

Maths Scattergories is a popular 5-minute activity.

How Standard Scattergories Works

- Setup** Every student gets a piece of paper with a list of 5 to 10 categories.
If you don't want to print sheets, write or project the list on the board.
- Method** The teacher picks a random letter of the alphabet, target number or property.
- Race** A timer is set for **2 or 3 minutes**.
- Answers** Learners must think of one or more answers for each category.

To encourage creative thinking, use a simple scoring system. To make the checking fast and honest, have learners swap sheets with a peer before you call out or debate valid answers.

- **3 points** – A correct answer that nobody else in the group has.
- **2 points** – A correct answer shared by only one other learner.
- **1 point** – A correct answer shared by several learners.
- **0 points** – An incorrect answer.

Scoring Twist

Students read their answers aloud. If anyone else in the room wrote the same word, both players must cross it out and get 0 points. You only get points for completely unique, valid answers.

Three Ways to Play "Maths Scattergories" (Grades 7–9)

A Target Answer

Write a target number on the board (e.g. Target: -4).

Students fill their categories so that the mathematical answer equals the target number.

1. An addition expression. $(-3) + (-1)$
2. A subtraction expression. $(2 - 6)$
3. A multiplication expression. (-2×2)
4. An algebraic expression $(5x + 2, \text{ where } x = 2)$
5. A word problem that results in this answer. (A rope 36 m long is cut into three equal pieces.)

B Lette Rule

Pick a maths-heavy letter like **P, S, T, C, R or M**, and give strict geometric and algebraic categories.

If, for example the letter **P** is allocated, then the categories must be described with P words.

1. A 2D or 3D shape (Parallelogram, Prism, Pyramid)
2. A mathematical term or concept (Pythagoras, Proportion, Prime, Perimeter)
3. Something you find on a graph (Plot, Point, Positive slope)
4. A tool used in maths class (Protractor, Pen, Pencil)

C Properties of Numbers (The level of challenge can be increased by adding a math constraint)

		Must be a multiple of 3	Must be a Prime Number
1.	Number of sides of a polygon.	triangle	triangle, pentagon, heptagon etc.
2.	An answer to an algebraic equation.	$5x - 2 = 43$	$3x + 4 = 25$
3.	A value from 32 to 50	33, 36, 39, 42, 45, 48	37, 41, 43, 47
4.	A perfect square	9, 36, 81 . . .	Not possible

Possible Maths Scattergories lists A, B, C, D and E, designed for Grades 7 to 9

A Shape & Space (Geometry terminology, spatial reasoning, and measurement tools.)

1. A 2D polygon or 3D polyhedron shape.
2. A part, feature, or line belonging to a shape (e.g., *side*, *vertex*, *radius*).
3. A physical tool used to draw, measure, or construct geometry.
4. A vocabulary word used when transforming or moving shapes on a grid.
5. A real-world object that typically uses this shape's structure.

B Dimensions & Units (Metric units, estimation, formulas, and lines.)

1. A metric unit used to measure length, area, or volume.
2. A mathematical term related to angles (e.g., *acute*, *supplementary*).
3. An object in the classroom that is roughly 10cm to 1m long.
4. A word found inside an area, perimeter, or volume formula.
5. A type of line or relationship between lines (e.g., *parallel*, *perpendicular*).

C Numbers & Real-World Algebra (Numbers, operations and graphical coordinates.)

1. A mathematical property or type of number (e.g., *prime*, *rational*, *integer*).
2. A word associated with parts of a graph or the Cartesian plane.
3. A job or career that calculates measurements daily.
4. A term used to describe a change in data, charts, or probability.
5. An algebraic word or part of an equation (e.g., *variable*, *constant*).

D Triangles & Theorems (Advanced geometry, right-angled triangles, and spatial logic.)

1. A specific type of triangle or quadrilateral.
2. A mathematician or historical math concept (e.g., *Pythagoras*, *Cartesian*).
3. A word associated with right-angled triangles.
4. Something you can measure on a human body.
5. A verb that describes what you do to solve a geometric problem (e.g., *calculate*, *bisect*).

E The Architect's View (3D structures, capacity, scaling, and compound shapes.)

1. A 3D prism, pyramid, or curved object.
2. A prefix used in mathematical sizing (e.g., *milli-*, *centi-*, *kilo-*, *mega-*).
3. Something designed by an architect that requires scale drawings.
4. A term used when resizing, scaling, or comparing ratios.
5. A word used to describe the capacity or weight of an object.

Teacher Tip . . . Best Letters to Pick (stick to high-scoring letters)

P Parallelogram, Prism, Perimeter, Pythagoras, Pi, Plot, Perpendicular, Polygon

S Square, Sphere, Surface Area, Scale, Supplementary, Symmetry, Segment, Sector

T Triangle, Trapezium, Transformation, Translation, Tangent, Tonne, Term

C Cube, Cylinder, Cone, Circumference, Centimetre, Capacity, Chord, Congruent

R Rectangle, Rhombus, Radius, Right-angle, Ratio, Reflection, Rotation, Rational

M Metre, Millilitre, Mass, Multiplication, Mean, Median, Mode, Multiple

Quick Classroom Implementation Tips Rather than asking for **one answer per category**, give learners **one number** (such as 12) and challenge them to score points by finding as many *different mathematical identities* for it as possible.

This shifts the focus from *getting the answer* to *seeing mathematics from many perspectives*. Different learners will produce different representations, leading to rich mathematical discussion.

Over time, learners build flexibility in how they think about numbers—a hallmark of strong mathematical understanding.

Topics covered in the Senior Phase

- A Numbers, Operations & Relationships
- B Patterns, Functions & Algebra
- C Space & Shape
- D Measurement
- E Data Handling

	Operations (A)	Multiples (A)	Factors (A)
	Write an expression equal to 12	Write a multiple of 12	Number with a factor of 12
1.	$8 + 4$	$12 \times 2 = 24$	$36 = 12 \times 3$
2.	$2(9 - 3)$	$12 \times 5 = 60$	$72 = 12 \times 6$
3.	$5 \times 3 - 3$	$12 \times 11 = 132$	$96 = 12 \times 8$
4.	$48 \div 4$	$12 \times 20 = 240$	$144 = 12 \times 12$
5.	$2^3 + 4$	$12 \times 30 = 360$	$192 = 12 \times 16$
	Fractions (A)	Percentages (A)	Properties (A)
	Write a fraction equal to 12	Write a % statement involving 12	Describe 12
1.	$\frac{12}{1} = 12$	$\frac{12}{100} = 12\%$	natural number
2.	$\frac{24}{2} = 12$	$\frac{3}{25} = \frac{12}{100} = 12\%$	even
3.	$\frac{84}{7} = 12$	$\frac{24}{200} = \frac{12}{100} = 12\%$	highly composite
4.	$\frac{108}{9} = 12$	$\frac{30}{250} = \frac{3}{25} = \frac{12}{100} = 12\%$	Divisible by 1, 2, 3, 4, 6, 12
5.	$\frac{300}{25} = 12$	$\frac{2}{5} \times \frac{3}{10} = \frac{6}{50} = \frac{12}{100} = 12\%$	One dozen

	Algebra (B)	Algebraic Equations (B)	Patterns (B)
	Write an expression equal to 12	The solution is 12	Sequences with 12
1.	$2a$ when $a = 6$	$2x - 3 = 21$	2, 6, 12, 20 . . . rectangular numbers
2.	$3b - 16 + \frac{b}{2}$ when $b = 8$	$\frac{72}{x} = 6$	2, 4, 6, 8, 10, 12 even numbers
3.	$m^2 + 3$ when $m = 3$	$x^2 = 144, x > 0$	2, 7, 12, 17, 22 . . . common difference 5
4.	$3n$ when $n = 4$	$4x + 12 = 60$	6, 12, 24, 48, 96 . . . exponential pattern
	Graphs (B)	Space & Shape (C)	Measurement (D)
	Write something with 12...	Write something with 12...	Write something with 12...
1.	(12 ; 0)	12 edges of a cube or prism	12 cm
2.	(0 ; 12)	12 interior angles	12 kg
3.	(6 ; 12)	a dodecagon has 12 sides	12 litres
4.	$x = 12$	a clock has 12-hour markings	12 min or seconds or hours
5.	$y = 12$	a dodecahedron has 12 faces	12°C
	Perimeter (D)	Area (D)	Volume (D)
	Dimension rectangle if $P = 12 u$	Dimensions rectangle if $A = 12 u^2$	Dimension prism if $V = 12 u^3$
1.	1×5	1×12	$1 \times 1 \times 12$
2.	2×4	2×6	$1 \times 2 \times 6$
3.	3×3	3×4	$1 \times 3 \times 4$
	Data Handling		Probability
	Mode, Median, Mean, Range 12	Mean = Median = 12, no value 12	Create a problem with 12
1.	6, 12, 12, 18	5, 11, 13, 19	Probability of drawing a 12 from a deck of cards
	Real-life contexts	Word Problems	
	Practical uses of 12	Create a story with answer 12	
1.	a dozen eggs	Sam has 15 sweets and gives away 3	
2.	months in a year	There are 3 bags with 4 apples each	
3.	hours on a clock face	A rope 48 m long is cut into 4 equal pieces	

Target – 5 (In this game, every answer must mathematically equal – 5.)

Negative numbers force students to think critically about direction, quadrants, and operational signs.

Categories

1. **The Cartesian Grid**
A coordinate point ($x ; y$) that lies in Quadrant 2 or Quadrant 3 where either the x or y value is – 5.
2. **Measurement**
A real-world scenario involving measurement, temperature, or money where the answer is – 5.
3. **Algebraic Equations**
A linear equation where the variable equals – 5.
4. **Transformations**
A geometric transformation instruction that moves a shape 5 units left or 5 units down on a grid.
5. **The Integer Operation**
A multi-step calculation involving both a negative and a positive integer that simplifies to – 5.

Possible Answers

Some answers your students might write down to secure a unique point.

1. **The Cartesian Grid**
 - $(-5; 4)$ a point 5 units left of the y -axis in Quadrant 2.
 - $(0; -5)$ a point sitting directly on the negative y -axis.
 - $(-5, -5)$ a symmetrical point in Quadrant 3.
2. **Measurement**
 - -5°C (five degrees below the freezing point of water)
 - $-R5$ (owing R5 i.e. a negative balance)
 - -5 m (5 m below sea level e.g. submarine or scuba diving depth)
3. **Algebraic Equations**
 - $2x + 10 = 0$
 - $\frac{x}{5} = -1$
 - $3x - 5 = -20$
 - $x^2 = 25, x < 0$
4. **Transformations**
 - Translate a triangle 5 units to the left.
 - Shift a line graph down by 5 units on the y -axis.
 - Reflect $(5 ; 2)$ in the y -axis.
5. **Operations**
 - $-10 + 5$
 - $-2,5 \times 2$
 - $20 \div (-4)$
 - $\frac{-5^2}{5}$

Scattergories challenges

1. Name a Platonic solid that...

- has triangular faces (Tetrahedron, Octahedron, Icosahedron)
- has exactly 12 edges (Cube and Octahedron)
- has more vertices than faces (Cube 8 edges, 6 faces; Dodecahedron 20 vertices, 12 faces)
- has pentagonal faces (Dodecahedron)
- has 30 edges (Dodecahedron and Icosahedron)
- has fewer than 10 faces (Tetrahedron, Cube, Octahedron)
- has more faces than vertices. (Octahedron 8 faces, 6 vertices; Icosahedron 20 faces, 12 vertices)
- has square faces (Cube)

(This encourages learners to compare properties rather than simply memorising names.)

2. Algebra Creator

Write an expression equal to $3x + 8$

Possible answers

- $2x + x + 8$
- $5x - 2x + 8$
- $3x + 7 + 1$
- $4x + 8 - x$
- $10 + 3x - 2$
- $6x + 8 - 3x$
- $x + x + x + 8$
- $9x - 6x + 8$
- $3(x + 2) + 2$
- $2(2x + 4) - x$

3. Multiple representations

Write a number as a fraction, a decimal fraction and a percentage.

4. Angle challenge

- Give three angles that could make a triangle.
- Give four angles that could make a parallelogram

5. Geometry Hunt

Name a shape that has at least one line of symmetry.

Possible answers

- Square
- Rectangle
- Circle
- Equilateral triangle
- Isosceles triangle
- Regular pentagon
- Regular hexagon
- Kite
- Rhombus
- Semicircle