Criterion A: Knowing and Understanding

At the end of year 1, 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.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: select appropriate mathematics when solving **simple problems** in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
3–4	3-4	The student is able to: select appropriate mathematics when solving **more complex**	

		problems in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
5–6	5-6	The student is able to: select appropriate mathematics when solving **challenging problems** in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
7–8	7-8	The student is able to: select appropriate mathematics when solving **challenging problems** in both **familiar and unfamiliar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	

Criterion B: Investigating Patterns

At the end of year 1, students should be able to:

i. apply mathematical problem-solving techniques to recognize patterns

ii. describe patterns as relationships or general rules consistent with correct findings

iii. verify whether the pattern works for other examples.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: **apply**, **with teacher support**, mathematical problem-solving techniques to recognize **simple patterns** **state** predictions consistent with simple patterns.	
3–4	3-4	The student is able to: **apply** mathematical problem-solving techniques to recognize **patterns** **suggest** how these patterns work.	
5–6	5-6	The student is able to: **apply** mathematical problem-solving techniques to recognize **patterns**	

Achievement Level		Level Descriptor	Task Specific Clarification
		suggest relationships or general rules consistent with findings verify whether patterns work for **another example**.	
7–8	7-8	The student is able to: **select** and **apply** mathematical problem-solving techniques to recognize **correct patterns** **describe patterns as relationships** or general rules consistent with **correct findings** **verify** whether patterns work for **other examples**.	

Note: A task that does not allow students to select a problem-solving technique is too guided and should result in students earning a maximum achievement level of 6 (for years 1 and 2).

Criterion C: Communicating

At the end of year 1, students should be able to:

i.   use appropriate mathematical language (notation, symbols and terminology) in both oral and written statements

ii. use appropriate forms of mathematical representation to present information

iii. communicate coherent mathematical lines of reasoning

iv. organize information using a logical structure.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		

0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: use **limited** mathematical language use **limited forms** of mathematical representation to present information communicate through lines of reasoning that are **difficult to understand**.	
3–4	3-4	The student is able to: use **some appropriate** mathematical language use **appropriate forms** of mathematical representation to present information **adequately** communicate through lines of reasoning that are **able to be understood**, although these are **not always coherent** **adequately organize** information using a logical structure.	
5–6	5-6	The student is able to: **usually** use **appropriate** mathematical language **usually** use **appropriate forms** of mathematical representation to present information **correctly**	

Achievement Level		Level Descriptor	Task Specific Clarification
		communicate through lines of reasoning that are **usually coherent** present work that is **usually organized** using a logical structure.	
7–8	7-8	The student is able to: consistently use **appropriate** mathematical language consistently use **appropriate forms** of mathematical representation to present information **correctly** communicate **clearly** through **coherent** lines of reasoning present work that is **consistently organized** using a logical structure.	

Criterion D: Applying mathematics in real-life contexts

At the end of year 1, students should be able to:

i. identify relevant elements of authentic real-life situations

ii. select appropriate mathematical strategies when solving authentic real-life situations

iii. apply the selected mathematical strategies successfully to reach a solution

iv. explain the degree of accuracy of a solution

v. describe whether a solution makes sense in the context of the authentic real-life situation.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		

0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: identify **some** of the elements of the authentic real-life situation apply mathematical strategies to **find a solution** to the authentic real-life situation, **with limited success.**	
3–4	3-4	The student is able to: identify the **relevant** elements of the authentic real-life situation apply mathematical strategies to **reach a solution** to the authentic real-life situation **state**, **but not always correctly**, whether the solution makes sense in the context of the authentic real-life situation.	
5–6	5-6	The student is able to: identify the **relevant** elements of the authentic real-life situation select **adequate** mathematical strategies to model the authentic real-life situation apply the selected mathematical strategies to **reach a valid solution** to the authentic real-life situation	

		describe the degree of accuracy of the solution **state correctly** whether the solution makes sense in the context of the authentic real-life situation.	
7–8	7-8	The student is able to: identify the **relevant** elements of the authentic real-life situation select **adequate** mathematical strategies to model the authentic real-life situation apply the selected mathematical strategies to **reach a correct solution** to the authentic real-life situation **explain** the degree of accuracy of the solution **describe correctly** whether the solution makes sense in the context of the authentic real-life situation.	

Year 3

Criterion A: Knowing and Understanding

At the end of year 3, 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.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: select appropriate mathematics when solving **simple problems** in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
3–4	3-4	The student is able to: select appropriate mathematics when solving **more complex**	

		problems in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
5–6	5-6	The student is able to: select appropriate mathematics when solving **challenging problems** in **familiar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	
7–8	7-8	The student is able to: select appropriate mathematics when solving **challenging problems** in both **familiar and unfamiliar situations** apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.	

Criterion B: Investigating Patterns

At the end of year 3, students should be able to:

i.   select and apply mathematical problem-solving techniques to discover complex patterns

ii.   describe patterns as relationships and/or general rules consistent with findings

iii. verify and justify relationships and/or general rules.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: **apply**, **with teacher support**, mathematical problem-solving techniques to discover **simple patterns** **state predictions** consistent with patterns.	
3–4	3-4	The student is able to: **apply** mathematical problem-solving techniques to discover **simple patterns** **suggest relationships** and/or general rules consistent with **findings**.	
5–6	5-6	The student is able to: **select and apply** mathematical problem-solving techniques	

		to discover **complex patterns** **describe patterns** as relationships and/or general rules consistent with **findings** **verify** these relationships and/or general rules.	
7–8	7-8	The student is able to: **select and apply** mathematical problem-solving techniques to discover **complex patterns** **describe patterns** as relationships and/or general rules consistent with **correct findings** **verify** and **justify** these relationships and/or general rules.	

Note: A task that does not allow students to select a problem-solving technique is too guided and should result in students earning a maximum achievement level of 4 (year 3 and higher). However, teachers should give enough direction to ensure that all students can begin the investigation.

For year 3 and higher, a student who describes a general rule consistent with incorrect findings will be able to achieve a maximum achievement level of 6, provided that the rule is of an equivalent level of complexity.

Criterion C: Communicating

At the end of year 3, students should be able to:

i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations

ii. use appropriate forms of mathematical representation to present information

iii. move between different forms of mathematical representation

iv. communicate complete and coherent mathematical lines of reasoning

v. organize information using a logical structure.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: use **limited** mathematical language use **limited forms** of mathematical representation to present information communicate through lines of reasoning that are **difficult to interpret**.	
3–4	3-4	The student is able to: use **some appropriate** mathematical language use **appropriate forms** of mathematical representation	

		to present information **adequately** communicate through lines of reasoning that are **able to be understood**, although these are **not always clear** **adequately organize** information using a logical structure.	
5–6	5-6	The student is able to: **usually** use **appropriate** mathematical language **usually** use **appropriate forms** of mathematical representation to present information **correctly** move between different forms of mathematical representation **with some success** communicate through lines of reasoning that are clear although **not always coherent or complete** present work that is **usually organized** using a logical structure.	
7–8	7-8	The student is able to: **consistently** use **appropriate** mathematical language use **appropriate forms** of mathematical representation to **consistently** present information **correctly** move **effectively** between different forms of mathematical representation	

		communicate through lines of reasoning that are **complete and coherent** present work that is **consistently organized** using a logical structure.	

Criterion D: Applying mathematics in real-life contexts

At the end of year 3, students should be able to:

i.   identify relevant elements of authentic real-life situations

ii.   select appropriate mathematical strategies when solving authentic real-life situations

iii.   apply the selected mathematical strategies successfully to reach a solution

iv.   explain the degree of accuracy of a solution

v.   explain whether a solution makes sense in the context of the authentic real-life situation.

Achievement Level		Level Descriptor	Task Specific Clarification
Self Score	Teacher Score		
0	0	The student **does not** reach a standard described by any of the descriptors below.	
1–2	1-2	The student is able to: identify **some** of the elements of the authentic real-life situation apply mathematical strategies to **find a solution** to the authentic real-life	

		situation, **with limited success**.	
3–4	3-4	The student is able to: identify the **relevant** elements of the authentic real-life situation select, **with some success**, **adequate** mathematical strategies to model the authentic real-life situation apply mathematical strategies to **reach a solution** to the authentic real-life situation **describe** whether the solution makes sense in the context of the authentic real-life situation.	
5–6	5-6	The student is able to: identify the **relevant** elements of the authentic real-life situation select **adequate** mathematical strategies to model the authentic real-life situation apply the selected mathematical strategies to **reach a valid solution** to the authentic real-life situation **describe** the degree of accuracy of the solution **discuss** whether the solution makes sense in the context of the authentic real-life situation.	
7–8	7-8	The student is able to:	

		identify the **relevant** elements of the authentic real-life situation	
		select **appropriate** mathematical strategies to model the authentic real-life situation	
		apply the selected mathematical strategies to **reach a correct solution**	
		explain the degree of accuracy of the solution	
		explain whether the solution makes sense in the context of the authentic real-life situation.	