Didactical Document Theme-Based Trail on Sequences/Patterns (Grades 3-4)
Trail Codes: 264387; 154517

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	4820332 4915894
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	4620408 2822552
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	0120414 7815134 2822553 4922554

Repetition pattern	3	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	-Repetition unit -Measurement of the length of each element of the sequence	Goal frame	0820412
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	8920336
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	5920406 2515897

Combinatorial counting	3	Combinations (P(n,n) and 3 elements).	- Solve problems involving multiplicative situations in a combinatorial sense	Number of elements	Flag poles	3620350 2714953
Combinatorial counting	4	Combinations (P(n,r) and 3 elements).	- Solve problems involving multiplicative situations in a combinatorial sense	Number of elements	Bicycle stand	2720404
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	4620399 5822556 7922557
Growth pattern	4	Growth pattern (square numbers)	Determine a rule compatible with a partially known sequence	Know terms of the sequence	Chessboard Pylos (pyramid)	5920413 2615887

Notes:

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