Algebraic Expressions 1 Maze **Short activity**

Starting from a^2b find a route to the opposite side of the rectangle so that each value you land on is equivalent to a^2b.

You may only move one space horizontally or vertically each time – no diagonal moves allowed!

$\frac{2a^2b}{4}$	$a \times b^2$	$\frac{a^6b^3}{3}$	$\frac{a^2b}{a}$	$\frac{ab}{a^3b^2}$	$2 \times a \times b$	$2b \times a$	baa
$\frac{a^3b}{\sqrt{a}}$	$a \times a \times b$	$\frac{a^2}{b^{-1}}$	$\frac{(ab)^3}{ab^2}$	$(ab)a$	$\frac{(2ab)^2}{2b}$	$\frac{a^2b^3}{b^2}$	ba^2
$\frac{a^3b^2}{ab}$	$\frac{(2ab)^2}{4b}$	$2ab$	$ab \times ba$	$\frac{a^2b^2}{b}$	$\frac{a^2b^4}{b^4}$	$a \times 2 \times b$	$\frac{ab^2}{a^3b}$
a^2b	$(ab)^2$	$(\sqrt{a} \times b)^2$	$a + a + b$	$\frac{(2a^2b)^2}{4a^2b}$	$\frac{b}{a^{-2}}$	$\frac{(2a)^2b}{2}$	$\frac{a^3b}{a}$
$2a \times b$	$\frac{(ab)^3}{ab}$	$\frac{a}{(ab)^{-1}}$	$\frac{a^3b^3}{ab^2}$	$\frac{(ab)^2}{\sqrt{b}}$	$\frac{a^5b^5}{a^3b^4}$	$\sqrt{a^4b^2}$	$\frac{a^4b^2}{2}$
$a^2 \times b$	$ab \times ab$	$(ba)^2$	$ab \times b$	$\frac{(2a\sqrt{b})^2}{2}$	$\frac{a^8b}{a^4}$	$\frac{2(ab)^2}{2b}$	$\frac{(ab)^2}{b}$

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Teacher notes

Content: Understanding algebraic notations

Possible uses:

- As an extension task for more able pupils
- As a task to identify misconceptions: some common misconceptions are targeted and will lead to an incorrect route
- As a consolidation task

Resource options:

- PowerPoint file for whole class projection
- Worksheet for individual pupils

Answers

	aab	$\frac{a^2}{b^{-1}}$	$\frac{(ab)^3}{ab^2}$	$(ab)a$			
$\frac{a^3b^2}{ab}$	$\frac{(2ab)^2}{4b}$			$\frac{a^2b^2}{b}$			
a^2b				$\frac{(2a^2b)^2}{4a^2b}$	$\frac{b}{a^{-2}}$		
					$\frac{a^5b^5}{a^3b^4}$	$\sqrt{a^4b^2}$	
						$\frac{2(ab)^2}{2b}$	$\frac{(ab)^2}{b}$

NB there are a few other expressions on the grid that are also equivalent to a^2b but none are connected to the route as a 'legal' move.