student knows several aspects of the task but fails to recognise the relationships between them. This is the 'I know loads of things about what we're learning about!' stage.

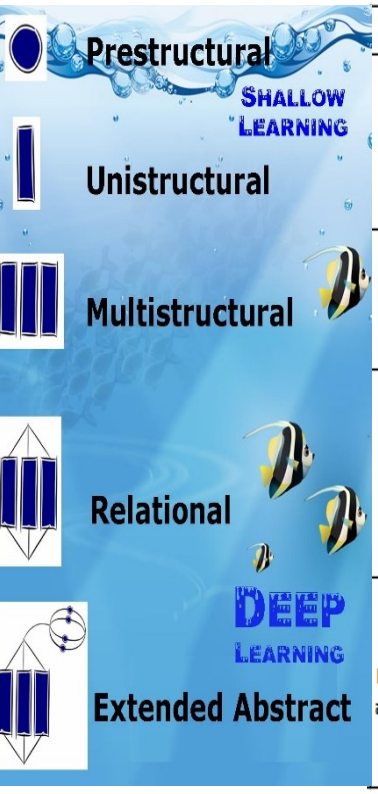


Relational (Secure):
This stage exemplifies deep learning. The learning now becomes qualitative. Here the student links and relates the pieces of information, allowing them to have a deeper understanding of the task or subject. This is the 'All the things I know I can link together and connect my learning!' stage.



Extended Abstract (Excelling /Mastery):
This stage is the epitome of deep and profound thinking. Students will rethink their ideas and look at their learning in a new way. They will then be able to use this as a basis for a prediction, generalisation, summary, reflection or creation of new understanding or learning. This stage could be christened the '**Expert Area'**, as this seems easier to explain to students.

SOLO example of physical and chemical properties of materials:



SOLO level	Verbs			Examples
Unistructural learning outcomes show simple connections but importance of different parts not noted	define	identify		**define** the physical & chemical properties of materials
	draw	label		
	find	match		
	follow simple procedure	name		
Multistructural learning outcomes show connections are made, but significance of parts to overall meaning is missing	combine	follow a step by step procedure		**describe** the physical & chemical properties of materials
	describe			
	list			
	outline			
Relational learning outcomes show full connections are made, and synthesis of parts to the overall meaning	analyse (part-whole)	explain causes	organise	**classify** the properties of common materials
	apply	explain effects	question	**sequence** the changes when a materials are heated
	classify	form an analogy	relate	**compare & contrast** physical & chemical properties
	compare & contrast	interview	sequence	**explain** the causes of changes during heating
	distinguish			
Extended Abstract learning outcomes go beyond subject and links are made to other concepts - generalisations	argue	generalise	predict	**predict** what might happen when "x" is heated
	create	hypothesise	prioritise	
	compose	justify	prove	
	construct	perform	reflect	**generalise** about the changes that occur when materials are heated
	design	plan	theorise	
	evaluate			

Please find below a poster used in school to help to explain the SOLO model to our Y7 students