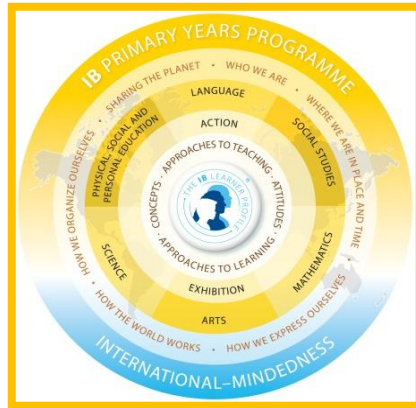




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The IB Continuum



- To improve student learning.
- PYP Review.
- Recommendation from PYP Authorization.
- Revised Approaches to Learning (ATL) in MYP.
- Identified the need to vertically articulate skill development across the school.

Approaches to learning: ages 3-19






- Research skills
- Communication skills
- Social skills
- Thinking skills
- Self-management skills

Approaches to learning (ATL): 2013



Transdisciplinary skills Approaches to learning ? ATL course

THE IB CONTINUUM

Approaches to learning (ATL): 2015



Approaches to learning Approaches to learning Approaches to learning ATL course

THE IB CONTINUUM

Skills in the PYP

PYP:

Making the PYP Happen (2009) Transdisciplinary skills.

MYP:

From Principles into Practice (2014)

Subject-specific guides (2014)

Teacher Support Materials (TSMs)

Further guidance for developing ATL in the MYP.

DP:

Approaches to teaching and learning in the DP (Pilot 2013-2014).

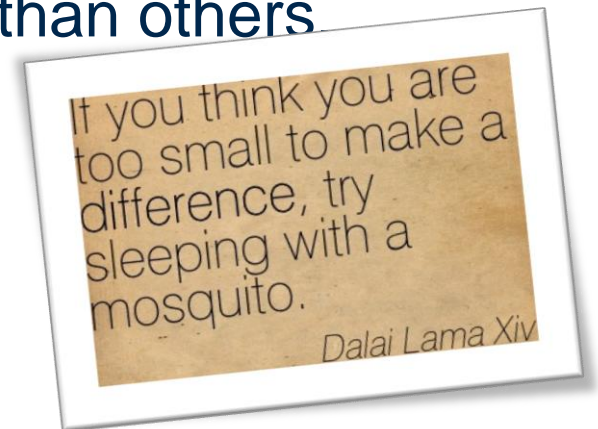
Subject guides.

TSMs.

IB Standards and Practices, 2014

THE LEARNER PROFILE

- Skills are documented in planning documents; but are brief and not always linked to a learning engagement and assessed.
- Missed opportunities in formative assessments.
- Skill-developing engagements are taking place but were not well documented.
- Some skills are covered more frequently than others
- Thinking skills are specifically lacking.



Are we teachers of skills or teachers of content?



<http://www.islschools.org/qatar>

A skill is the learned capacity to carry out pre-determined results and/or the ability to choose and perform the right technique at the right time, effectively and efficiently.



<http://www.redwingexpress.com/blog/the-three-best-hard-skills-to-have/>



Washing my car in the UK



<http://www.meguiarsonline.com/forums/showthread.php?2619-Detailing-Process-for-Lambo-Gallardo-at-WAC-Car-Detailing>

A Balancing Act!



Skills

PYP-MYP-DP Skill Categories	PYP Skill Clusters
Communication	Speaking, Listening, reading, writing viewing, presenting, non-verbal communication
Social	Accepting responsibility, respecting others, cooperating, resolving conflict, group decision making, adopting a variety of group roles
Self-management	Gross motor skills, fine motor skills, spatial awareness, organisation, time management, safety, healthy lifestyle, codes of behaviour, informed choices
Research	Formulating questions, observing, planning, collecting data, recording data, organizing data, interpreting data, presenting research findings
Thinking	Acquisition of knowledge, comprehension, application, analysis, synthesis, evaluation, dialectical thought, metacognition

Skills

PYP-MYP-DP Skill Categories	MYP Skill Clusters	
Communication	Communication	
Social	Collaboration	
Self-management	Organization	
	Affective	Mindfulness
		Emotional management
		Self-motivation
		Perseverance
		Resilience
Reflection		
Research	Information literacy and Academic Honesty	
	Media literacy and Academic Honesty	
Thinking	Critical thinking	
	Creative thinking	
	Transfer	

Skills

PYP-MYP-DP Skill Categories

DP Skill Clusters

Thinking

Critical thinking

Creative thinking

Transfer

Metacognition

Reflection

Communication

Communication

Social

Collaboration

Self-management

Affective

Mindfulness

Emotional management

Self-motivation

Perseverance

Resilience

Organization

Managing time and Tasks

Goal setting

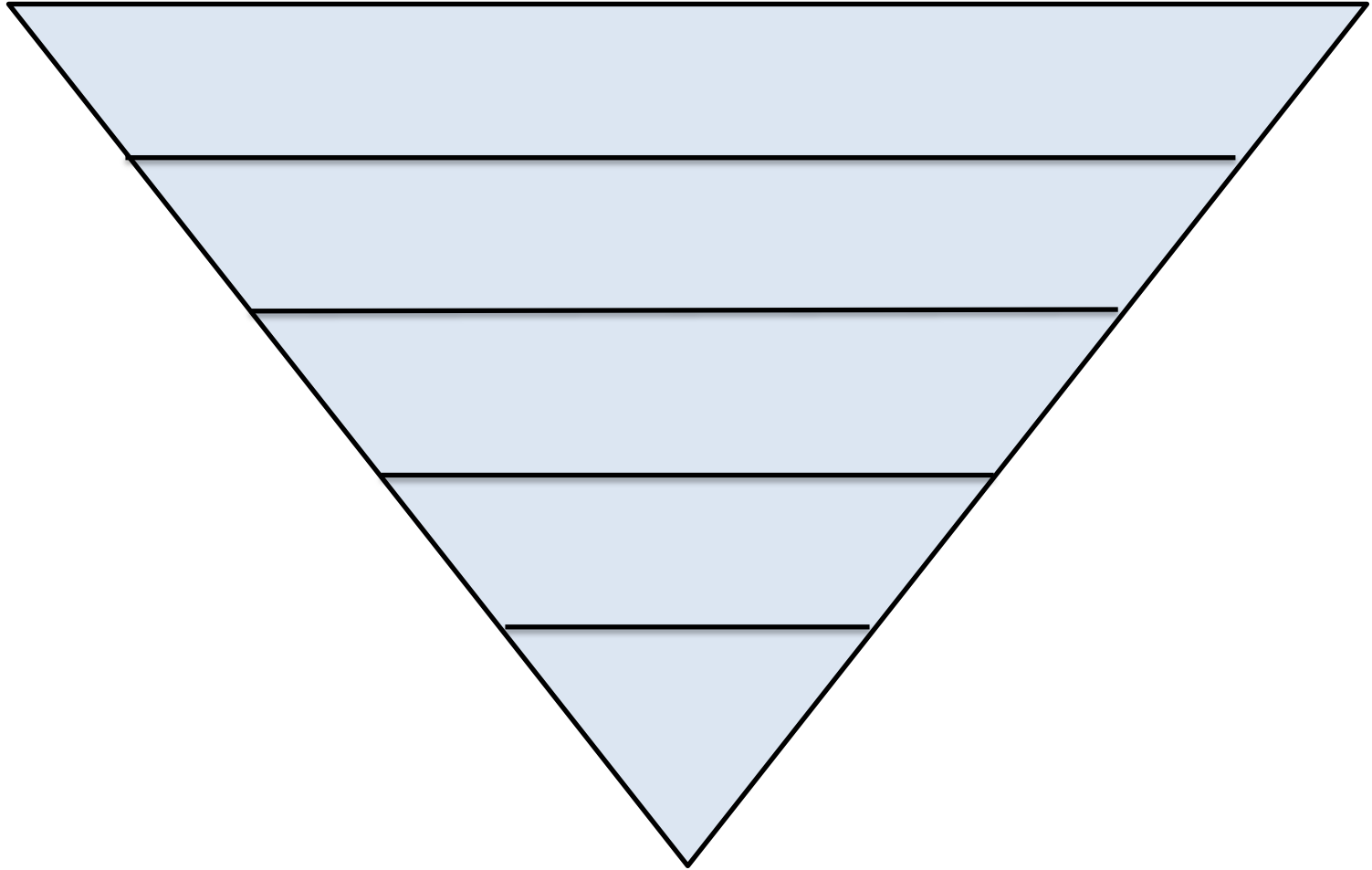
Research

Media, Information literacy

Academic Honesty

Skills

Most explicitly taught in my school



Least explicitly taught in my school

Transdisciplinary skills are just that – transdisciplinary. Regardless of the programme/curriculum, most inquiry schools recognise some framework of skills and dispositions that are shared across all subject areas. These may include, for example, social and self management skills thinking skills and communication skills....

These skills should be inquired into as part of students' learning experiences. Highlighting the same skills in specialist programs (not all of them every time – but at least some!) helps students transfer their learning AND widens the scope of inquiry. For example – students exploring ways to give others feedback in the classroom can consciously practice and extend that skill in PE, in art, etc. If any aspect of planning is shared between generalist and specialist teachers I think it should be this.

<http://justwonderingblog.com/2014/09/22/inquiry-and-the-specialist-teacher/>

What we have decided to consider in our planning.

ALL skills need to be explicitly developed.

Almost any skill could potentially be explored in a given unit, so it necessary to be strategic regarding what skill(s) to focus on:

- the learning outcomes/objective strand(s) that are being taught and assessed by criteria.
- the summative task.
- the learning experiences/formative tasks that build to the summative task.

Why



Skills?

<http://www.socialmediaexaminer.com/social-strategy-with-neal-schaffer/>

Requirement from Programme Standards and Practices C2: Written Curriculum

1b:

The written curriculum includes an 'approaches to learning' planning chart for all years of the programme.

What planning process might we implement in order to meet these requirements?

KG How the world works planner

Self-management skills:

Organization – students will have the opportunity to organise themselves and their group as they put together their presentations

Time management – students will need to be able to demonstrate that they can work to a given time limit in order to complete the different stages of their life cycle

Research skills:

Collecting, recording and organizing data – students will be able to choose an animal to research and collect information on this animal. They will need to record and organise the information in a way that will be presented.

Presenting research findings – for the summative assessment the students will choose how to present their research findings with their group to peers, parents and other members of the school community.

Social skills:

Cooperating - students work cooperatively in a group, sharing materials and taking turns while they are working on their summative assessment.

Resolving conflict – students will need to listen carefully to others;

KG How the world works checklist

Process			
Cooperated with others.			
Used time efficiently.			
Showed commitment to the project.			
Worked independently during the process.			
Understanding of central idea			
Can classify chosen animal			
Can explain life cycle of chosen animal			
Can identify 1 difference and 1 similarity between 2 animals			
Research skills			
Was able to contribute to the chosen animal.			
Found relevant information.			
Tried to write in own words.			
Organized information appropriately.			
Presentation			
Has an appropriate title.			
Includes a diagram of a life-cycle.			
Includes at least 1 picture.			
Writing has been edited so it is legible.			
Communicated in front of an audience.			
Uses some technical vocabulary.			
Showed confidence during the presentation.			

KG Skills Map for How the world works

Research skill	Learning engagement	Formative assessment	Summative Assessment
Collecting data <i>Identifying something one wants or needs to know and asking compelling and relevant questions that can be researched.</i>	Use unit of inquiry books and <u>Pebblego</u> ® to collect relevant information about their chosen animal. Find key words from texts about animals; research in library and in class using non-fiction books	Children look at pictures of butterflies and frogs and a mammal in various stages of development and try to sequence them in the order of development.	Found relevant information. Used a variety of sources.
Recording data <i>Describing and recording observations by drawing, note taking, making charts, tallying, writing statements.</i>	Using varied resources, write information in their own words	Use subject specific vocabulary	Tried to write in own words.
Organizing data <i>Sorting and categorizing information; arranging into understandable forms such as narrative descriptions, tables, timelines, graphs and diagrams.</i>	Sort information under headings Model simple sentence construction through use of activities that focus on different parts of the sentence e.g. openers, connectives each time	Students group animals into 2 categories mammals and non-mammals.	<u>Organised</u> information clearly, using titles, pictures and captions.
Presenting research findings <i>Effectively communicating what has been learned; choosing appropriate media.</i>	Write captions underneath pictures Look at posters around school; discuss common elements (title, pictures, clear font, <u>colour</u> ...)	Make an individual poster about an animal.	Has an appropriate title. Includes a diagram of a life-cycle. Includes at least 1 picture. Writing has been edited so it is legible. Communicated in front of an audience. Uses some technical vocabulary. Showed confidence during the presentation.

Thinking Skills Map EC1-G5

Thinking Skills Map EC1-G5

	EC1	EC2	KG	G1	G2	G3	G4	G5
Possible learning experiences								



<p>Acquisition of knowledge Gaining specific facts, ideas, vocabulary; remembering in a similar form.</p>	<p>Learn animal vocabulary Students name animals to begin to classify animal groups. This may be done in any form e.g. number of legs, habitat, appearance etc.</p>	<p>Identify a range of tools, techniques and medium Model and develop selected artistic techniques e.g. bubble painting throughout the unit</p>	<p>Gain specific facts about another community Make contact with another community in a different part of the world to begin to find out what daily life is like for them</p>	<p>Observe real life objects Look at a range of different foods e.g. wheat, sweetcorn, in their raw state to develop an understanding of the changes food goes through when it's processed</p>	<p>Explore pictures and artefacts Visit museums, formulating their own questions</p> <p>Gain specific facts about themselves and their personal history Interview their parents, create their own timelines</p>	<p>Use of technical vocabulary Write about their art work, using vocabulary such as tone, texture, colour</p>	<p>Gather research information Choose which information is relevant to their work</p>	<p>Use technical / specific vocabulary</p>
<p>Comprehension Grasping meaning from material learned; communicating and interpreting learning.</p>	<p>Make connections through observations Use books and short videos to see how animals can be grouped in multiple ways</p>	<p>Observe real life objects Students use their knowledge of what plants need to grow to suggest why some plants did not during a range of experiments</p>	<p>Identify differences and similarities through questioning Invite guest speakers (i.e. parents) in to class to share their different cultural festivals; Diwali, Eid, etc</p>	<p>Verbalise understanding Select and test a simple experiment based on the use of forces (push/pull) using oral explanation to show understanding</p>	<p>Explaining observations Use scientific vocabulary to explain their observations and experiences</p> <p>Observe and describe Observe shadows and describe how they change as the sun 'appears' to change.</p>	<p>Responding to art Respond to the work of different artists, explaining preferences, techniques or style</p> <p>Communicate findings.</p>		<p>Share what they have read and done</p>
<p>Application Making use of previously acquired knowledge in practical or new ways.</p>	<p>Choose materials for purpose Select from a range of different materials to create texture e.g. smooth, rough, furry etc</p>	<p>Select appropriate equipment Students select the correct tools to complete different artistic techniques</p>	<p>Incorporate real life situations Identify misuse of water in the community and act to raise awareness to reduce waste e.g. emptying left over</p>	<p>Apply previously acquired knowledge Make a range of recipes using the same raw ingredients to see the changes</p>	<p>Character dress-up Bring in props and clothes to dress up in and 'become' a character from a story</p> <p>Retell stories in different ways</p>	<p>Using photography Using their own photographs, manipulate them to create photos in the style of an artist, e.g. Andy Warhol</p>	<p>Take part in a living museum Based on their research, use their knowledge and understanding of a particular explorer and 'become' that person</p>	<p>Provide realistic problems or situations in which to use skills or knowledge</p>

Where do we go from here?

PYP:

- Continue to document skill development throughout the year
- Work more closely with single subject teachers to focus on shared understanding of skill development

Choosing the skills for your unit

- Examine a learning outcome/objective strand from your own unit. Determine what thinking skills are inherent in the learning outcome/objective strand?
- How will the student be expected to demonstrate these skills? (learning engagement/performance of understanding)

Note:

How will you determine the level of achievement of those skills?

MYP Planning Process

Unit Plans

Continue to revise our subject-specific unit plans in light of 2014 guides by the end of the 2014 to 2015 academic year using the new unit plan on ManageBac. Careful attention will be paid to **the alignment of MYP objective strands to ATL skills** that will be developed in the learning experiences section of the unit plan. Those skills will be measured by the summative assessment tasks but students will also receive ongoing formative feedback from the teacher as the skills are taught within the learning process.



Horizontal Planning

Teachers to meet every 2 weeks for 30 minutes in subject year groups (Year 1, etc.) to discuss how to design learning experiences around the ATL skills that were agreed upon for the unit that is currently underway.

just
another
example

Vertical Planning

Teachers to meet every 4 weeks with their subject groups for 60 minutes to discuss their approach to ATL skill development with input from the MYPC and ATLC who have a broad picture of the ATL development process.

Student self-assessment

Students at ISL Qatar have always been given opportunities to reflect on their learning – end-of-unit, end-of-calendar year, written reports, etc. We would now like students to focus more explicitly on how they perceive their own skill learning and development. Currently, students in Years 1 through 3 create a reflection portfolio based on the ATL skills. The ATL skills need to become more of a centerpiece for the portfolio as we ask the students to reflect and conduct a self-assessment of the skills developed and manifested in their work.

The Projects

- ❑ Community Project: Year 3 students will have the opportunity to consolidate their community service/action experiences through the community project. This will be an opportunity for students to use certain ATL skills as they complete this project.
- ❑ Personal Project: Year 5 students will continue to use this component of the programme to demonstrate their knowledge in one or more of the ATL skills.

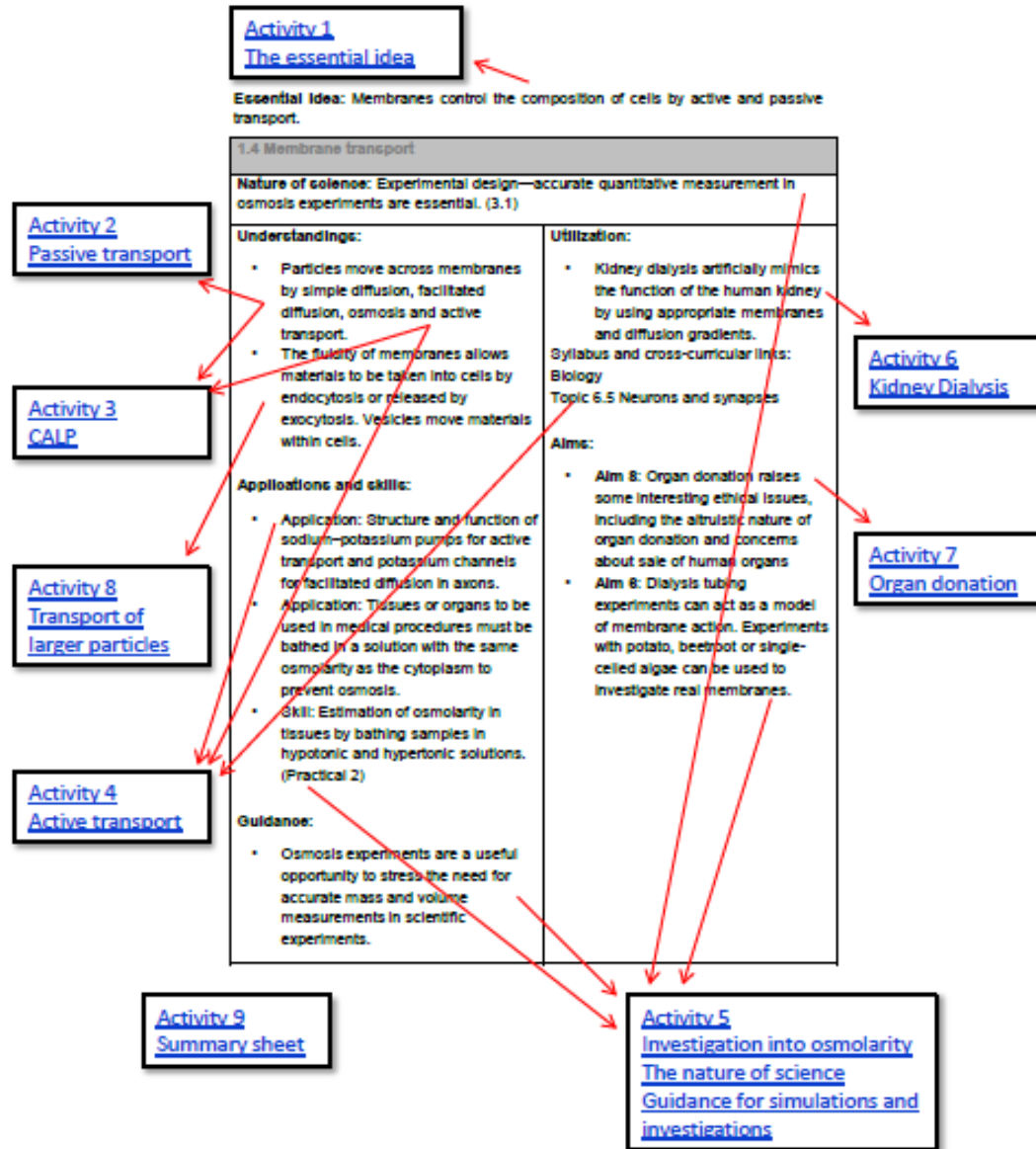


Implicit in the way we teach

Implicit in the way we teach?

Should they be?

Can they lead to deeper learning and understanding?



1.1 Introduction to cells

Nature of science:

Looking for trends and discrepancies—although most organisms conform to cell theory, there are exceptions. (3.1)

Ethical implications of research—research involving stem cells is growing in importance and raises ethical issues. (4.5)

Understandings:

- According to the cell theory, living organisms are composed of cells.
- Organisms consisting of only one cell carry out all functions of life in that cell.
- Surface area to volume ratio is important in the limitation of cell size.
- Multicellular organisms have properties that emerge from the interaction of their cellular components.
- Specialized tissues can develop by cell differentiation in multicellular organisms.
- Differentiation involves the expression of some genes and not others in a cell's genome.
- The capacity of stem cells to divide and differentiate along different pathways is necessary in embryonic development and also makes stem cells suitable for therapeutic uses.

International-mindedness:

- Stem cell research has depended on the work of teams of scientists in many countries who share results thereby speeding up the rate of progress. However, national governments are influenced by local, cultural and religious traditions that impact on the work of scientists and the use of stem cells in therapy.

Theory of knowledge:

- There is a difference between the living and the non-living environment. How are we able to know the difference?

Utilization:

- The use of stem cells in the treatment of disease is mostly at the experimental stage, with the exception of bone marrow stem cells. Scientists, however, anticipate the use of stem cell therapies as a standard method of treating a whole range of diseases in the near future, including heart disease and diabetes.

1.1 Introduction to cells

Applications and skills:

- Application: Questioning the cell theory using atypical examples, including striated muscle, giant algae and aseptate fungal hyphae.
- Application: Investigation of functions of life in *Paramecium* and one named photosynthetic unicellular organism.
- Application: Use of stem cells to treat Stargardt's disease and one other named condition.
- Application: Ethics of the therapeutic use of stem cells from specially created embryos, from the umbilical cord blood of a new-born baby and from an adult's own tissues.
- Skill: Use of a light microscope to investigate the structure of cells and tissues, with drawing of cells. Calculation of the magnification of drawings and the actual size of structures and ultrastructures shown in drawings or micrographs. (Practical 1)

Guidance:

- Students are expected to be able to name and briefly explain these functions of life: nutrition, metabolism, growth, response, excretion, homeostasis and reproduction.
- *Chlorella* or *Scenedesmus* are suitable photosynthetic unicells, but *Euglena* should be avoided as it can feed heterotrophically.
- Scale bars are useful as a way of indicating actual sizes in drawings and micrographs.

Aims:

- **Aim 8:** There are ethical issues involved in stem cell research, whether humans or other animals are used. Use of embryonic stem cells involves the death of early-stage embryos, but if therapeutic cloning is successfully developed the suffering of patients with a wide variety of conditions could be reduced.

Thinking
ToK, Essential Ideas

Communication
Presentations,
write-ups etc.

Social skills
Group work

Self-management
Practical activities
Timing
Completing tasks

Research
Individual tasks

Cholesterol article
Scanning and highlighting
main points to construct a
brief list of what cholesterol
is used for in the body
Transfer (from English
reading)

Concept of models
Class discussion on what makes a good model
Concentrate on the predictive aspects
Meta cognition (how we know what we know)

1.3 Membrane structure	
<p>Nature of science:</p> <p>Using models as representations of the real world—there are alternative models of membrane structure. (1.11)</p> <p>Falsification of theories with one theory being superseded by another—evidence falsified the Davson-Danielli model. (1.9)</p>	
<p>Understandings:</p> <ul style="list-style-type: none"> Phospholipids form bilayers in water due to the amphipathic properties of phospholipid molecules. Membrane proteins are diverse in terms of structure, position in the membrane and function. Cholesterol is a component of animal cell membranes. <p>Applications and skills:</p> <ul style="list-style-type: none"> Application: Cholesterol in mammalian membranes reduces membrane fluidity and permeability to some solutes. Skill: Drawing of the fluid mosaic model. Skill: Analysis of evidence from electron microscopy that led to the proposal of the Davson-Danielli model. Skill: Analysis of the falsification of the Davson-Danielli model that led to the Singer-Nicolson model. <p>Guidance:</p> <ul style="list-style-type: none"> Amphipathic phospholipids have hydrophilic and hydrophobic properties. Drawings of the fluid mosaic model of membrane structure can be two dimensional rather than three dimensional. Individual phospholipid molecules should be shown using the symbol of a circle with two parallel lines attached. A range of membrane proteins should be shown including glycoproteins. 	<p>Theory of knowledge:</p> <ul style="list-style-type: none"> The explanation of the structure of the plasma membrane has changed over the years as new evidence and ways of analysis have come to light. Under what circumstances is it important to learn about theories that were later discredited? <p>Utilization:</p> <p>Syllabus and cross-curricular links: Biology Topic 2.3 Carbohydrates and lipids Topic 2.6 Structure of DNA and RNA</p>

Stop motion animation on
construction of a
Membrane
Include how phospholipid
maintain structure
(weeble!!)
Creative thinking

Within guide **transfer!**

Look at Diagrams of the two models
Compare to what we know about
membranes
Look at the TEMs web page of
Membranes
Use series of questions to get
students to
ask the correct questions
Critical thinking

Planning and Scope and Sequence documents

Year:	2014-	Subject: Biology		Grade: 11							Assessments	
Date WE	week	Topic/Theme	Chapter/page in text/Resources specific text has chapters	LE (Learning engagements)	practical /activity (PSOW)	skill/objective	Homework	Work sheets	ToK	ATL	Summative	Formative
07/09/2014	1	Introduction Stats	Web pages only?	The bean activity, learning how to use excel, simple writeup, QA and Notes on SD distribution graphs, t	Measuring Beans Kidney beans.	How to use Stats, implications and limitation of stats	Write up labs	Excel use, SD and Ttest,	is it true in Biological experiments	transfer (looking for universal application)	writeup	
14/09/2014	2	1.1 Introduction to cells	Microscopes animal and plant, hay culture	1 Mrs Gren activity and the rock, 2 Cell time line linked to cell theory, 3 SA/Vol Calculation, 4 SA/Vol Agar Gel activity, 5 Table of advantaged/disadvantage of multi/ uni cell, 6 Stem cell research (stargards disease) and presentation, 7 microscopes looking at cells	Microscope (2 hrs)	Microscopes	Complete activities		living non living	1 CT, 2 R +CT, 3 CT, 4 Soc, 5 SM +CreT, 6 R + Com, 7 Coll+Com + Ref		
21/09/2014	3	1.2 Ultrastructure of cells	Tems various cells	1 Cell time line link to equipement (microscope fast poster), 2 Eu/pro cell activity, 3 drawing Pro and Eu cells and annotate, 4 QA regarding perception and first hand observations	Eu/pro cella	Drawing cells, interpreting TEMs			How do we know (Cell theory)?	1 R+ CT, 2 CreT,+Comm+R 3 Comm+R 4 CT+Comm		

Another way



DP I (G11) CURRICULUM OVERVIEW 2014-15



Subject: English A HL Grade Level: DPI (Grade 11) Teachers: Catherine Meyer

PART 4: INDIVIDUAL ORAL PRESENTATION					
Time Period	Text / Focus of Study	Concepts, Knowledge, Understanding / Skills (CONTENT)	DP Objectives	Major Assessment	ATL skills / TOK
September (3 weeks)	<p>Induction to course International Women's Poetry Paper I skills</p> <p>How is DP different to MYP / other post 16 courses?</p> <p>What is poetry, what is its purpose and how does it convey meaning?</p> <p>What is women's writing and how does it differ to other types of writing?</p> <p>What is feminism and how can we apply it to our reading of women's writing?</p> <p>How do we read for meaning?</p>	<p>Discussion of expectations of the course, differences to other courses (pre and post 16), the importance of analysis and understanding audience / purpose / context (link to values and attitudes) in the reception and production of texts – optional LRRH activity</p> <p>Approaches to analysis of poetry / reading for meaning - to include (genre, verse type, form, style, rhyme and rhythm, tone, mood, setting, theme, speaker, diction, imagery, symbolism, motif, messages/ meaning and any other techniques specific to the poems in the anthology</p> <p>Ways to annotate</p> <p>Understanding differences between women's writing / women's poetry and other types of writing</p> <p>Knowledge of the history of feminism (definitions of feminism and feminist and first, second and third wave) and the feminist lens when looking at literature</p> <p>Structuring of ideas in order to present coherent arguments</p> <p>Oral presentation skills / Creation of visual aids</p> <p>Essay writing based on essay planning templates</p>	<p>1 A, B, C, D 2 A, B, C 3 A, B, C, D</p>	<p>Paired Individual Oral Commentary: on one of the poems in the anthology of Women's poetry (10 minutes approx.)</p> <p>Essay: Paper I Commentary on one of the poems in the anthology of Women's poetry</p>	<p>ATL (Possible relevant skills)</p> <p>Thinking skills A – Critical Thinking skills (1, 2, 3, 5, 6, 7, 9, 12, 13) B – Creative Thinking Skills (20, 21, 27, 29) C- Transfer Skills (32, 33, 35, 36, 37, 39) Social Skills A – Collaboration Skills (2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) Communication skills A – Exchange of thoughts (1, 2, 3, 4, 5, 7) B – Reading, writing and language use (1, 2, 3, 4, 5, 8, 9, 11, 14) Self-management skills A – Organisation skills (1, 2, 3, 4, 5, 6, 7, 8, 10) B- Affective skills (I, II, III, 21, 5, II, IV) C – Reflection skills (1, 2, 5, 6, 7, 8) Research A – Information Literacy (1, 2, 6, 7, 9, 12, 13)</p> <p>TOK Possible Questions (2, 3, 5, 6, 7, 10)</p>

Activity

Models of membranes

We will make notes about this and share via Managebac, you can then change your notes after looking at others (Reflection)

In the 1930 Davson and Danielli proposed the model below

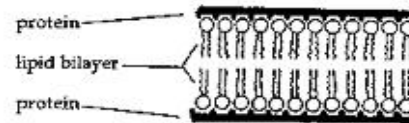


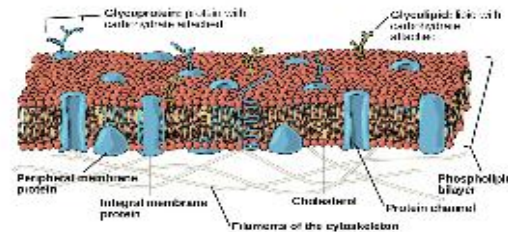
Figure 4 Danielli-Davson model

Why was this a good model? What makes a good model (predictive nature)

(do a little research)

Why is this model good, what is good about it, what are the problems?

An alternative model was suggested by Sanger and Nicolson in 1972



What advantage does this model have?

(Do a little research)

Check out

http://163.178.103.176/Fisiologia/general/activ_bas_3/Membrane%20Structure%20and%20Function.htm

Why did we change our understanding of the model of membranes?

(Three pieces of documented evidence)

How does this fit with our understanding of how science works?

(clue falsification theory)



How is research taught?

- Lib guides
- Use of a tool such as Noodle tools
- A consistent citation system

Do we need a continuum for these skills?

Thinking skills

PYP (Grade 4)

Describing perspectives: in character, as part of the 'living museum', the explorer explains their perspectives of their discovery and also explains the impact of their exploration from the others' perspectives.

MYP

Looking at different travel writing elements, consider their different impact on an audience.

DP

Looking at different models of plasma membranes.

Making a list/table of the similarities and/or differences.

Evidence for both.

Using the ideas to draw a conclusion about the material (can also be used to build on the concept of models in Science)

The DP Approach?

Through questions

Link to how it has been done

Meta cognition

Ask how do we know? What did you do to learn this?

Reflection

What did you do? What did you learn? What did you do well?
How might it have been better?

Creative

What changes did you make? Are they useful?

Critical

What is the evidence? Does it all agree? Which is more important?

Transfer

Have we used this somewhere else? Can we use this

All three programmes:

- approach the teaching and reinforcement of skills within and across the programmes.
- What will be the best way to teach the skills at our school – implicitly or explicitly – and a consistent model?
- use whole school meetings and professional learning days to further skill development and mapping.





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The Exit Card

Reflections and emails

We would like to compile and send on to the participants after the conference, your responses to the following:

How does/will your school ensure that students experience a continuum of skill development and application?