PATTERNS GRID

Pattern Activities Using a Grid

Preparation

1) Print the cards and grid.
2) Cut the cards along the dotted line.
   The image cards contain the objects found in ELM's *Patterns* activities. Alternatively, you could create your own set using materials found around the classroom (ex: construction paper, bricks, paint flat rocks, etc.). Ensure that the set of objects you create contains several identical items so they can be used to create a pattern.
3) Laminate the cards and grid to increase their durability.

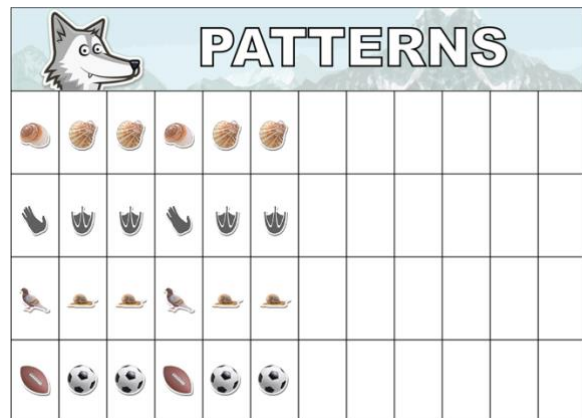*Note*: The maximum length of a pattern in ELM is 12 objects (4 objects x 3 units of repeat).

- *The Grid*: This grid was designed to align to the ELM activity and holds up to 12 objects in a row. You do not need to fill an entire row and can practice smaller patterns with your learners. If you would like to create patterns that are longer than this, you could cut and tape multiple grids together.
- *The Image Cards*: In ELM, one image may be repeated up to nine times depending on the pattern (ex: AAABAAABAAAB). There are 10 of each image in the cards. Depending on the type of activities you plan to do, you may want to print these cards 2-4 times for each learner/group to ensure you have enough of each image.

SOME SUGGESTED ACTIVITIES

These resources can be used in several ways for different activities involving patterns. Below are some suggestions. You can try them as described or tailor the suggestions to your classrooms set-up and needs.

Activity: Copy Patterns

1) Give each learner a grid and set of cards.
2) Write a pattern on the board, such as ABBABB.
   Alternatively, you can project a pattern using the objects on the board.
3) Direct learners to copy the pattern using the cards in the first row of the grid.
4) Circulate as the children are creating the pattern to verify work and provide guidance.
   You can also have children sitting next to each other verify each other's work.
5) Direct learners to copy the pattern in the next row using different objects/cards.
6) Repeat the steps until each row is filled with the pattern.

Alternative: Instead of copying the same pattern multiple times, you can give learners a different pattern to copy for each row. You can either ask them to use the same objects as the patterns you present to them on the board or ask them to copy a pattern using different objects. Determine if you want to quiz them on patterns of similar length or if you want to increase the complexity in each row.
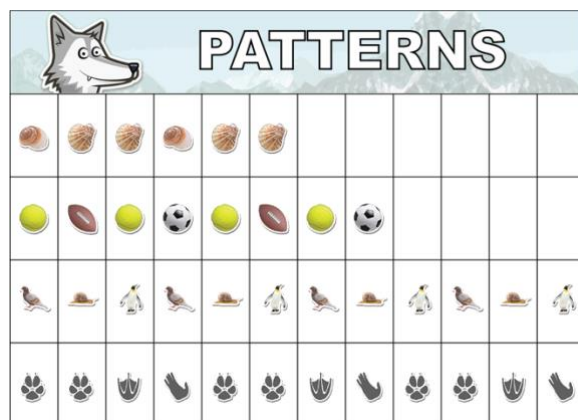
Alternative: Pair learners. Direct the one learner to create a pattern in the first row. The second learner copies that pattern in the second row with different objects. The first learner verifies if the second pattern is the same as they created. Then they clear their grid, and the second learner creates a new pattern in the first row and then the other child copies it.

Activity: Continue Patterns
1) Give each learner a grid and set of cards.
2) Create a pattern core of 2-4 objects on the first row.
3) Direct learners to continue the pattern until they fill in each cell on the first row.
4) Have children sitting next to each other verify each other's work.
5) (optional) Direct children to continue the pattern until the whole grid is filled.

Activity: Copy then Complete Patterns
1) Pair learners and give each pair a grid and set of cards.
2) Shuffle the pattern core cards, and randomly assign a pattern core to each pair.
3) Direct the pair to create the pattern in the first row of their grid.
4) Circulate as the children working to verify work and provide guidance.
5) Direct children to randomly remove 2-4 of the cards from their grid. They should also place the pattern core card face down on the table near their grid.
6) Have learners swap grids with a neighbouring pair.
7) Students complete the pattern by filling in the missing spots.
8) Learners should state the pattern core. They flip over the pattern core card to confirm their answer.
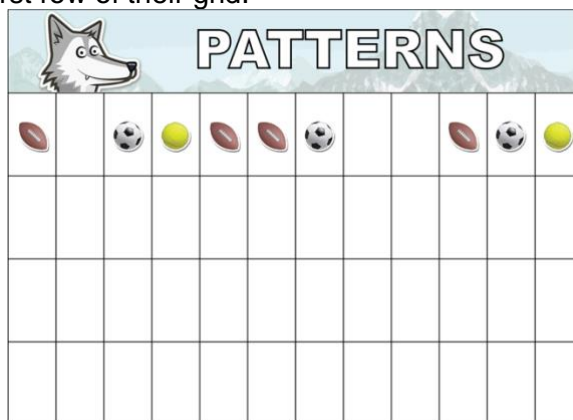
Alternative: Complete steps 1-5 as detailed above. When you get to step 6, have only one learner from each pair swap places. This child will solve the missing pattern pieces, while the child that helped create the pattern observes and determines if they answered correctly. If so, they reveal the pattern core card. The original pairs regroup and complete steps 1-6 with a new pattern core. Then the learners that did not swap groups last time, do so now the other learner remains to verify the work.

Cut along the dotted lines.

AAB	ABA	ABB
ABC	AAAB	AABA
AABB	AABC	ABAA
ABAB	ABAC	ABBA
ABBB	ABBC	ABCA
ABCB	ABCC	ABCD
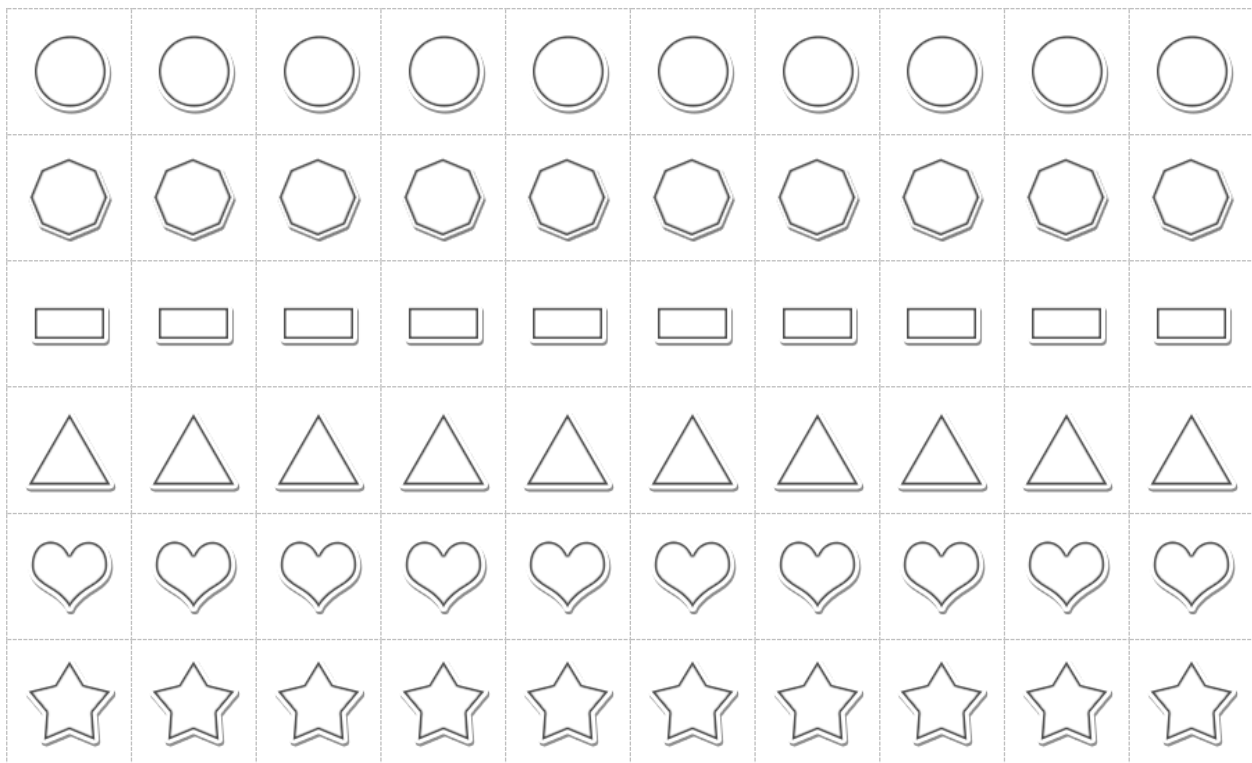
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