Who’s in the Room?

- Position in School/District:
  - Teacher
  - IB Coordinator
  - Administrator
  - District
- IB programme:
  - PYP
  - MYP
  - DP/IBCC
- Continuum in School/District:
  - PYP-MYP
  - MYP-DP
  - PYP-MYP-DP
What is the implication for how we design instruction and assessment?

What do we mostly assess?

What remains or what is forgotten?

What is it saying? Rephrase in own words

What do you think about what it says?

How do you feel about what it says?

Why might it be right; why might it be wrong?
Settlers move west for profits from trapping, gold, new lands to settle. Clashes resulted between settlers and First Nations who lose land and resources.

Westward Movement in The Americas in 19th century

What does assessment look like when the focus of instruction is Topic and Facts?

- Opportunity
- Challenges
- Conflict

Generalization or Principle
PYP: Central Idea
MYP: Inquiry [Concept] Statement
DP: Essential Idea and Understandings

Migration

Communities

Opportunity

Challenges

Conflict

Settlers move west for profits from trapping, gold, new lands to settle.

The Structure of Knowledge

Traditional Classroom as Two Dimensional: Information and Skills
Types of Learning Goals:

Acquisition: **KNOW**

Acquire factual information and basic skills

Meaning Making: **UNDERSTAND**

Help learners construct meaning (come to understand) of important ideas and processes

Transfer: **DO**

Support learners’ ability to transfer their learning autonomously and effectively in new situations

Essential Questions: Opening Doors to Student Understanding.
McTighe and Wiggins ASCD 2013 p173-174

What are examples of assessment for each learning goal? What do you want to KNOW, UNDERSTAND, and DO as a result of a lesson?
We can build rubrics that measure the depth of understanding and assess all 3 learning goals.

- **State** the what you learned (who and when did people migrate).
- **Describe** the situation.
- **Explain** why you think they migrated.
- **Analyze and Evaluate** the pros and cons of migration.

<table>
<thead>
<tr>
<th>Score</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>State the 3 Learning Goals</td>
</tr>
<tr>
<td>3-4</td>
<td>Describe the Goals (detailed account)</td>
</tr>
<tr>
<td>5-6</td>
<td>Explain why each is important (causes/reasons)</td>
</tr>
<tr>
<td>7-8</td>
<td>Analyze how each is used Evaluate the extent is currently used in your school</td>
</tr>
<tr>
<td>Command terms</td>
<td>MYP definitions</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Analyse</td>
<td>Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.</td>
</tr>
<tr>
<td>Annotate</td>
<td>Add brief notes to a diagram or graph.</td>
</tr>
<tr>
<td>Apply</td>
<td>Use knowledge and understanding in response to a given situation or real circumstances.</td>
</tr>
<tr>
<td>Appraise</td>
<td>Evaluate, judge or consider text or a piece of work.</td>
</tr>
<tr>
<td>Argue</td>
<td>Challenge or debate an issue or idea with the purpose of persuading or committing someone else to a particular stance or action.</td>
</tr>
<tr>
<td>Calculate</td>
<td>Obtain a numerical answer showing the relevant stages in the working.</td>
</tr>
<tr>
<td>Classify</td>
<td>Arrange or order by class or category.</td>
</tr>
<tr>
<td>Comment</td>
<td>Give a judgment based on a given statement or result of a calculation.</td>
</tr>
<tr>
<td>Compare</td>
<td>Give an account of the similarities between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Compare and contrast</td>
<td>Give an account of the similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Construct</td>
<td>Develop information in a diagrammatic or logical form.</td>
</tr>
<tr>
<td>Contrast</td>
<td>Give an account of the differences between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Deduce</td>
<td>Reach a conclusion from the information given.</td>
</tr>
<tr>
<td>Define</td>
<td>Give the precise meaning of a word, phrase, concept or physical quantity.</td>
</tr>
<tr>
<td>Demonstrate</td>
<td>Prove or make clear by reasoning or evidence, illustrating with examples or practical application.</td>
</tr>
<tr>
<td>Derive</td>
<td>Manipulate a mathematical relationship to give a new equation or relationship.</td>
</tr>
<tr>
<td>Describe</td>
<td>Give a detailed account or picture of a situation, event, pattern or process.</td>
</tr>
<tr>
<td>Design</td>
<td>Produce a plan, simulation or model.</td>
</tr>
<tr>
<td>Determine</td>
<td>Obtain the only possible answer.</td>
</tr>
<tr>
<td>Discuss</td>
<td>Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.</td>
</tr>
<tr>
<td>Distinguish</td>
<td>Make clear the differences between two or more concepts or items.</td>
</tr>
<tr>
<td>Document</td>
<td>Credit sources of information used by referencing (or citing) following one recognized referencing system. References should be included in the text and also at the end of the piece of work in a reference list or bibliography.</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Assess the implications and limitations; make judgments about the ideas, works, solutions or methods in relation to selected criteria.</td>
</tr>
<tr>
<td>Examine</td>
<td>Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.</td>
</tr>
<tr>
<td>Exemplify</td>
<td>Represent with an example.</td>
</tr>
<tr>
<td>Explain</td>
<td>Give a detailed account including reasons or causes.</td>
</tr>
<tr>
<td>Explore</td>
<td>Undertake a systematic process of discovery.</td>
</tr>
<tr>
<td>Investigate</td>
<td>Observe, study, or make a detailed and systematic examination, in order to establish facts and reach new conclusions.</td>
</tr>
<tr>
<td>Justify</td>
<td>Give valid reasons or evidence to support an answer or conclusion.</td>
</tr>
<tr>
<td>Label</td>
<td>Add title, labels or brief explanation(s) to a diagram or graph.</td>
</tr>
<tr>
<td>List</td>
<td>Give a sequence of brief answers with no explanation.</td>
</tr>
<tr>
<td>Measure</td>
<td>Find the value for a quantity.</td>
</tr>
<tr>
<td>Outline</td>
<td>Give a brief account.</td>
</tr>
<tr>
<td>Predict</td>
<td>Give an expected result of an upcoming action or event.</td>
</tr>
<tr>
<td>Present</td>
<td>Offer for display, observation, examination or consideration.</td>
</tr>
<tr>
<td>Prove</td>
<td>Use a sequence of logical steps to obtain the required result in a formal way.</td>
</tr>
<tr>
<td>Recall</td>
<td>Remember or recognize from prior learning experiences.</td>
</tr>
<tr>
<td>Reflect</td>
<td>Think about deeply; consider.</td>
</tr>
<tr>
<td>Recognize</td>
<td>Identify through patterns or features.</td>
</tr>
<tr>
<td>Show</td>
<td>Give the steps in a calculation or derivation.</td>
</tr>
<tr>
<td>Sketch</td>
<td>Represent by means of a diagram or graph (labelled as appropriate). The sketch should give a general idea of the required shape or relationship, and should include relevant features.</td>
</tr>
<tr>
<td>Solve</td>
<td>Obtain the answer(s) using appropriate methods.</td>
</tr>
<tr>
<td>State</td>
<td>Give a specific name, value or other brief answer without explanation or calculation.</td>
</tr>
<tr>
<td>Suggest</td>
<td>Propose a solution, hypothesis or other possible answer.</td>
</tr>
<tr>
<td>Summarize</td>
<td>Abstract a general theme or major point(s).</td>
</tr>
<tr>
<td>Synthesize</td>
<td>Combine different ideas in order to create new understanding.</td>
</tr>
<tr>
<td>Use</td>
<td>Apply knowledge or rules to put theory into practice.</td>
</tr>
</tbody>
</table>
Forms of Higher-Order Thinking

**Transfer:** students can apply knowledge and skills developed during learning to new contexts (new to them).

**Critical Thinking:** apply wise judgment or produce a reasoned critique; to reason, reflect, and make sound decisions.

**Problem Solving:** identify and solve problems in their academic work and in life.

Susan Brookhart: *How to Assess Higher Order Thinking Skills in Your Classroom*, ASCD, 2010
Assessing for Understanding

<table>
<thead>
<tr>
<th>Score</th>
<th>Transfer</th>
<th>Problem Solving</th>
<th>Critical Judgement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>LOW</td>
<td>Simple w/ Guidance</td>
<td>Recall/State</td>
</tr>
<tr>
<td>3-4</td>
<td>LOW MID</td>
<td>Simple Begin Complex</td>
<td>Describe</td>
</tr>
<tr>
<td>5-6</td>
<td>M ID</td>
<td>Complex</td>
<td>Explain</td>
</tr>
<tr>
<td>7-8</td>
<td>HIGH</td>
<td>Variety of Challenging Complex</td>
<td>Analyze Evaluate</td>
</tr>
</tbody>
</table>

Adapted from Susan Brookhart and MYP assessment rubrics by Lou Marchesano
<table>
<thead>
<tr>
<th>Frequency</th>
<th>Quality</th>
<th>Problem Solving</th>
<th>Transfer</th>
<th>Critical Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>seldom, few, little, limited, partial, rarely</td>
<td>w/ guidance, basic, limited, attempt, minimal</td>
<td>simple with guidance</td>
<td>in familiar with guidance</td>
</tr>
<tr>
<td>3-4</td>
<td>sometimes, occasionally, some, partial, at times</td>
<td>simple, adequate</td>
<td>simple and beginning complex</td>
<td>in familiar</td>
</tr>
<tr>
<td>5-6</td>
<td>usually, often, generally, most, range</td>
<td>satisfactory, sufficient, good, competent, appropriate, considerable</td>
<td>simple and complex</td>
<td>in variety of familiar and beginning to suggest in unfamiliar</td>
</tr>
<tr>
<td>7-8</td>
<td>wide range, always, consistently, completely</td>
<td>excellent, insightful, effectively, perceptive, illustrative, detailed, accurately</td>
<td>challenging complex</td>
<td>variety of familiar and unfamiliar</td>
</tr>
<tr>
<td>Frequency</td>
<td>Quality</td>
<td>Transfer/Problem Solving</td>
<td>Critical Thinking (10th grade)</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------</td>
<td>----------------------------------------</td>
<td>--------------------------------</td>
<td></td>
</tr>
<tr>
<td>seldom, few, little, limited, partial, rarely</td>
<td>w/ guidance, basic, limited, attempt, minimal</td>
<td>simple in familiar</td>
<td>state, recall, label, find, list, define</td>
<td></td>
</tr>
<tr>
<td>sometimes, occasionally, some, partial, at times</td>
<td>simple, adequate</td>
<td>simple and beginning complex familiar</td>
<td>describe, apply, distinguish, outline, use</td>
<td></td>
</tr>
<tr>
<td>usually, often, generally, most</td>
<td>satisfactory, sufficient, good, competent, detailed, appropriate, considerable</td>
<td>simple and complex in familiar</td>
<td>discuss, explain, deduce, interpret, compare</td>
<td></td>
</tr>
<tr>
<td>always, consistently, completely</td>
<td>excellent, insightful, effectively, perceptive, illustrative, accurately</td>
<td>challenging complex including unfamiliar</td>
<td>analyze, evaluate, justify, create, design</td>
<td></td>
</tr>
</tbody>
</table>

2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
Types of Learning Goals:

- Learning Information & Skills (Acquisition)
- Building Conceptual Understanding
- Transfer to New and Unfamiliar Situation
  Novel Solutions to Persistent Problems
### Sample Scale for Measuring Learning Over Time

*Copyright 2004 Marzano & Associates*

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Even with help the student demonstrates no understanding or skill</td>
</tr>
<tr>
<td>0.5</td>
<td>With help, the student demonstrates a partial understanding of some of the simpler details and processes, but not of the more complex ideas and processes</td>
</tr>
<tr>
<td>1.0</td>
<td>With help, the student demonstrates a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes</td>
</tr>
<tr>
<td>1.5</td>
<td>The student demonstrates partial knowledge of the simpler details and processes, but there are major errors or omissions regarding the more complex ideas and processes</td>
</tr>
<tr>
<td>2.0</td>
<td>There are no major errors or omissions regarding the simpler details and processes, but there are major errors or omissions regarding the more complex ideas and processes</td>
</tr>
<tr>
<td>2.5</td>
<td>There are no major errors or omissions regarding the simpler details and processes, and partial knowledge of the more complex ideas and processes</td>
</tr>
<tr>
<td>3.0</td>
<td>There are no major errors or omissions regarding any of the information and/or processes (simple or complex) that were explicitly taught</td>
</tr>
<tr>
<td>3.5</td>
<td>In addition to Score 3.0 performance, the student demonstrates partial success at inferences and applications that go beyond what was taught</td>
</tr>
<tr>
<td>4.0</td>
<td>In addition to Score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught</td>
</tr>
<tr>
<td>4.5</td>
<td>The student demonstrates a consistent and thorough understanding of the required knowledge, skills, and concepts of the material learned</td>
</tr>
<tr>
<td>5.0</td>
<td>The student understands what was taught in class and is able to apply knowledge and skills in a variety of familiar situations</td>
</tr>
<tr>
<td>5.5</td>
<td>There are no major errors or omissions regarding any of the information and/or processes (simple or complex) that were explicitly taught</td>
</tr>
<tr>
<td>6.0</td>
<td>The student demonstrates originality and insight and consistently produces work of high quality</td>
</tr>
</tbody>
</table>

**PYP SAMPLE General Subject Criteria**

Based on Marzano Scale and MYP Assessment Criteria *

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Student demonstrates a partial understanding of the required knowledge, skills, and concepts of the material learned; Student shows limited understanding of what was taught in class and is able to apply knowledge and skills in a familiar situations with support; Student demonstrates partial understanding of the simpler details and processes and some of the more complex ideas and processes with support.</td>
</tr>
<tr>
<td>3-4</td>
<td>Student demonstrates understanding of the simple required knowledge, skills, and concepts of the material learned; Student shows some understanding of the more complex ideas and processes and is able to apply knowledge and skills in most familiar situations; Student demonstrates understanding of the simpler details and processes and some of the more complex ideas and processes.</td>
</tr>
<tr>
<td>5-6</td>
<td>Student demonstrates good understanding of the required knowledge, skills, and concepts of the material learned; Student understands what was taught in class and is able to apply knowledge and skills in a variety of familiar situations; There are no major errors or omissions regarding any of the information and/or processes (simple or complex) that were explicitly taught.</td>
</tr>
<tr>
<td>7-8</td>
<td>Student demonstrates a consistent and thorough understanding of the required knowledge, skills, and concepts of the material learned; Student makes in-depth inferences and applications that go beyond what was taught in class and is able to apply knowledge and skills in a wide variety of situations including the unfamiliar; Student demonstrates originality and insight and consistently produces work of high quality.</td>
</tr>
</tbody>
</table>

*developed by Lou Marchesano*
## PYP Summative Rubric: Understanding of Central Idea

### Central Idea: Challenges and opportunities may lead to migration

0. Does not reach any of the descriptions below

1-2  
I. Student demonstrates a **partial understanding** of the required **knowledge, skills, and concepts** of the material learned;  
II. Student shows **limited understanding** of what was taught in class and is able to **apply** knowledge and skills in a **familiar** situations **with support**;  
III. Student demonstrates **partial understanding** of the **simpler** details and processes and some of the more complex ideas and processes **with support**.

### Summative assessment task:

**What are the possible ways of assessing students' understanding of the central idea? What evidence, including student-initiated actions, will we look for?**

You are the leader of a group of people. As the leader, it is your job to persuade them to migrate to a new area. You will need to **include/explain:**

- At least 2 challenges in your current location
- The area you will migrate to
- At least 2 reasons you should all migrate there
- At least 3 opportunities that will be available that are not currently available where you live now

You may choose how to persuade them (speech, power point, iMovie, etc.)

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
</table>
| 10    | States at least one challenge in the current location.  
       | States at least once reason to migrate to a specific location.  
       | Lists opportunities available at the new location.  
| 9     | Describes at least one challenges in the current location.  
       | Describes at least one reason to migrate to a specific location.  
       | Identifies opportunities that are available at the new location.  
| 8     | Explains at least two challenges in current location  
       | Explains at least two reasons to migrate to a specific location.  
       | Generally explains at least three opportunities available at the new location.  
| 7     | Completely explains two or more challenges in the current location  
       | Thoroughly explains two or more reasons to migrate to a specific location.  
       | Justifies at least three opportunities not previously discussed in class that are available at this new location.  
| 6     | Identify: Provide an answer from a number of possibilities. Recognize and state briefly a distinguishing fact or feature.  
       | Explain: Give a detailed account including reasons or causes.  
       | Justify: Give valid reasons or evidence to support an answer or conclusion.  

**States:** Give a specific name, value or other brief answer **without** explanation or calculation.  
**Describes:** Give a detailed account or picture of a situation, event, pattern or process.
PYP Social Studies Skills B & E [Thinking Critically]

- Use and analyse evidence from a variety of historical, geographical and societal sources
- Assess the accuracy, validity and possible bias of sources (E)

<table>
<thead>
<tr>
<th>PYP Social Studies Rubric: Thinking Critically</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>
| 1 | i. Student demonstrates a partial understanding of the required knowledge, skills, and concepts of the material learned;  
   ii. Student shows limited understanding of what was taught in class and is able to apply knowledge and skills in a familiar situations with support;  
   iii. Student demonstrates partial understanding of the simpler details and processes and some of the more complex ideas and processes with support. |
| 2 | i. Student demonstrates understanding of the simple required knowledge, skills, and concepts of the material learned;  
   ii. Student shows some understanding of the more complex ideas and processes and is able to apply knowledge and skills in most familiar situations;  
   iii. Student demonstrates understanding of the simpler details and processes and some of the more complex ideas and processes. |
| 3 | i. Student demonstrates good understanding of the required knowledge, skills, and concepts of the material learned;  
   ii. Student understands what was taught in class and is able to apply knowledge and skills in a variety of familiar situations;  
   iii. There are no major errors or omissions regarding any of the information and/or processes (simple or complex) that were explicitly taught. |
| 4 | i. Student demonstrates a consistent and thorough understanding of the required knowledge, skills, and concepts of the material learned;  
   ii. Student makes in-depth inferences and applications that go beyond what was taught in class and is able to apply knowledge and skills in a wide variety of situations including the unfamiliar;  
   iii. Student demonstrates originality and insight and consistently produces work of high quality. |

1. States evidence from historical, geographical or societal sources  
2. States the accuracy, validity or possible bias of sources  
3. Describes evidence from historical, geographical or societal sources  
4. Describes the accuracy, validity or possible bias of sources  
5. Satisfactorily analyses evidence from a variety of historical, geographical and societal sources  
6. Satisfactorily assesses or evaluates the accuracy, validity or possible bias of sources  
7. Effectively analyses evidence from a wide variety of historical, geographical and societal sources  
8. Effectively assesses and evaluates the accuracy, validity and possible bias of sources

*developed by Lou Marchesano*
Criterion A: Knowing and understanding

Maximum: 8

At the end of year 5, students should be able to:

i. explain scientific knowledge

ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations

iii. analyse and evaluate information to make scientifically supported judgments

<table>
<thead>
<tr>
<th>Achievement level</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The student does not reach a standard identified by any of the descriptors below.</td>
</tr>
</tbody>
</table>
| 1–2               | The student is able to:
|                   | i. state scientific knowledge |
|                   | ii. apply scientific knowledge and understanding to suggest solutions to problems set in familiar situations |
|                   | iii. interpret information to make judgments. |
| 3–4               | The student is able to:
|                   | i. outline scientific knowledge |
|                   | ii. apply scientific knowledge and understanding to solve problems set in familiar situations |
|                   | interpret information to make scientifically supported judgments. |

Interpret: Use knowledge and understanding to recognize trends and draw conclusions from given information.

Analyze: Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.

Evaluate: Assess the implications and limitations; make judgments about the ideas, works, solutions or methods in relation to selected criteria.
**Criterion A: Knowing and understanding**

**Maximum: 8**

At the end of year 5, students should be able to:

i. use a wide range of terminology in context

ii. demonstrate knowledge and understanding of subject-specific content and concepts through developed descriptions, explanations and examples.

<table>
<thead>
<tr>
<th>Achievement level</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The student does not reach a standard described by any of the descriptors below.</td>
</tr>
</tbody>
</table>
| 1–2               | The student:  
  i. uses **limited** relevant terminology  
  ii. demonstrates **basic** knowledge and understanding of content and concepts with **minimal** descriptions and/or examples. |
| 3–4               | The student:  
  i. uses **some** terminology **accurately and appropriately**  
  ii. demonstrates **adequate** knowledge and understanding of content and concepts through **satisfactory** descriptions, explanations and examples. |
| 5–6               | The student:  
  i. uses a **range** of terminology **accurately and appropriately**  
  ii. demonstrates **substantial** knowledge and understanding of content and concepts through **accurate** descriptions, explanations and examples. |
| 7–8               | The student:  
  i. **consistently uses a wide range** of terminology **effectively**  
  ii. demonstrates **detailed** knowledge and understanding of content and concepts through **thorough, accurate** descriptions, explanations and examples. |
Criterion A: Knowing and understanding

Maximum: 8
At the end of year 5, students should be able to:

i. **select** appropriate mathematics when solving problems in both familiar and unfamiliar situations
ii. **apply** the selected mathematics successfully when solving problems
iii. **solve** problems correctly in a variety of contexts.

<table>
<thead>
<tr>
<th>Achievement level</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The student does not reach a standard described by any of the descriptors below.</td>
</tr>
</tbody>
</table>
| 1–2               | The student is able to:  
  i. **select** appropriate mathematics when solving **simple problems** in familiar situations  
  ii. **apply** the selected mathematics successfully when solving these problems  
  iii. generally **solve** these problems correctly. |
| 3–4               | The student is able to:  
  i. **select** appropriate mathematics when solving **more complex problems** in familiar situations  
  ii. **apply** the selected mathematics successfully when solving these problems  
  iii. generally **solve** these problems correctly. |
| 5–6               | The student is able to:  
  i. **select** appropriate mathematics when solving **challenging problems** in familiar situations  
  ii. **apply** the selected mathematics successfully when solving these problems  
  iii. generally **solve** these problems correctly. |
| 7–8               | The student is able to:  
  i. **select** appropriate mathematics when solving **challenging problems** in both familiar and unfamiliar situations  
  ii. **apply** the selected mathematics successfully when solving these problems  
  iii. generally **solve** these problems correctly. |

**Problem Solving**  
- simple with guidance  
- simple and beginning complex  
- simple and complex  
- challenging complex  

**Transfer**  
- in familiar with guidance  
- in familiar  
- in variety of familiar and beginning to suggest in unfamiliar  
- variety of familiar and unfamiliar
DP BIOLOGY OBJECTIVES

1. Demonstrate knowledge and understanding of:
   a. facts, concepts and terminology
   b. methodologies and techniques
   c. communicating scientific information.

2. Apply:
   a. facts, concepts and terminology
   b. methodologies and techniques
   c. methods of communicating scientific information.

3. Formulate, analyse and evaluate:
   a. hypotheses, research questions and predictions
   b. methodologies and techniques
   c. primary and secondary data
   d. scientific explanations.

4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

DP HISTORY OBJECTIVES

Assessment objective 1: Knowledge and understanding
- Demonstrate detailed, relevant and accurate historical knowledge.
- Demonstrate understanding of historical concepts and context.
- Demonstrate understanding of historical sources. (Internal assessment and paper 1)

Assessment objective 2: Application and analysis
- Formulate clear and coherent arguments.
- Use relevant historical knowledge to effectively support analysis.
- Analyse and interpret a variety of sources. (Internal assessment and paper 1)

Assessment objective 3: Synthesis and evaluation
- Integrate evidence and analysis to produce a coherent response.
- Evaluate different perspectives on historical issues and events, and integrate this evaluation effectively into a response.
- Evaluate sources as historical evidence, recognizing their value and limitations. (Internal assessment and paper 1)
- Synthesize information from a selection of relevant sources. (Internal assessment and paper 1)

Assessment objective 4: Use and application of appropriate skills
- Structure and develop focused essays that respond effectively to the demands of a question.
- Reflect on the methods used by, and challenges facing, the historian. (Internal assessment)
- Formulate an appropriate, focused question to guide a historical inquiry. (Internal assessment)
- Demonstrate evidence of research skills, organization, referencing and selection of appropriate sources. (Internal assessment)
DP HISTORY OBJECTIVES

Assessment objective 1: Knowledge and understanding
- Recall and select relevant historical knowledge
- Demonstrate an understanding of historical context
- Demonstrate an understanding of historical processes: cause and effect; continuity and change
- Understand historical sources (SL/HL paper 1)
- Deploy detailed, in-depth knowledge (HL paper 3)
- Demonstrate knowledge and understanding of a specific historical topic (IA)

Assessment objective 2: Application and interpretation
- Apply historical knowledge as evidence
- Show awareness of different approaches to, and interpretations of, historical issues and events
- Compare and contrast historical sources as evidence (SL/HL paper 1)
- Present a summary of evidence (IA)

Assessment objective 3: Synthesis and evaluation
- Evaluate different approaches to, and interpretations of, historical issues and events
- Evaluate historical sources as evidence (SL/HL paper 1 and IA)
- Evaluate and synthesize evidence from both historical sources and background knowledge (SL/HL paper 1)
- Develop critical commentary using the evidence base (SL/HL paper 2 and HL paper 3)
- Synthesize by integrating evidence and critical commentary (HL paper 3)
- Present an analysis of a summary of evidence (IA)

Assessment objective 4: Use of historical skills
- Demonstrate the ability to structure an essay answer, using evidence to support relevant, balanced and focused historical arguments (SL/HL paper 2 and HL paper 3)
- Demonstrate evidence of research skills, organization and referencing (IA)
IB DP HISTORY Objectives

KNOWLEDGE AND UNDERSTANDING
- Recall and select relevant historical knowledge
- Demonstrate an understanding of historical context
- Demonstrate an understanding of historical processes: cause and effect; continuity and change
- Understand historical sources (SL/HL paper 1)
- Deploy detailed, in-depth knowledge (HL paper 3)
- Demonstrate knowledge and understanding of a specific historical topic (IA)

APPLICATION AND INTERPRETATION
- Apply historical knowledge as evidence
- Show awareness of different approaches to, and interpretations of, historical issues and events
- Compare and contrast historical sources as evidence (SL/HL paper 1)
- Present a summary of evidence (IA)

SYNTHESIS AND EVALUATION
- Evaluate different approaches to, and interpretations of, historical issues and events
- Evaluate historical sources as evidence
- Evaluate and synthesize evidence from both historical sources and background knowledge
- Develop critical commentary using the evidence base (SL/HL paper 2 and HL paper 3)
- Synthesize by integrating evidence and critical commentary (HL paper 3)
- Present an analysis of a summary of evidence (IA)

SYNTHESIS AND EVALUATION

The student does not reach a standard described by any of the descriptors below.

1-2
I. Discuss different approaches to, or interpretations of, historical issues and events
II. Describe historical sources as evidence
III. Present evidence from both historical sources and background knowledge

3-4
I. Analyse different approaches to, or interpretations of, historical issues and events
II. Explain historical sources as evidence
III. Synthesize evidence from both historical sources and background knowledge

5-6
I. Analyses and Evaluate a range of different approaches to, and interpretations of, historical issues and events
II. Analyse historical sources as evidence
III. Evaluate and synthesize evidence from both historical sources and background knowledge

7-8
I. Analyses and Effectively evaluate a wide range of different approaches to, and interpretations of, historical issues and events
II. Evaluate historical sources as evidence
III. Effectively evaluate and synthesize evidence from both historical sources and background knowledge

Developed by Lou Marchesano
1. **Demonstrate knowledge and understanding of:**
   - a. facts, concepts, and terminology
   - b. methodologies and techniques
   - c. communicating scientific information.

2. **Apply:**
   - a. facts, concepts, and terminology
   - b. methodologies and techniques
   - c. methods of communicating scientific information.

3. **Formulate, analyse and evaluate:**
   - a. hypotheses, research questions and predictions
   - b. methodologies and techniques
   - c. primary and secondary data
   - d. scientific explanations.

4. **Demonstrate the appropriate research, experimental, and personal skills** necessary to carry out insightful and ethical investigations.

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**Essential idea:** Physical and chemical properties depend on the ways in which different atoms combine.

**1.1 Introduction to the particulate nature of matter and chemical change**

**Nature of science:**
Making quantitative measurements with replicates to ensure reliability—definite and multiple proportions. (3.1)

**Understandings:**

- Atoms of different elements combine in fixed ratios to form compounds, which have different properties from their component elements.
- Mixtures contain more than one element and/or compound that are not chemically bonded together and so retain their individual properties.
- Mixtures are either homogeneous or heterogeneous.

**Applications and skills:**

- Deduction of chemical equations when reactants and products are specified.
- Application of the state symbols (s), (l), (g) and (aq) in equations.
- Explanation of observable changes in physical properties and temperature during changes of state.

**Guidance:**

- Balancing of equations should include a variety of types of reactions.
- Names of the changes of state—melting, freezing, vaporization (evaporation and boiling), condensation, sublimation and deposition—should be covered.

**International-mindedness:**

- Chemical symbols and equations are international, enabling effective communication amongst scientists without need for translation.
- IUPAC (International Union of Pure and Applied Chemistry) is the world authority in developing standardized nomenclature for both organic and inorganic compounds.

**Theory of knowledge:**

- Chemical equations are the "language" of chemistry. How does the use of universal languages help and hinder the pursuit of knowledge?
- Lavoisier's discovery of oxygen, which overturned the phlogiston theory of combustion, is an example of a paradigm shift. How does scientific knowledge progress?

**Utilization:**

- Refrigeration and how it is related to the changes of state.
- Atom economy.
- Freeze-drying of foods.
Assessing for Understanding

Of course “understanding” can be assessed! Assessment for understanding uses factually specific information to support conceptual understanding, as well as for assessing the quality of thinking brought to the task. Assessments that call for the transfer of understanding through time, across cultures, and across situations also indicate depth of understanding. It is clear that the call for evidence of deeper understanding in education today requires changes in traditional assessment practices.
## Criteria-Related Scoring

### Student Y

<table>
<thead>
<tr>
<th>Individuals and Society</th>
<th>Criteria</th>
<th>1</th>
<th>1</th>
<th>4</th>
<th>4</th>
<th>3</th>
<th>4</th>
<th>Current achievmt level</th>
<th>Avg Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing &amp; Understanding</td>
<td>A</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3.8</td>
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<tr>
<td>Investigating</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicating</td>
<td>C</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td></td>
<td>D</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Thinking Critically</td>
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<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td><strong>16</strong></td>
<td><strong>12.6</strong></td>
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</table>
### MYP Humanities Assessment Criteria

<table>
<thead>
<tr>
<th>Assessment criteria</th>
<th>Levels of achievement</th>
<th>Student X</th>
<th>Student Y</th>
<th>Student Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion A: Knowing and Understanding</td>
<td>0–8</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Criterion B: Investigating</td>
<td>0–8</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Criterion C: Thinking Critically</td>
<td>0–8</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Criterion D: Communicating</td>
<td>0–8</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

**TOTAL POSSIBLE SCORE**

|                  | 32 | 8 | 16 | 30 |

Student X: 8
Student Y: 16
Student Z: 30
<table>
<thead>
<tr>
<th>School Grade</th>
<th>Grade</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>No achievement in terms of the objectives</td>
</tr>
<tr>
<td>1-5</td>
<td>1</td>
<td>Produces work of <strong>very limited quality</strong>. Conveys many significant misunderstandings or lacks understanding of most concepts and skills. Very rarely demonstrates critical or creative thinking. Very inflexible, rarely using knowledge or skills.</td>
</tr>
<tr>
<td>6-9</td>
<td>2</td>
<td>Produces work of <strong>limited quality</strong>. Expresses misunderstandings or significant gaps in understanding for many concepts and contexts. <em>Infrequently</em> demonstrates critical or creative thinking. <strong>Generally inflexible</strong> in the use of knowledge and skills, infrequently applying knowledge and skills.</td>
</tr>
<tr>
<td>10-14</td>
<td>3</td>
<td>Produces work of an <strong>acceptable quality</strong>. Communicates <em>basic understanding</em> of many concepts and contexts, with occasionally significant misunderstandings or gaps. Begins to demonstrate some basic critical and creative thinking. Is often inflexible in the use of knowledge and skills, requiring support even in familiar classroom situations.</td>
</tr>
<tr>
<td>15-18</td>
<td>4</td>
<td>Produces <strong>good quality</strong> work. Communicates <em>basic understanding</em> of most concepts and contexts with few misunderstandings and minor gaps. <em>Often demonstrates</em> basic critical and creative thinking. Uses knowledge and skills with some flexibility in familiar classroom situations, but requires support in unfamiliar situations.</td>
</tr>
<tr>
<td>19-23</td>
<td>5</td>
<td>Produces <strong>generally high-quality</strong> work. Communicates reliable understanding of concepts and contexts. Demonstrates critical and creative thinking, sometimes with sophistication. Uses knowledge and skills in familiar classroom and real-world situations, and, with support, some unfamiliar real-world situations.</td>
</tr>
<tr>
<td>24-27</td>
<td>6</td>
<td>Produces <strong>high-quality, occasionally innovative</strong> work. Communicates extensive understanding of concepts and contexts. Demonstrates critical and creative thinking, frequently with sophistication. Uses knowledge and skills in familiar and unfamiliar classroom and real-world situations, often with independence.</td>
</tr>
<tr>
<td>28-32</td>
<td>7</td>
<td>Produces <strong>high-quality, frequently innovative</strong> work. Communicates comprehensive, nuanced understanding of concepts and contexts. Consistently demonstrates sophisticated critical and creative thinking. Frequently transfers knowledge and skills with independence and expertise in a variety of complex classroom and real-world situations.</td>
</tr>
</tbody>
</table>
Examples of Criterion-Related Reporting:
Individual scores on scale of 0 - 8

**PYP Reporting**

**Understanding of Central Idea:** 7

**Social Studies Skills:**

a. Formulate and ask questions about the past, the future, places and society 6

b. Use and analyse evidence from a variety of historical, geographical and societal sources 5

c. Orientate in relation to place and time 5

d. Identify roles, rights and responsibilities in society 7

e. Assess the accuracy, validity and possible bias of sources 4

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**MYP Reporting**

**Individuals and Society**

a. Knowing and Understanding 4

b. Investigating 5

c. Communicating 4

d. Thinking Critically 3

**TOTAL SCORE** 16

**MYP SCORE** 4

**SCHOOL GRADE** B-

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**DP Reporting**

**Individuals and Society**

a. Knowledge and Understanding 4

b. Application & interpretation 5

c. Synthesis & Evaluation 4

d. Use of Historical Skills 3

**TOTAL SCORE** 16

**SCHOOL GRADE** C
Time to be Inquirers:

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Chris Overhoff
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