

The unit of repeat: the chunk that repeats

CURRICULUM ALIGNMENT

ALG.PRR.2 identify and express relationships in patterns, including growing or shrinking shape patterns and number sequences.

INTERACTIVES Pattern Blocks · challenge, display

WHAT THIS LESSON TEACHES

The repeating chunk is the smallest run of shapes that starts again and again. Spot that short piece and you can build the whole pattern as long as you like.

- In square, triangle, square, triangle, square, triangle the chunk is square-triangle: two shapes long.
- In square, square, triangle, circle, square, square, triangle, circle the unit of repeat is square-square-triangle-circle: four shapes long.

MODEL THIS ON THE BOARD

SPOT THE CHUNK ON A WALL

- 1 Look at the tile line: brick, brick, window, brick, brick, window, brick, brick, window.
- 2 Brick alone, then brick-brick, does not start again: the next tile is a window.
- 3 Brick-brick-window starts again and again, so the chunk is 3 shapes long.

LESSON ARC

Open on the IWB flags string and give five quiet seconds before anyone names where the run restarts. Model three worked patterns — triangle-square, triangle-triangle-square, square-triangle-circle — ringing only the smallest chunk after the class speaks. Pupils take turns extending three more patterns at the board, then draw one chunk once in their copybook. Class Challenge keeps the practice brisk. Student Activity Book follows for independent work.

TEACHING MOVES

1. **Getting Started.** Show the flags string and hold five seconds of silent looking before hands go up. Take two or three answers that name where the run begins again, then revoice with the word chunk so the class hears it used for the short repeating run.
2. **Watch and Notice.** Before each reveal ask where does it start again? Keep lengths off the screen until the class has spoken. After triangle-square, ring the first two; if someone offers the whole row, cover the second repeat and ask whether triangle-square alone still makes the pattern. Same move for the three-block chunks.
3. **Try It Together.** Show the filled start first. Ask what is the smallest piece that starts again? before the pupil at the board places blocks in the gaps. Class watches and agrees or corrects out loud. Rotate three pupils. If a chunk is built too long, cover the extras and check whether the short piece still grows the pattern.
4. **Draw the chunk in your copy.** Leave triangle-square (and square-triangle-circle if needed) visible on the IWB. Pupils draw the chunk once only — walk the room glancing for a short unit, not a long repeating line. This is whole-class copybook practice, not marking.

5. **Class Challenge.** Brisk board turns: before each Check ask how long is the piece we still need? Watch for pupils copying the whole filled row instead of placing only the next chunk. Three core rounds; quiet think-time on the last one.
6. **What Did We Notice?.** Point back at a board row they just extended. Listen for the chunk as the rule. Revoice: so the chunk is the little piece that starts again and again — that is why we can keep the pattern going as far as we want.

COMMON MISCONCEPTIONS

⚠ Pupils offer the whole filled row as the chunk — they treat everything they can see as the unit of repeat.

Cover the second and third repeats on the IWB so only the first candidate chunk shows. Ask: if I lay just this piece down again and again, do I still get the same pattern? Ring the shortest piece that works.

⚠ Pupils build a chunk that is too long — e.g. triangle-square-triangle-square for a two-block pattern — because two repeats still look like one piece.

Cover the second half of their over-long chunk. Ask whether the short piece alone still grows the pattern when repeated. Count the blocks aloud: two, not four.

⚠ In Class Challenge, pupils copy the whole filled start into the empty spaces instead of placing only the next chunk.

Before they place, freeze and ask how long is the piece we still need? Have them count the empty slots against the chunk length first, then place.

DIFFERENTIATION

EMERGING

- Stay with two-block chunks (triangle-square) on the IWB while the class meets three- and four-block units; pupil draws and extends only the two-block chunk in copybook.
- Pre-ring the first chunk on the board so the pupil only has to match and continue it, not find where it starts and stops.

DEVELOPING

- After drawing the chunk once, ask them to write the chunk length beside it — 2, 3 or 4 — and say why a shorter piece would not work.
- On a finished board row, hide the first block and ask: can you still name the chunk from what is left?

PROFICIENT

- Pose: build a four-block chunk that uses only two different shapes, then continue it three times on the IWB — class checks whether a shorter chunk is hiding inside.
- Fast finishers move ahead into the Student Activity Book page while the class finishes the core board rounds.

↗ **Cross-curricular:** Link to PE line-up claps or yard skipping rhymes — the same short beat that starts again is a chunk they already feel.

ANSWER KEY

- a) yellow, green
b) cat, dog, dog
c) star, moon, moon, sun

Q1: red, blue (2 long)

Q2: block, block, plank (3 long)

Q3: square, triangle (2 long)

Q4: brick, brick, window, door (4 long)

a) Never : The chunk is circle, square: two shapes, again and again.

b) Sometimes : True for red, blue and circle, square, which both repeat every 2; false for red, blue and circle, square, triangle.

EXTENSION SHEET · STRETCH ANSWERS

S1: 90

S2: 95

S3: 70

S4: 90