Describe Rules for Patterns, Then Create the Pattern.

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Differentiate and Assess

Not every student will be ready to investigate this concept at this Level and so we will need to differentiate to ensure every student is learning at their leading edge. Select the Differentiate button on this screen.

Integrate

Every mathematical concept is integrally related to other mathematical concepts. Teaching and learning related concepts simultaneously develops deep relational understanding. Select the Integrate button on this screen.

Intervene

Some students may not yet be ready to investigate this concept at any Level, and so we will need to provide some intervention. Select the Intervention button on this screen.

DESCRIBE RULES FOR PATTERNS, THEN CREATE THE PATTERN.

EXPLICIT TEACHING PLAN OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE EXPLICIT TEACHING PLAN, INCLUDING STRATEGIC QUESTIONS, AND DESRIBING THE SEQUENCE WHICH WILL OCCUR OVER MULTIPLE LESSONS.

RESOURCES: PLAYING CARDS,PENCIL, PAPER

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?
Children:	Children

- record number patterns that increase by repeatedly adding whole numbers, for example, 50, 60, 70, 80, …
- describe an informal rule to describe the way the pattern repeats, for example, rule: start at 50 and repeatedly add 10
- record number patterns that increase by repeatedly subtracting whole numbers, 50, 48, 46, 44, 42, 40, …
- describe an informal rule to describe the way the pattern repeats, for example, rule: start at 50 and repeatedly subtract 2

- Describe an informal rule to describe the way a pattern repeats by adding whole numbers, for example, rule: start at 50 and repeatedly add 5
- Create the pattern that follows the rule, for example, 50, 55, 60, 65, 70, 75, …
- Describe an informal rule to describe the way a pattern repeats by subtracting whole numbers, for example, start at 48 and repeatedly subtract 3
- Create the pattern that follows the rule, for example, 48, 45, 42, 39, 36, …

- ask one another questions about number patterns informal rules, for example,
- how could we record number patterns that increase by repeatedly adding numbers?
- how could we describe the way this pattern repeats in a rule?
- how could we record number patterns that increase by repeatedly subtracting numbers?
- how could we describe the way this pattern repeats in a rule?

- how could we describe the way a pattern repeats in a rule?
- how could we record a number pattern that follows the rule?

DESCRIBE RULES FOR PATTERNS, THEN CREATE THE PATTERN.

EXPLICIT TEACHING PLAN

FULL EXPLICIT TEACHING PLAN, EMBEDDING DEEP RELATIONAL UNDERSTANDING, METALANGUAGE, AND QUESTIONS THAT MAY BE USED OVER MULTIPLE LESSONS.

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?
Children think about, talk and listen to a friend about, then have the opportunity to share what they already know.	► Today brings an investigation about number patterns. ► What do you know about number patterns? ► Talk about number patterns with a friend. ► Is anyone ready to share what they are thinking about number patterns?
Record a number pattern that increases through addition, for example, 50, 60, 70, 80, 90, 100, …	► We've investigated patterns. ► And we found that patterns have a part that repeats. ► Today we're going to investigate patterns that repeat by adding or subtracting. ► Is this a pattern? ► Is there a part that repeats? ► How does this pattern repeat? ► Does this pattern repeat by adding 10?
Record, for example, rule: start at 50 and repeatedly add 10	► Could we describe the way this pattern repeats as, start at 50, and repeatedly add 10? ► Let's record as a rule to describe the pattern.
Record a number pattern that decreases through subtraction, for example, 50, 48,	

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46, 44, 42, 40, …	▶ Is this a pattern?
	▶ Is there a part that repeats?
	▶ How does this pattern repeat?
	▶ Does this pattern repeat by subtracting 2?
Record, for example, rule: start at 50 and repeatedly subtract 2	▶ Could we describe the way this pattern repeats as, start at 50, and repeatedly subtract 2?
	▶ Let's record as a rule to describe the pattern.
	▶ Let's describe a rule, then create a number pattern that follows it.
Display the rule, for example, rule: start at 50 and repeatedly add 5	▶ What rule could we describe?
Record, for example, 50	▶ Could the rule be, start at 50 and repeatedly add 5?
Record, for example, 50, 55, 60, 65, 70, 75,	▶ The rule tells us to start at 50.
	▶ The rule tells us to repeatedly add 5.
Record, for example, 50, 55, 60, 65, 70, 75, …	▶ Will this pattern ever end?
	▶ Could we record 3 dots to show that the number pattern continues?
	▶ Does our number pattern follow our rule?
	▶ Does our number pattern start at 50?
	▶ Does our number pattern repeat by adding 5?
	▶ Let's describe another, then create a number pattern that follows it.
Record, for example, rule: start at 48 and repeatedly subtract 3	▶ What rule could we describe?
	▶ Could the rule be, start at 48 and repeatedly subtract 3.
Record, for example, 48,	▶ Let's record our number pattern.
Record, for example, 48, 45, 42, 39, 36,	▶ The rule tells us to start at 48.
	▶ The rule tells us to repeatedly subtract 3.
Record, for example, 48, 45, 42, 39, 36, …	▶ Will this pattern ever end?

	▸ Could we record 3 dots to show that the number pattern continues? ▸ Does our number pattern follow our rule? ▸ Does our number pattern start at 48? ▸ Does our number pattern repeat by subtracting 3?