Mathematics Objectives: Year 1

Objective 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.

Objective 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 findings
(iii) verify whether the pattern works for other examples

Objective 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) *(not demonstrated at this level)*
(iv) communicate coherent mathematical lines of reasoning
(v) organize information using a logical structure.

Objective 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.

Mathematics Assessment Criteria: Year 1

Criterion A: Knowing and Understanding

Maximum: 8

Achievement level	Level descriptor
0	The student **does not** reach a standard described by any of the descriptors below.
1 – 2	The student: 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 in a variety of contexts.
3 – 4	The student: 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 in a variety of contexts.
5 – 6	The student: 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 in a variety of contexts.
7 – 8	The student: 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 in a variety of contexts.

Mathematics Assessment Criteria: Year 1

Criterion B: Investigating Patterns

Maximum: 8

Achievement level	Level descriptor
0	The student **does not** reach a standard described by any of the descriptors below.
1 – 2	The student: i. **apply, with teacher support**, mathematical problem-solving techniques to recognize **simple patterns** ii. **state** predictions consistent with simple patterns iii. (*not demonstrated at this level*).
3 – 4	The student: i. **apply** mathematical problem-solving techniques to recognize **patterns** ii. **suggest** how these patterns work iii. (*not demonstrated at this level*).
5 – 6	The student: i. **apply** mathematical problem-solving techniques to recognize **patterns** ii. **suggest relationships** or general rules consistent with findings iii. verify whether patterns work for **another example**.
7 – 8	The student: i. **select** and **apply** mathematical problem-solving techniques to recognize **correct patterns** ii. **describe patterns as relationships** or general rules consistent with **correct findings** iii. verify whether patterns work for **other examples**.

Mathematics Assessment Criteria: Year 1

Criterion C: Communicating

Maximum: 8

Achievement level	Level descriptor
0	The student **does not** reach a standard described by any of the descriptors below.
1 – 2	The student: i. use **limited** mathematical language ii. use **limited forms** of mathematical representation to present information iii. *(not demonstrated at this level)* iv. communicate through lines of reasoning that are **difficult to understand** v. *(not demonstrated at this level)*.
3 – 4	The student: i. use **some appropriate** mathematical language ii. use **appropriate forms** of mathematical representation to present information **adequately** iii. *(not demonstrated at this level)* iv. communicate through lines of reasoning that are **able to be understood**, although these are **not always coherent** v. **adequately organize** information using a logical structure.
5 – 6	The student: i. **usually** use **appropriate** mathematical language ii. **usually** use **appropriate forms** of mathematical representation to present information **correctly** iii. *(not demonstrated at this level)* iv. communicate through lines of reasoning that are **usually coherent** v. **present** work that is **usually organized** using a logical structure.
7 – 8	The student: i. **consistently** use **appropriate** mathematical language ii. **consistently** use **appropriate forms** of mathematical representation to present information **correctly** iii. *(not demonstrated at this level)* iv. communicate **clearly** through **coherent** lines of reasoning v. present work that is **consistently organized** using a logical structure.

Mathematics Assessment Criteria: Year 1

Criterion D: Applying mathematics in real-life contexts

Maximum: 8

Achievement level	Level descriptor
0	The student **does not** reach a standard described by any of the descriptors below.
1 – 2	The student: i. identify **some** of the elements of the authentic real-life situation ii. *(not demonstrated at this level)* iii. apply mathematical strategies to **find a solution** to the authentic real-life situation, **with limited success** iv. *(not demonstrated at this level)* v. *(not demonstrated at this level)*.
3 – 4	The student: i. identify the **relevant** elements of the authentic real-life situation ii. *(not demonstrated at this level)* iii. apply mathematical strategies to **reach a solution** to the authentic real-life situation iv. *(not demonstrated at this level)* v. **state**, **but not always correctly**, whether the solution makes sense in the context of the authentic real-life situation.
5 – 6	The student: i. identify the **relevant** elements of the authentic real-life situation ii. select **adequate** mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to **reach a valid solution** to the authentic real-life situation iv. **describe** the degree of accuracy of the solution v. **state correctly** whether the solution makes sense in the context of the authentic real-life situation.
7 – 8	The student: i. identify the **relevant** elements of the authentic real-life situation ii. select **adequate** mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to **reach a correct solution** to the authentic real-life situation iv. **explain** the degree of accuracy of the solution v. **describe correctly** whether the solution makes sense in the context of the authentic real-life situation.