

Getting Ready

OBJECTIVE: Student will extend ABAB *pattern*.

Materials

Warm Up

- Vocabulary card (*pattern*)
- red and blue cubes
- plastic zipper bag
- gel board
- paper tiles
- All-Turn-It spinner

Explore

- poster (At Home)
- gel board
- paper tiles
- blocks

Warm Up

A. VOCABULARY REVIEW: *Pattern*

Show/give Concrete Connection: Place red and blue cubes in row to fit snugly in bottom of bag. Label “*pattern*.” Show “*pattern*” Vocabulary card.

Say, “**Read** it.”

Students **locate** and **show** examples of *pattern* using past work, pictures from home, or books.

B. FUN & GAMES: Similar Pattern Bingo

PREPARATION

Place simple ABAB pattern on gel board with tiles across six spaces.

Fasten three different colored tiles on All-Turn-It spinner.

Place remaining tiles in center of table.

DIRECTIONS

Player **spins**, **finds** tile in the pile and **places** it to start a new pattern.

Players continue, duplicating ABAB pattern placed at the top.

Patterns must be made in order left to right.

First to finish the pattern wins.

Explore

A. POSTER: At Home

Point out things you might find at home in a pattern, e.g. pop can colors, floor tiles, clothing, dishes, etc.

Discuss what you see on the poster and personal experiences; use information from home.

B. TOOLS & MANIPULATIVES

Say, “Let’s explore extending *patterns*.”

Model making an ABAB *pattern*.

Say, “What’s next?” and continue the *pattern*.

Students **hold** and **explore** gel board and tiles or block *patterns* with rectangular prisms and cylinders, for example.

OBJECTIVE:

Student will *extend* ABAB pattern.

Materials

Introduce and Connect

- poster (At Home)
- Vocabulary cards (*longer, extend*)
- red and blue cubes
- 2 plastic zipper bags
- gel board

Teach

- cubes
- shape templates (CD)
- 8.5 x 11 sheet of paper
- gel board
- paper tiles
- algebra/patterns pic-symbols (apple, orange)

Introduce and Connect

A. EXPLORE POSTER: At Home

Show/give student(s) Concrete Connections: Place red and blue cubes in a row to fit snugly in bottom of each bag. Fasten bags side by side. Label bag on the right "*longer.*" Model extending a pattern on the gel board. Direct students to **point** to the *longer* part of the pattern.

B. SHOW & TELL

Ask, "What do you know about making a pattern *longer*?"

Students **tell** what they **see** on the poster and what they know.

Write comments on Number Notes poster with numbers, math symbols, words, pic-symbols, objects, etc. Use past student work or items from home when possible.

Note: Objects or pictures can be fastened to the Number Notes poster.

C. VOCABULARY: *longer, extend*

Show "*longer*" Vocabulary card.

Say, "This says *longer*. **Read** it."

Students **say**, "*longer*" three times. Repeat with "*extend*."

Longer means increased length.

Extend means to make *longer*.

P At Home



Sensing Math

- Give students suckers to try a pattern. Each student licks a flavor then the other in an ABAB pattern. Say, "Make the pattern *longer*" and students **repeat** the pattern.

Level Guide

1 Level = Severe

2 Level = Moderate

3 Level = Mild

Teach

A. VISIBLE THINKING

Use cubes, gel board, and pic-symbols to show what you are thinking.

Demonstrate each CSA level twice.

C

Place yellow and blue cubes in a simple ABAB pattern. Say, “Make it *longer*. *Extend the pattern*.” Add more cubes to extend the pattern.

S

Place apple and orange pic-symbols in an ABAB pattern on gel board. Say, “Make it *longer*. *Extend the pattern*.” Add more pic-symbols to extend the pattern.

A

Write numerals 1 and 2 on the board in a simple ABAB pattern. Say, “Make it *longer*. *Extend the pattern*” Add 1 and 2 to *extend* the pattern.

B. TRY IT: Skill Drill Worksheet

Give an ABAB pattern for students to **extend** and **make longer**.

Problem Solving

A. DEMO

Deb made a rug. She put a circle, square pattern on two sides of the rug. She wants to make the pattern to go on all four sides. How can Deb *extend* the pattern? Show pattern and place shape templates on table.

B. SOLVE IT

Deb started a new rug. The pattern is: red square, yellow triangle. Help Deb *extend* her pattern. Show pattern and place shape templates and paper on table.

1
Level

Place red square, yellow triangle, and red square in pocket chart. Show and read pattern left to right. Say, “Find the shape that goes here.” Students **choose**.

2
Level

Place shapes choices in a row. Students **choose** and place shapes to *extend* pattern. Challenge: Give students two new colors and shapes in an ABAB pattern to *extend*.

3
Level

Students **choose** and **place** shapes from pile to extend pattern. Challenge: Say, “*Extend this pattern*.” Write 5, 6, 5, 6 on board. Repeat with clap-snap, clap-snap pattern.

C. TRY MORE: Problem Solving Worksheet

Students **cut** out pic-symbols to **place** to extend patterns. Students **choose** which patterns are longer and *extended*.

Close

A. SHOW ME, SHOW OTHERS: I Learned...

Review what students have learned. Ask students to demonstrate skill, share their worksheets or read their Number Notes. It is essential that students have a meaningful way to communicate what they have learned.

B. NUMBER NOTES

Model writing vocabulary “*longer*” and on Teacher Number Notes. Students **write** “*longer*” in Number Notes using numbers, math symbols, words, pic-symbols, or objects. Option: Place math pics on Number Notes page and circle or stamp the pic-symbols that represent what you have learned.

Follow Up

OBJECTIVE: Student will *extend* ABAB pattern.



Real Life Problem Solving

CLASSROOM: Students *extend* the pattern from the bulletin board across to the next wall or board.

CALENDAR: Tell students to pretend they can make the calendar week *longer*. Ask if they would extend it with weekend days or weekdays and why.

COMMON: Tell students to *look* for a pattern in the carpet or bricks. Find the endpoint and decide if the pattern can be made *longer* in that spot.



Workstations

MATERIALS / PREPARATION

Place attribute blocks (triangle, rectangle), counting tray, number pic-symbols, and writing tools (rubber stamp, gel board with stylus, pencil, paper) in workstation. Record, “Extend pattern: triangle, rectangle, triangle, rectangle. What’s next?” on Step-by-Step.

- 1 **Level** Place triangle, rectangle, triangle, rectangle on counting tray. Give students triangle and rectangle blocks. Students *activate* Step-by-Step and *place* shapes to extend ABAB pattern.
- 2 **Level** Place triangle, rectangle, triangle, rectangle attribute blocks in an ABAB pattern. Give the students triangle and rectangle attribute blocks. Students *place* the attribute blocks to extend the ABAB pattern
- 3 **Level** Place number pic-symbols 2 and 4 in an ABAB pattern. Students extend the pattern by *writing* or *placing* number pic-symbols. Repeat with other number patterns.



Games

A. VOCABULARY: Spinning for *Longer, Extend*

MATERIALS / PREPARATION

Place At Home game board on table. Place pic-symbols (*longer, extend, blank*) on All-Turn-It spinner. Give each student a pawn.

GAME DIRECTIONS

Player *spins* All-Turn-It spinner. If player spins “*longer*” or “*extend*” he/she *moves* the pawn to the next space. If player spins a blank, he/she loses a turn. Player to reach end of the board first wins.

B. SKILL: Make It Longer

MATERIALS / PREPARATION

Place circle and triangle shape templates in middle of table. Begin two ABAB patterns at one end of the table, one for each team. Place dice pattern overlay on All-Turn-It spinner. Divide students into two teams.

GAME DIRECTIONS

Team *spins* and *counts* corresponding number of shapes to lengthen their pattern. Continue until one team’s pattern reaches the other end of the table.