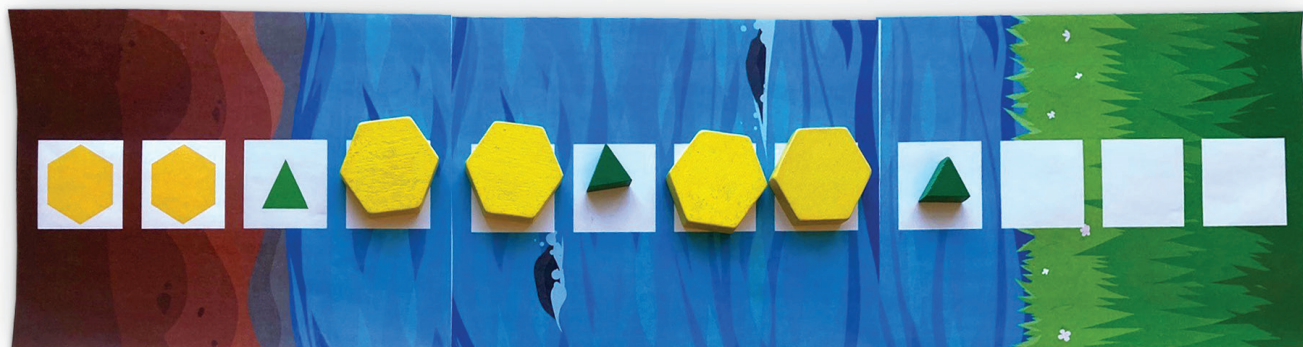


Pattern Bridge

Children add and remove core units from a pattern to fill the spaces on a board.



Materials

- Pattern blocks, square color tiles, or counters
- Cards with plus and minus signs (Tip: Instead of cards, you can create a spinner or a die with tape on it that has plus and minus signs marked on it, but you will need more + signs than – signs for the game to work.)
- Game board front and back piece, and as many middle pieces as desired

Setup — 5-10 minutes

- Setup a game board. Use the first and last piece of the game board, and as many middle pieces as desired to make the length of the gameboard.
- Display a pattern core unit in the first few spaces on the board with pattern blocks or other counters.
- Print the + and – cards and place them facedown by game board.

Instructions

1. In this board game, children work together to extend a pattern by adding and subtracting pattern core units to form a bridge from one side of the board to the other.
2. Children (or teacher) create a pattern core unit on the first spaces of the gameboard using pattern blocks or other counters. The pattern core unit is the part that repeats (e.g., hexagon, hexagon, triangle)
3. On each turn, the child draws a card.
 - a. If a plus sign is drawn, they add one pattern core unit to the board
 - b. If a minus sign is drawn, they remove one pattern core unit from the board
4. Keep taking turns until the pattern bridge has extended to the end of the board.

Checks for Understanding

To deepen children's learning about early math concepts, talk and ask questions while doing this activity together. Here are some examples to get you started.

Pattern Recognition

- "What pattern are you making? Let's say it together!"
- "What shapes are in the pattern? What will you need to repeat to continue the pattern?"

Extending a Pattern

- "I see you drew a plus/minus sign. What do you need to add to/take away from the board to make the pattern again?"
- "What should you add to the next space?"
- "How do you know what to add/take away each time?"

Addition

- "How many more blue red reds (or whatever the chosen pattern unit is) do you need to add to get to the end?"



Activity Modifications

Once you have tried out the activity, here are some other things you can do. Try these modifications to keep the activity interesting and challenging for children all year.

Introduce a Variation

- Change the difficulty by using different pattern core units. For example, an AB or ABC pattern is easier to recognize and extend than an ABA pattern.

Make It Easier

- Instead of adding and subtracting core pattern units, have children add or subtract individual blocks while maintaining the pattern.

Make It Harder

- Have children create their own core units to use when playing the game. Make sure they can identify the pattern's core unit before they start playing.

- Make the board longer by making as many copies of the middle page of the game board as needed.
- Design cards to add or subtract more than one pattern core unit at a time (for example, +1, +2, -1, -2).

Promote Peer Collaboration

- Put each child in charge of a certain type of pattern block so they must work together to build the pattern core unit.
- Have one child draw the card, one child add/subtract the core unit, and one child check the pattern.

Give It a Theme

- Three Billy Goats Gruff – Tell or read the story of the Three Billy Goats Gruff. Children work to complete the pattern to create a bridge across the river for the goats.