

**\*\*Note this is the version that was given Fall 2019**

**ASSENT**

**“We want to see what you know about some different things like patterns and counting. I might make a recording of what we do so I can look at it later. Will you answer some questions and play some games with me?”**

# Early Patterning Assessment (EPA)

Rittle-Johnson, B., Douglas, A., Zippert, E., Özel, S. & Tang, J. (2020) *Early Patterning Assessment*. Available from B. Rittle-Johnson, Vanderbilt University, Nashville, TN 37203.

# Growing Patterns

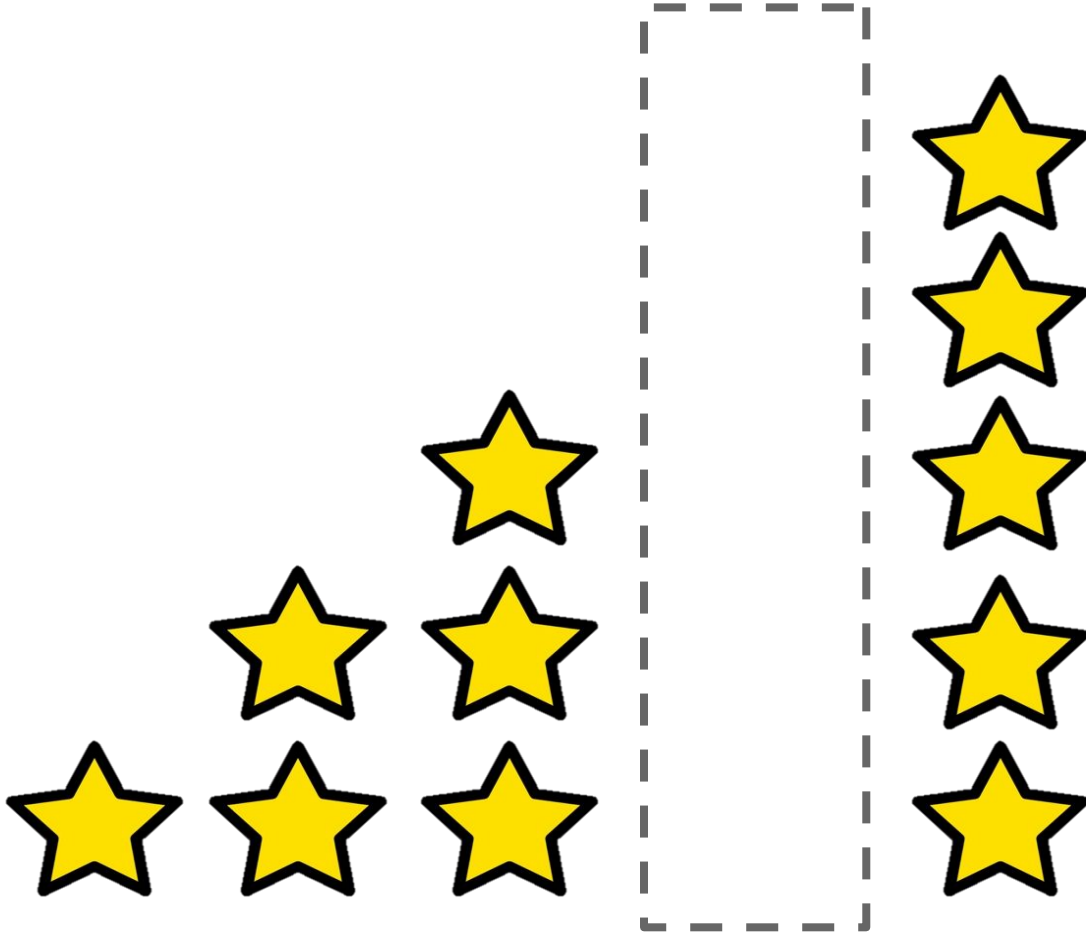
## PRACTICE ITEM

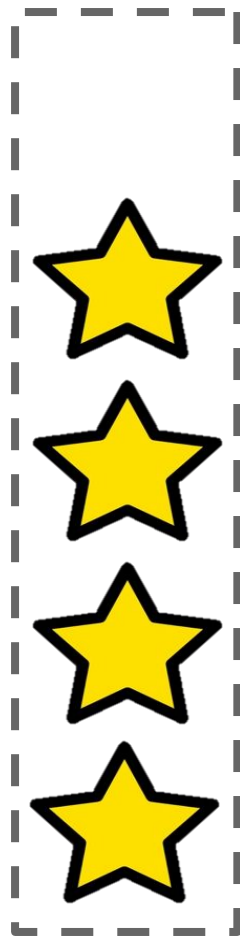
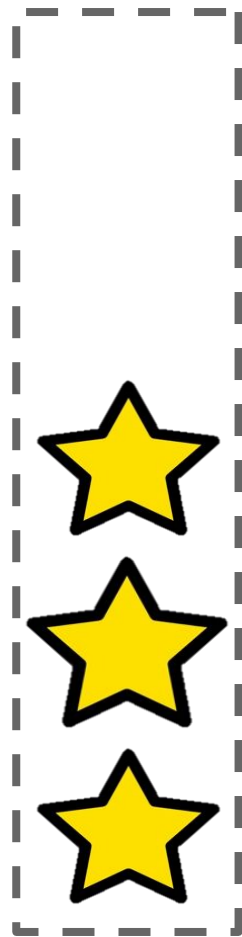
“Find the missing group of stars [gesture to the response options] that goes in this pattern [sweeping gesture from the left bottom to the right bottom of the pattern]”.

If child is confused say: “Choose one of these [gesture to response items] to show me what goes in the box”  
[point to blank box]

**If correct:** “That’s right! The group of 4 stars goes here because this growing pattern goes 1 star, 2 stars, 3 stars, 4 stars, 5 stars.” [point to each line of stars as you say them] This pattern is getting bigger, but you will also see some patterns that get smaller.

**If incorrect:** “That’s not quite right. The group of 4 stars [point to correct answer] goes here because this growing pattern goes 1 star, 2 stars, 3 stars, 4 stars, 5 stars.” [point to each line of stars as you say them]. This pattern is getting bigger, but you will also see some patterns that get smaller.



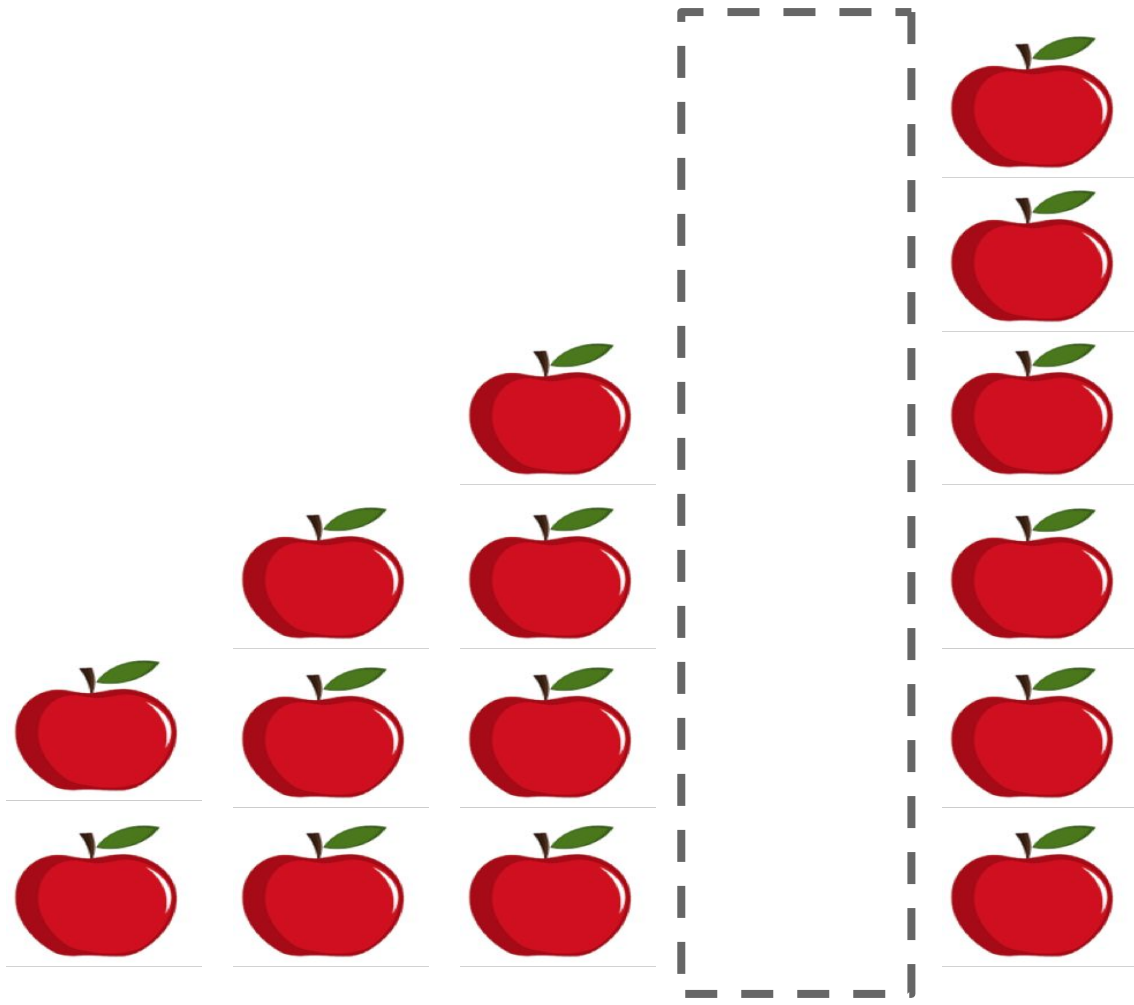


## 1. Missing Add 1 with objects

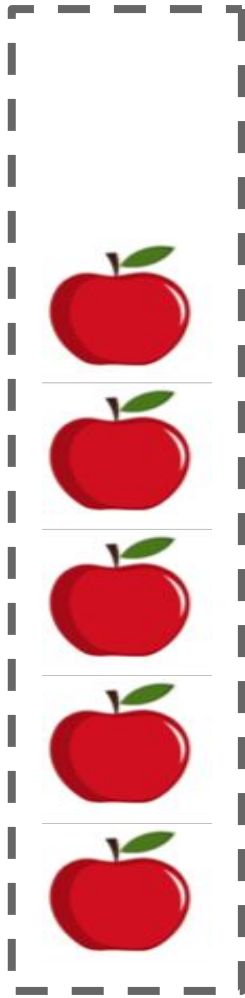
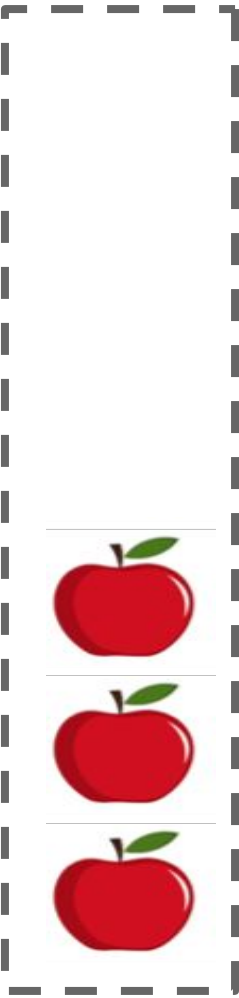
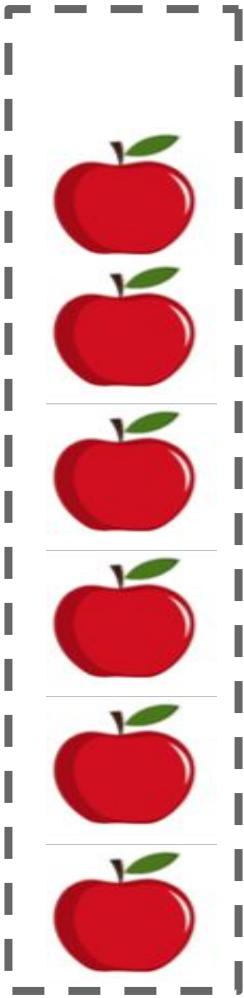
Missing: “Find the missing group of apples [gesture to the response options] that goes in this pattern [sweeping gesture across the pattern from left to right at the bottom]”.

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If still confused or students asks you if they're correct say: “Just give me your best guess”







## 2. Missing Subtract 1 with numerals

Missing: “Find the missing number [gesture to the response options] that goes in this pattern [sweeping gesture across the pattern from left to right at the bottom]”.

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the blank” [point to blank spot]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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### 3. Missing Add 2 with numerals

Missing: “Find the missing number [gesture to the response options] that goes in this pattern [sweeping gesture across the pattern from left to right at the bottom]”.

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the blank” [point to blank spot]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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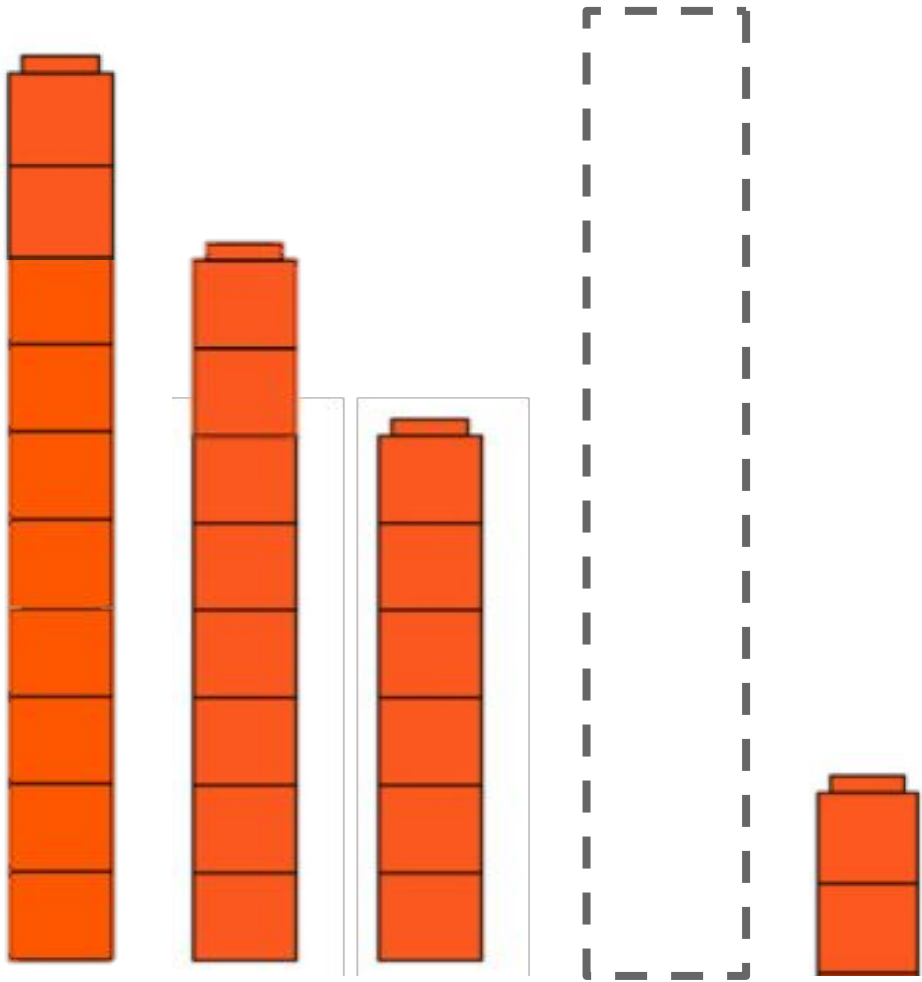
#### 4. Missing Subtract 2 with objects

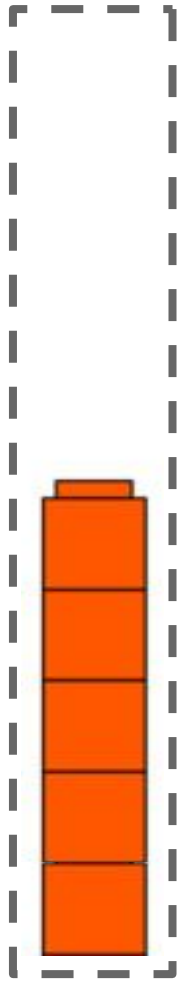
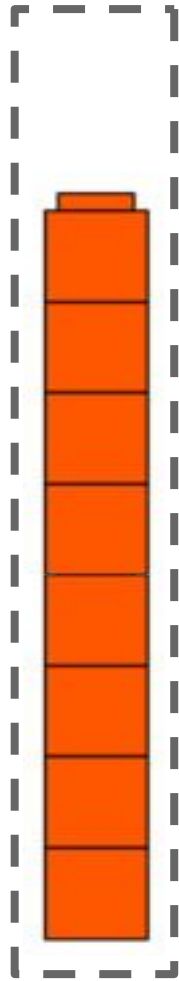
Missing: “Find the missing group of cubes [gesture to the response options] that goes in this pattern [sweeping gesture across the pattern from left to right at the bottom]”

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If still confused or students asks you if they're correct say: “Just give me your best guess”







## 5. Missing Subtract 1 with numerals

Missing: “Find the missing number [gesture to the response options] that goes in this pattern [sweeping gesture across the pattern from left to right at the bottom]”.

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the blank” [point to blank spot]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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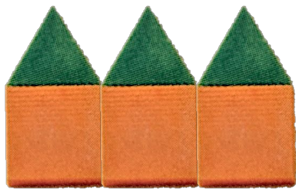
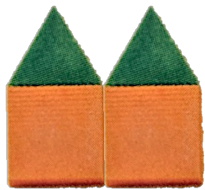
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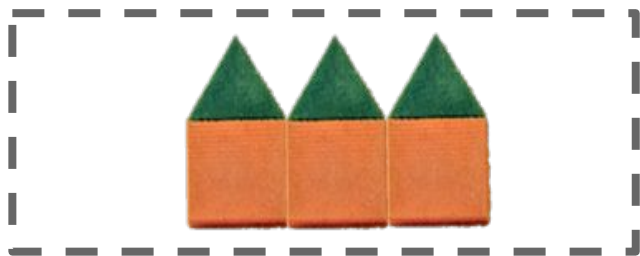
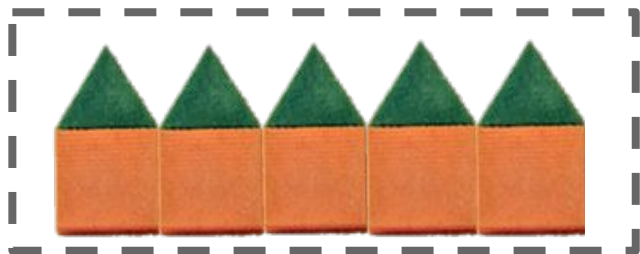
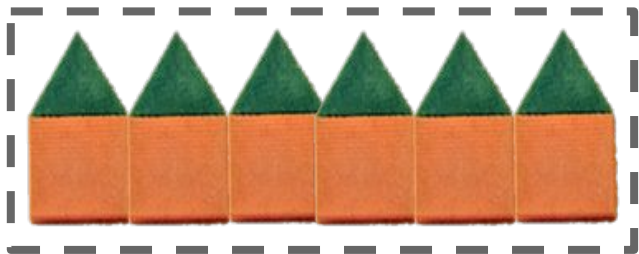
## 6. Extend Add 1 with objects

Extend: “What comes next in this pattern?” [sweeping gesture from the left bottom to the right bottom of the pattern then place response options in front of child]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If still confused or students asks you if they're correct say: “Just give me your best guess”







## 7. Extend Subtract 1 with numerals

Extend: “What comes next in this pattern?” [sweeping gesture from the left bottom to the right bottom of the pattern then place response options in front of child]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the blank” [point to blank spot]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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## 8. Extend Add 2 with numerals

Extend: “What comes next in this pattern?” [sweeping gesture from the left bottom to the right bottom of the pattern then place response options in front of child]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the blank” [point to blank spot]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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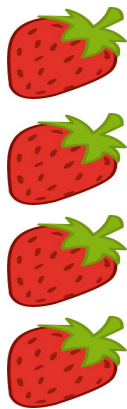
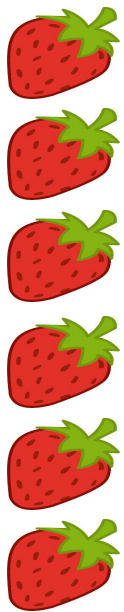
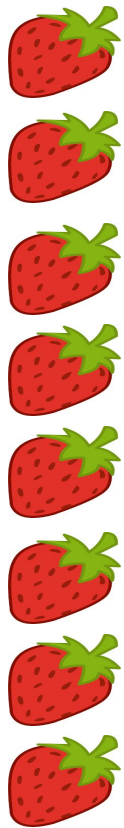
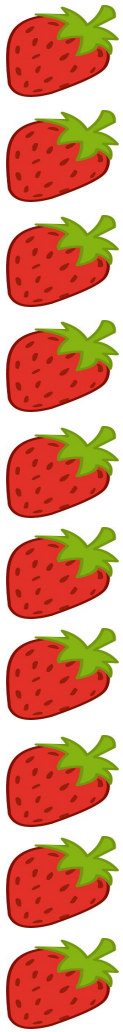
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## 9. Extend Subtract 2 with objects

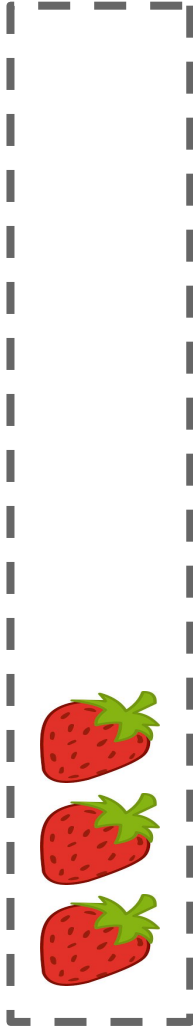
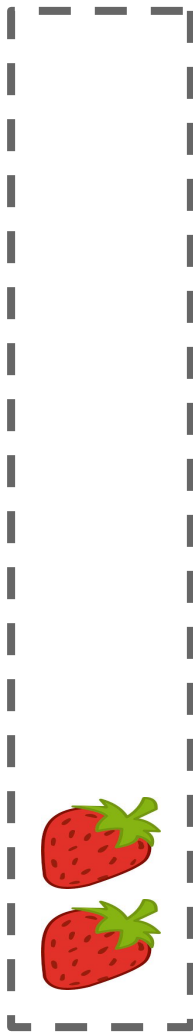
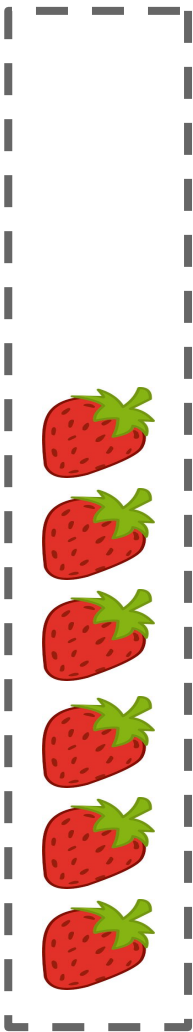
Extend: “What comes next in this pattern?” [sweeping gesture from the left bottom to the right bottom of the pattern then place response options in front of child]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If still confused or students asks you if they're correct say: “Just give me your best guess”







## 10. Extend Add 2 with numerals

Extend: “What comes next in this pattern?” [sweeping gesture from the left bottom to the right bottom of the pattern then place response options in front of child]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If still confused or students asks you if they're correct say: “Just give me your best guess”



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## DEMO ITEM

### Identify Pattern Unit

“Look at this pattern. [sweeping gesture from the left bottom to the right bottom of the pattern] This is a growing pattern because it grows by 2 stars each time [point to each individual line of stars]  
(grows by 2 stars in each step)

“Now it’s your turn”



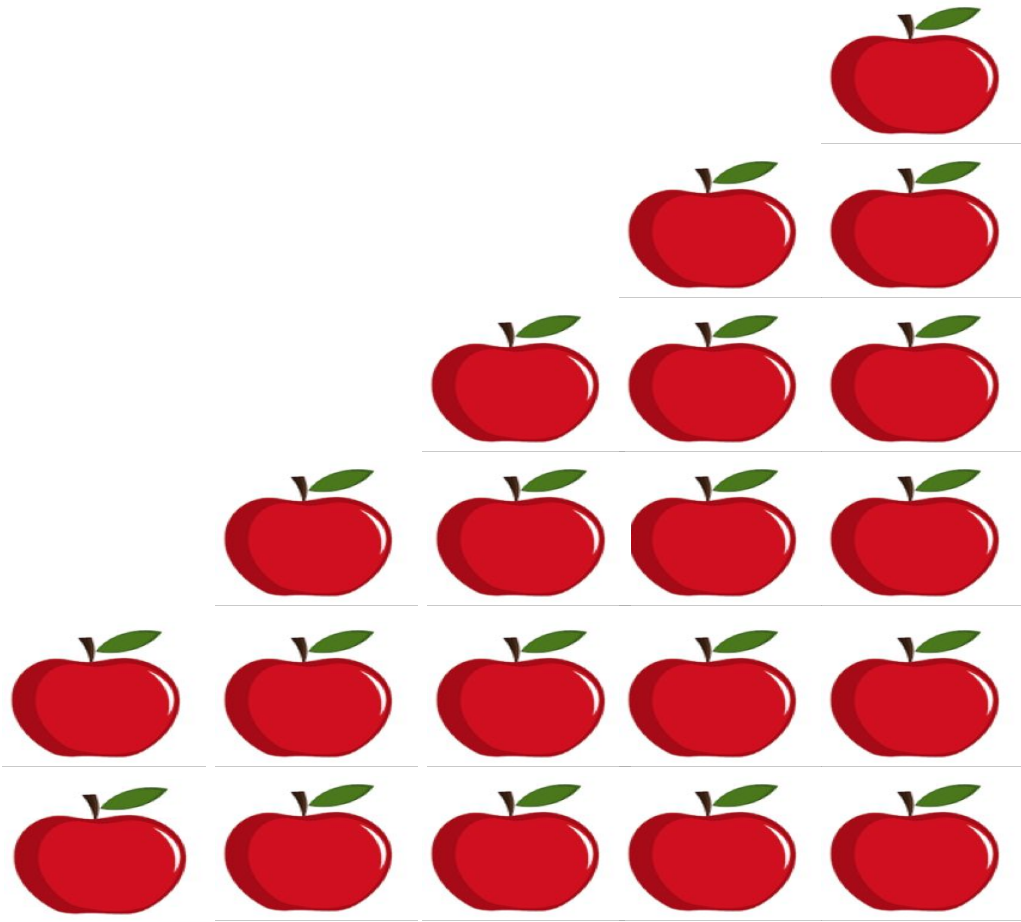
**11. Identify Pattern Unit Add 1 with objects**

“Tell me how this pattern grows” [sweeping gesture from the left bottom to the right bottom of the pattern]

If child provides a numeric answer, score 1

If child provides an ambiguous answer, say: “Can you tell me more?”

If child doesn't respond or looks confused say: “Just give me your best guess”





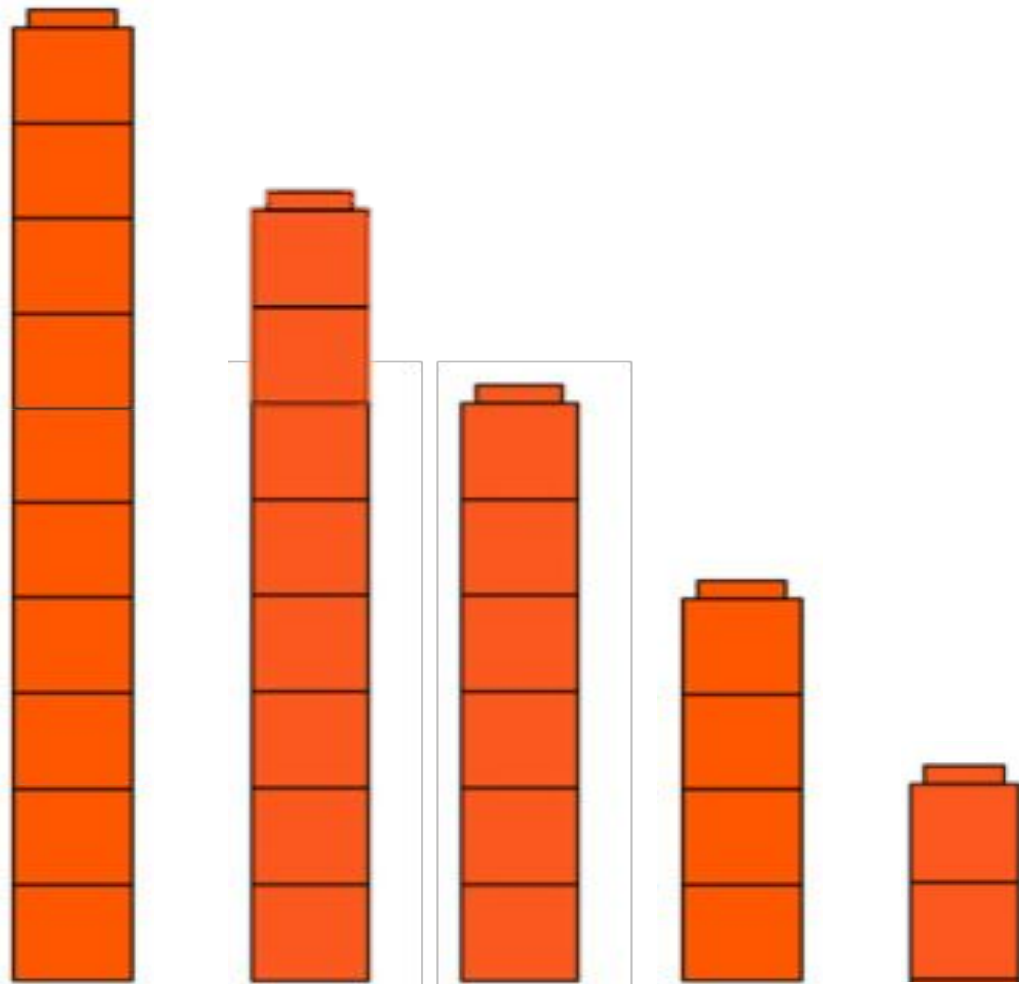
**12. Identify Pattern Unit Subtract 2 with objects**

“Tell me how this pattern grows” [sweeping gesture from the left bottom to the right bottom of the pattern]

If child provides a numeric answer, score 1

If child provides an ambiguous answer, say: “Can you tell me more?”

If child doesn't respond or looks confused say: “Just give me your best guess”



**13. Identify Pattern Unit Add 2 with numerals**

“Tell me how this pattern grows” [sweeping gesture from the left bottom to the right bottom of the pattern]

If child provides a numeric answer, score 1

If child provides an ambiguous answer, say: “Can you tell me more?”

If child doesn't respond or looks confused say: “Just give me your best guess”



**14. Identify Pattern Unit subtract 1 with numerals**

“Tell me how this pattern grows” [sweeping gesture from the left bottom to the right bottom of the pattern]

If child provides a numeric answer, score 1

If child provides an ambiguous answer, say: “Can you tell me more?”

If child doesn't respond or looks confused say: “Just give me your best guess”



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**\*\* 2 MIN BREAK: stand up with the child and do some stretches, play a short game of simon says, or any quick body movement activity before moving on to repeating patterns**

# Repeating Patterns

## PRACTICE ITEM - Missing AB

“What is missing in the pattern? [Gesture to the box on the right of the pattern] Use one of these [Gesture to the response option pictures].

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

If correct: “That's right! The sun is missing because this repeating pattern goes: sun, umbrella, sun, umbrella, sun, umbrella” [point to each item in the pattern as you name them]

If incorrect: “That's not quite right, [remove their answer and place the sun in the blank] the sun is missing because this repeating pattern goes: sun, umbrella, sun, umbrella, sun, umbrella” [point to each item in the pattern as you name them]





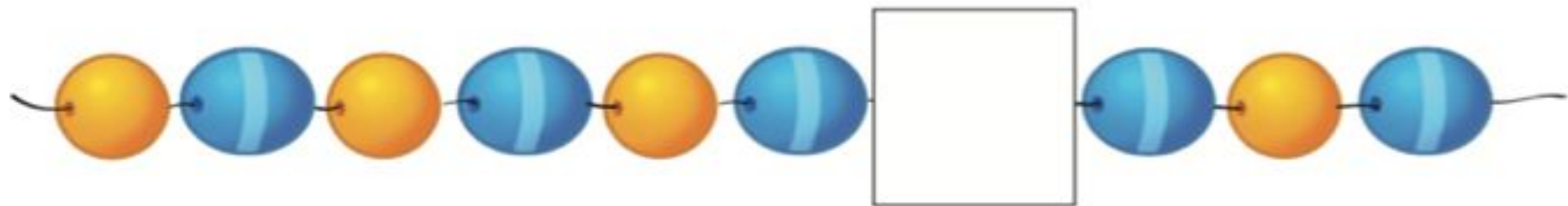


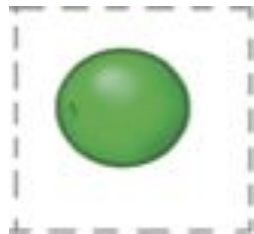
## 15 & 16 Missing items

**15** - Missing Item AB: “What is missing in the pattern?” [sweeping gesture across the pattern] “Use one of these beads” [gesture to the response options]

**16** - Missing item ABB: “What is missing in the pattern?” [sweeping gesture across the pattern] “Use one of these beads” [gesture to the response options]

if child looks confused or unsure say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]



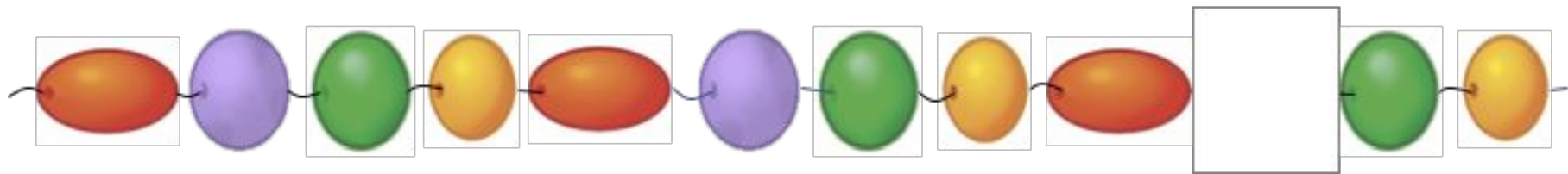
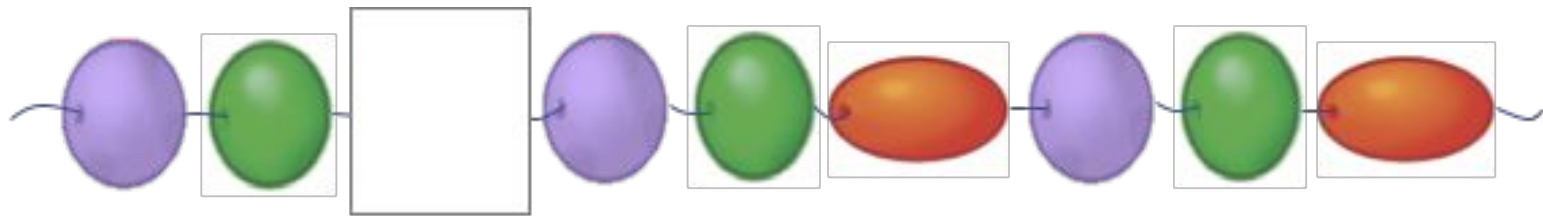


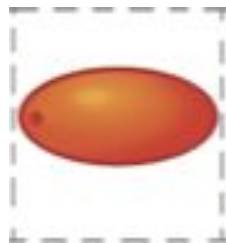
## 17 & 18 Missing Items

**17-** Missing item ABC: “What is missing in the pattern? [sweeping gesture across the pattern] “Use one of these beads” [gesture to the response options]

**18-** Missing item ABCD: “What is missing in the pattern? [sweeping gesture across the pattern] “Use one of these beads” [gesture to the response options]

if child looks confused or unsure say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]





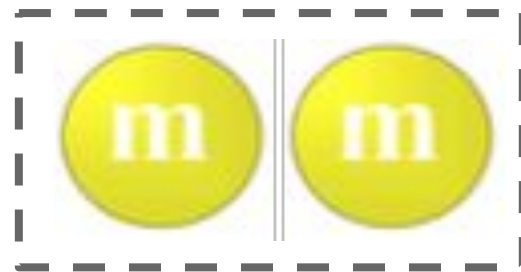
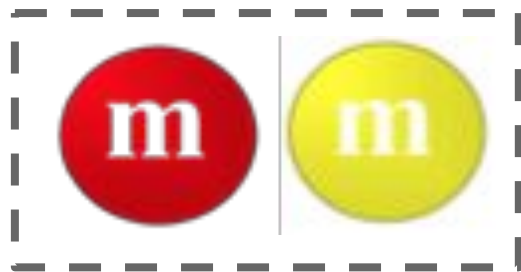
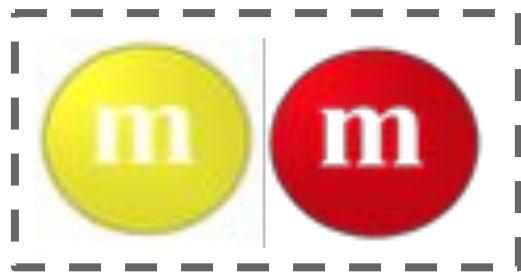


**19. Extend AB item:**

Extend: “What comes next in the pattern?” [Gesture to the circles on the right of the pattern]. “Use one of these groups of M&M’s” [gesture to the response options]

If child doesn’t respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]



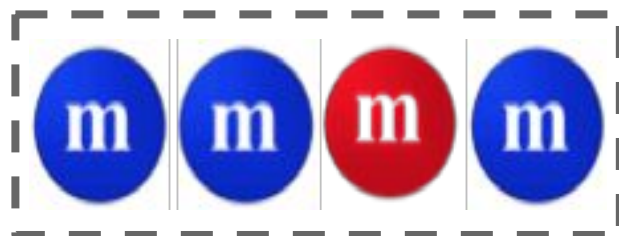
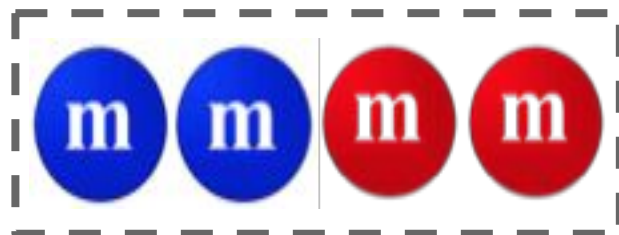
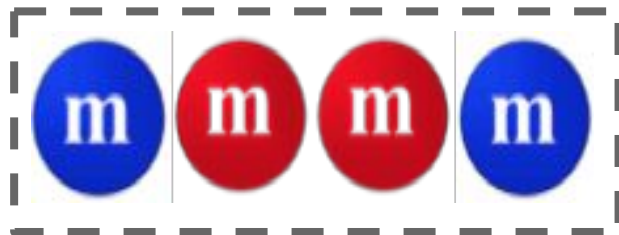


**20. Extend AABB item:**

Extend: “What comes next in the pattern?” [Gesture to the circles on the right of the pattern]. “Use one of these groups of M&M’s” [gesture to the response options]

If child doesn’t respond or looks confused say “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

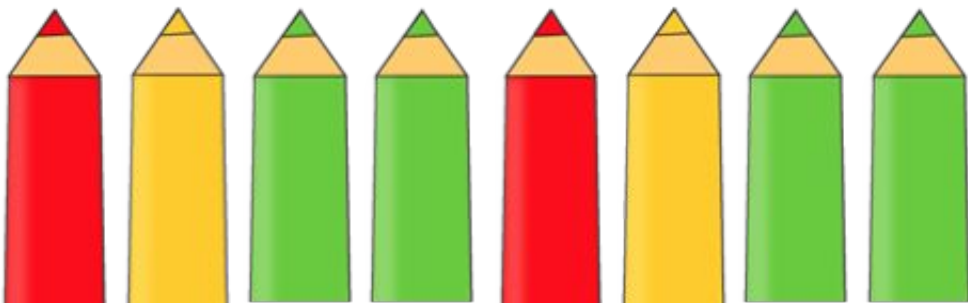




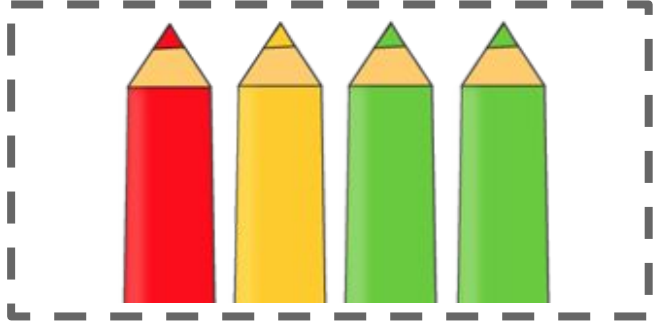
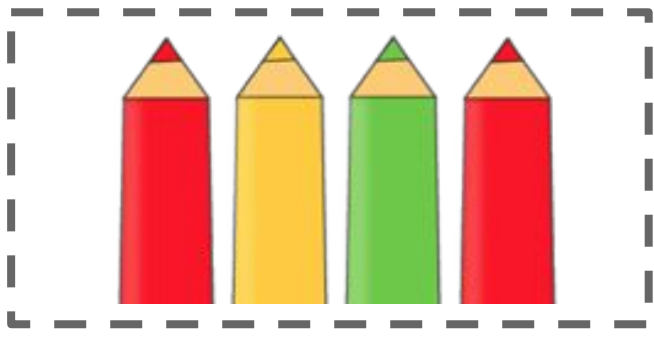
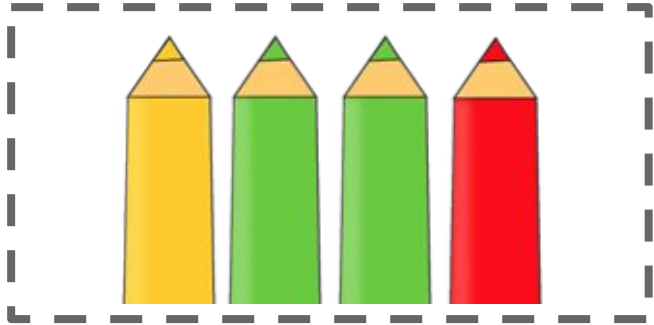
## 21. Extend multiple choice

ABCC item: “What comes next in the pattern?” [Gesture to the right of the pattern]. “Use one of these groups of crayons” [gesture to the response options]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]



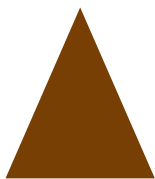
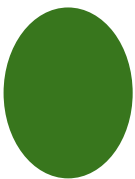
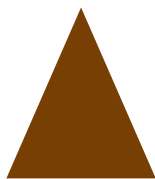


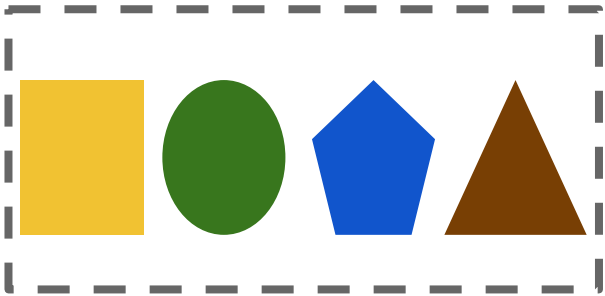
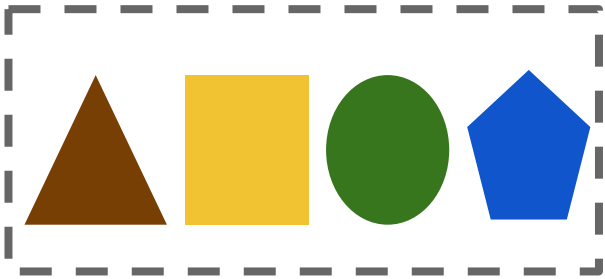


## 22. Extend ABCD item:

“What comes next in the pattern?” [Gesture to the right of the pattern]. “Use one of these groups of shapes” [gesture to the response options]

If child doesn't respond or looks confused say: “Choose one of these [gesture to response items] to show me what goes in the box” [point to blank box]

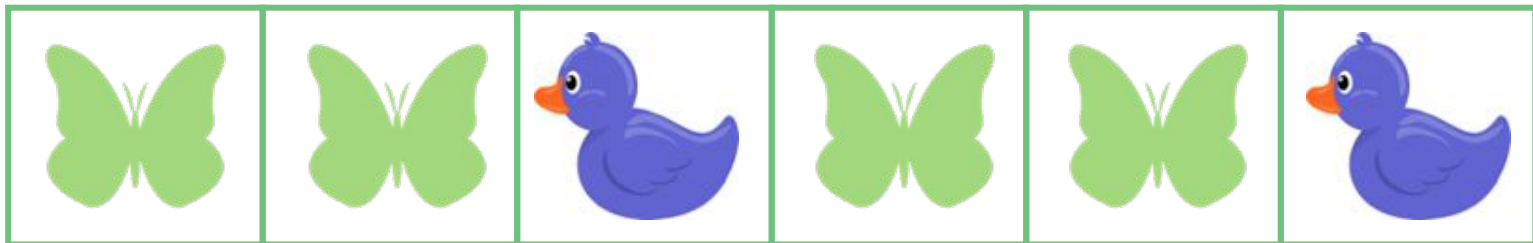


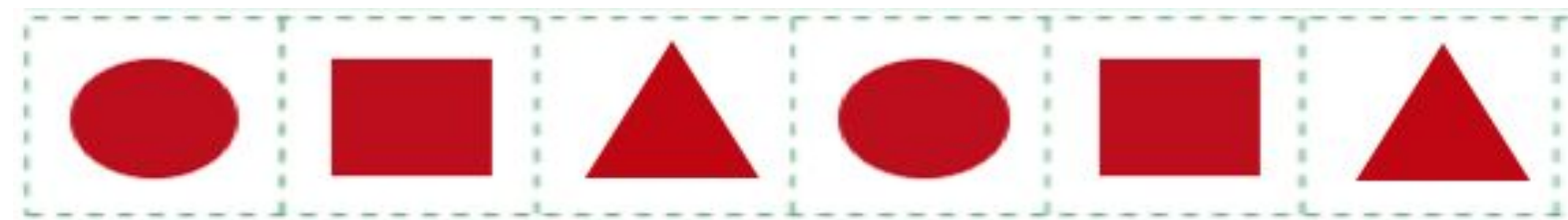


### 23. Abstract AAB item

“I made a pattern with these pictures. [Gesture to model pattern.] “Which of these patterns below is the same kind of pattern as the one I made, but with different pictures?” [Gesture to each pattern separately]

If child doesn't respond or looks confused say: “Choose one of these” [point to 3 response options] “to show me which is the same kind of pattern as the one I made” [point to blank box]



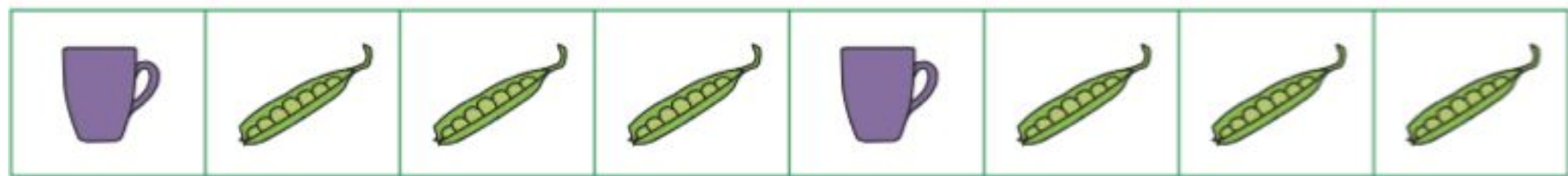


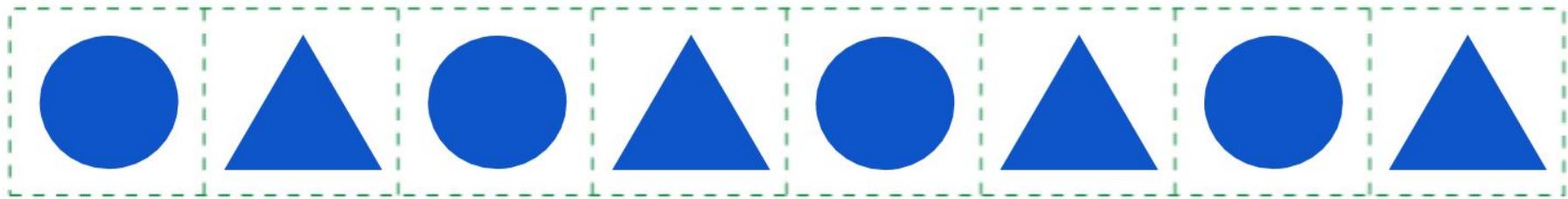
## 24. Abstract ABBB Item

“I made a pattern with these pictures. [Gesture to model pattern.] “Which of these patterns below is the same kind of pattern as the one I made, but with different pictures?” [Gesture to each pattern separately]

If child doesn't respond or looks confused say: “Choose one of these” [point to 3 response options] “to show me which is the same kind of pattern as the one I made” [point to blank box]



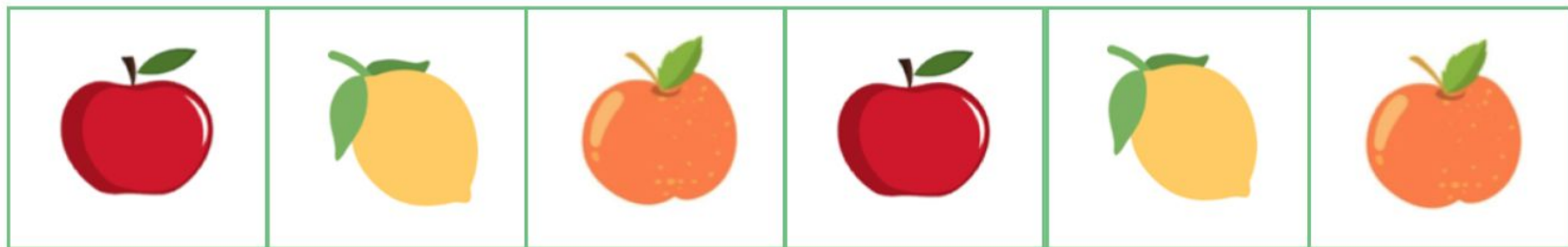


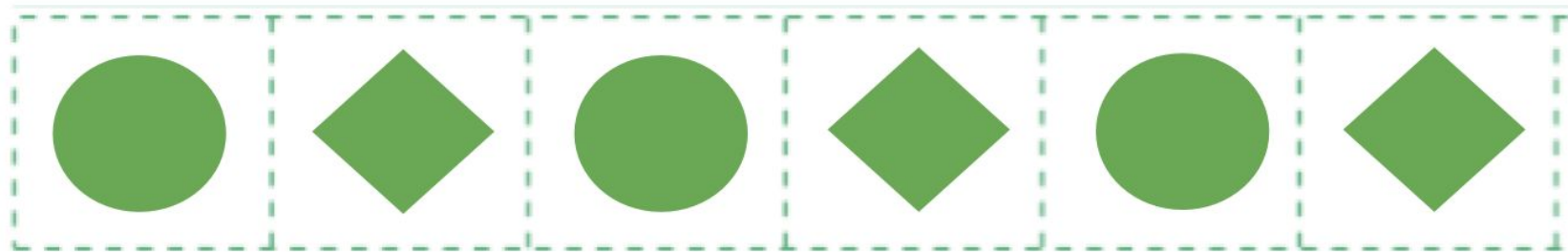
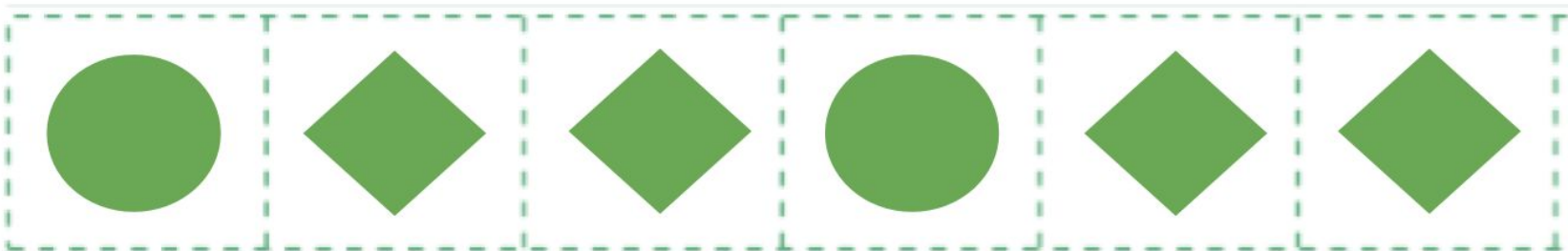
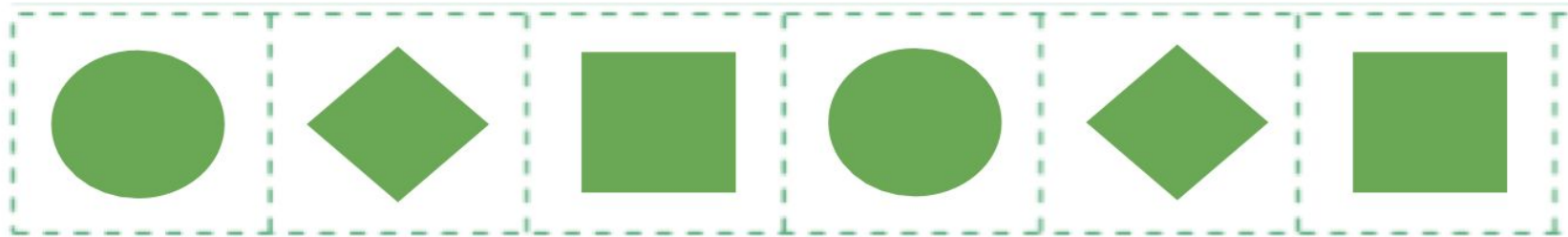


**25. Abstract ABC:**

“I made a pattern with these pictures. [Gesture to model pattern.] “Which of these patterns below is the same kind of pattern as the one I made, but with different pictures?” [Gesture to each pattern separately]

If child doesn't respond or looks confused say: “Choose one of these” [point to 3 response options] “to show me which is the same kind of pattern as the one I made” [point to blank box]

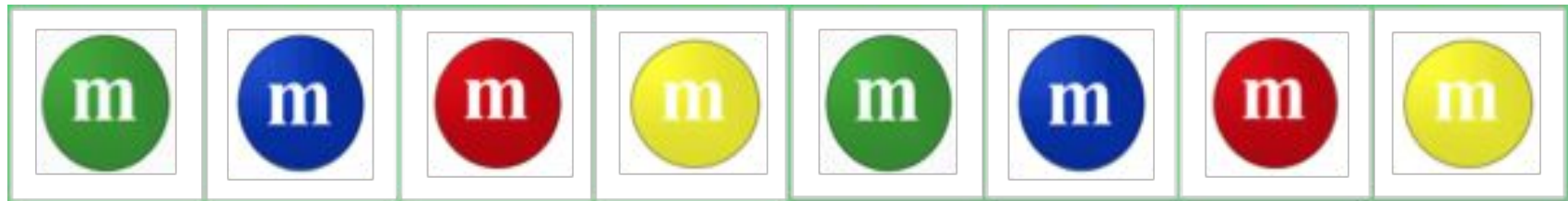




**26. Abstract ABCD item:**

“I made a pattern with these pictures. [Gesture to model pattern.] “Which of these patterns below is the same kind of pattern as the one I made, but with different pictures?” [Gesture to each pattern separately]

If child doesn't respond or looks confused say: “Choose one of these” [point to 3 response options] “to show me which is the same kind of pattern as the one I made” [point to blank box]







## 27. Identify Pattern

“Help me decide if these are patterns.

Practice item: “Is this a pattern?” [while pointing to row of red and yellow boxes]

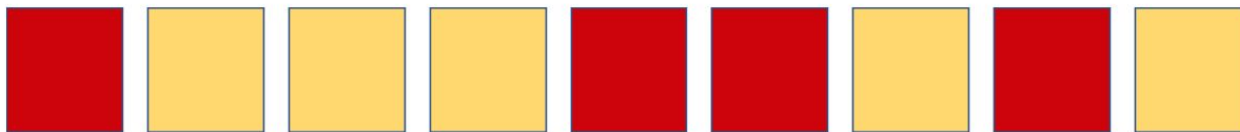
If correct: “That’s right! This *is* not a pattern because there is no part that repeats.”

If incorrect: “That’s not quite right. This is *not* a pattern because there is no part that repeats.”

Test items: only showing one at a time, ask “Is this a pattern?” [while gesturing across the whole pattern]

If child doesn’t respond or looks confused say “Please tell me yes or no if you think this is a pattern”

**PRACTICE ITEM**



**TEST ITEMS**

**A**



**B**



**C**



**D**



## DEMO ITEM - Identify Pattern Unit

“Look at this pattern. This is the smallest part of the pattern that repeats.” [with sheet facing student, circle the first ABB part in front of them]

After a few seconds, erase the circle and hand the child the marker saying “Now, it’s your turn”



## **28 & 29 ID Pattern Unit Test Items**

28 - ID Pattern Unit AB: “Circle the smallest part of the pattern that repeats”

29 - ID Pattern Unit AABB: “Circle the smallest part of the pattern that repeats”



## **30 & 31 ID Pattern Unit Test Items**

30 - ID Pattern Unit ABC: “Circle the smallest part of the pattern that repeats”

31 - ID Pattern Unit ABCD: “Circle the smallest part of the pattern that repeats”

