

Didactical Document Theme-Based Trail on Sequences/Patterns (Grades 3-4)

Trail Codes: 893340; [473351](#)

Title	Grade	Main concepts	Students learn	Data to collect	Objects	MCM References
Counting	2	Subitizing	-Identify quantities through visual counting - Instantly recognize the number of elements in a set without counting	Visual recognition	Windows Mural	3517977 3717581
Counting	3	-Subitizing -Rectangular arrays (more complex arrangements)	-Identify quantities through visual counting - Instantly recognize the number of elements in a set without counting -Use rectangular multiplication	-Visual recognition -Number of rows and columns	Glass windows Glass protection	1217979 8918015
Repetition pattern	3	Repetition pattern (ABC pattern)	- Determine the terms of a sequence given the rule	-Repetition unit -Number of elements in the sequence	Hopscotch Building Recycling bins Pavement	3517974 4617583 0318016 5818018
Repetition pattern	3	Repetition pattern (AB pattern) and measurement	- Determine a rule compatible with a partially known sequence	-Repetition unit -Measurement of the length of each element of the sequence	Goal frame	1217973

			- Measure distances and lengths using metric units and perform conversions			
Repetition pattern	4	Repetition pattern (AA pattern) and measurement	- Determine a rule compatible with a partially known sequence - Measure distances and lengths using metric units and perform conversions - Solve problems involving division	-Repetition unit -Measurement of the length of each element of the sequence	Lamps	6717975
Repetition pattern	4	Repetition pattern (AB pattern) and measurement	- Determine a rule compatible with a partially known sequence - Measure distances and lengths using metric units and perform conversions - Solve problems involving division	-Repetition unit -Measurement of the length between each element of the sequence	Bicycle stand Benches	7917972 1217582
Combinatorial counting	3	Combinations (P(n,n) and 3 elements).	- Solve problems involving multiplicative situations in a combinatorial sense	Number of elements	Flag poles	1417963 0817584
Combinatorial counting	4	Combinations (P(n,r) and 3 elements).	- Solve problems involving multiplicative	Number of elements	Bicycle stand	0517962

			situations in a combinatorial sense			
Growth pattern	4	Growth pattern (linear pattern) and measurement	- Determine a rule compatible with a partially known sequence	Known terms of the sequence (measurement of the length and width of the rectangles)	Water fountain Tower of cubes Manhole cover	0817969 3718021 1518022
Growth pattern	4	Growth pattern (square numbers)	Determine a rule compatible with a partially known sequence	Know terms of the sequence	Chessboard Pylos (pyramid)	0917971 1717589

Notes:

The teacher should propose a trail with 7-8 tasks containing diversified concepts (counting, combinatorial counting, repetition pattern, growth pattern). It is also important to present tasks with different cognitive levels (low; high) to motivate/challenge students.