Math activities by grade

Grade	Geometry	Measuring and Graphing	Patterning	Probability
K	• Find neighbourhood 2D/3D shapes • Draw 2D shapes with chalk; add game	• Compare lengths in the neighbourhood • Compare mass of rocks • Compare volume of water for plants • Concrete graph with coloured Fall leaves	• Repeating pattern of rocks/leaves. • Find repeating patterns in the neighbourhood and nature. • Repeating patterns in clothing/picnic blanket.	• Events in surroundings: likely or unlikely?
1	• Find neighbourhood 2D/3D shapes • Draw 2D shapes with chalk; add game	• Measure playground markings with non-standard units (non-uniform and uniform) • Volume measurement with non-standard units • Concrete graph with coloured Fall leaves • Pictorial graph with car colours in a lot	• Repeating pattern of rocks/leaves. Write the pattern. • Find repeating patterns in the neighbourhood and nature. • Repeating patterns in clothing/picnic blanket.	• Events in surroundings: never, sometimes, always, more likely, less likely.
2	• Find and draw neighbourhood 2D/3D shapes; count edges and vertices • Draw 2D shapes with chalk; add game	• Measure playground markings (in m) or length of leaves (cm). Then estimate how long other objects are (no right answer). • Pictorial graph of car colours in a lot. • Pictorial graph of number of trees/bushes/ flowers in a school garden.	• Repeating pattern of rocks/leaves. Write the pattern. • Find repeating patterns in the neighbourhood and nature. • Find circular patterns in flowers. • Leaf growth patterns.	• Events in surroundings: never, sometimes, always, more likely, less likely.
3	• Find neighbourhood 2D/3D shapes; count edges and vertices • Draw 2D shapes with chalk; add game • Build neighbourhood 3D shapes w/snap cubes	• Measure playground markings (in m) or length of leaves (cm). Then estimate how long other objects are (no right answer). • Water plants with designated volumes. • Weigh rocks. • Measure air temperature inside and out. Make a data table. • **Table** then **bar graph** of car colours. • Table + bar graph of flower petal number.	**Pattern rules** • Number sequences with chalk (increasing and decreasing). • Find repeating patterns in the neighbourhood and nature. • Find circular patterns in flowers. • Leaf growth patterns. Explain the pattern rules.	• Compare likelihood of events in surroundings. • Use spinners, dice and coins outdoors.
4	**Measuring geometry** • Find polygons in spider webs • Draw polygons in chalk; measure perimeter • **Line symmetry** in leaves/flowers w/mirror	• Measure playground markings (in m) or length of leaves (cm), then estimate. • Water plants with designated volumes. • Weigh rocks, then estimate other rocks. • Measure air temperature inside and out. Make a data table and bar graph. • Car colours passing: table and bar graph. • Petal number table and bar graph. • Sundial. Trace the shadow. Estimate when an hour has passed.	• Leaf growth pattern rules. **Table and graph of pattern.** • Picnic with # food items per child. • # flowers against total # petals. • Repeating tile/brick pattern Use graph/equation for total # items. **One step equations with variable** • Number sequences with chalk. Write equation with x to calculate next #. **Read graphs to understand trends**	• Use spinners, dice and coins outdoors. • Drop leaves. Experimental likelihood of them landing on lower or upper side.

Grade	Geometry	Measuring and Graphing	Patterning	Probability
5	• Find/draw polygons. Measure perimeter. Calculate area of squares/rectangles. • Line symmetry in leaves and flowers with a mirror. • **Rotational symmetry** in flowers with folding mirrors (transformations).	• Measure air temperature inside and out. Make a data table and bar graph. • Car colours/types passing: table + graph. • Measure leaf length. Graph leaf length against plant type (**double+ bar graph**). • Petal number table, double+ bar graph. • Sundial. Trace the shadow. Estimate when an hour has passed.	• Leaf growth pattern rules. **Table and graph of pattern.** • Picnic with # food items per child. • # flowers against total # petals. • Repeating tile/brick pattern Use graph/equation for total # items. **One step equations with variable** • Number sequences with chalk. Write equation with x to calculate next #. **Read graphs to understand trends**	• Use spinners, dice and coins outdoors. • Drop leaves. Experimental likelihood of them landing on lower or upper side. • Bag of leaves of different colours. Experimental probability of picking a colour.
6	• Find/draw polygons. Measure perimeter. • Find/draw **triangles**/trapezoids. Measure area. • Find trees that make triangle shapes. • Find key **angles** in playground structures (or in sundial). • Measure angles in sundial. • Rotational symmetry and key angles w/folding mirrors • Triangle ratios to measure tree/ building	• Measure air temperature through the seasons. Make a **line graph**. • Measure leaf length. Graph leaf length against plant type (point graph). • Count petals. Graph flower and petal # (point graph). • Car colours/types passing: table + graph. • Measure bounce heights for balls. • Measure playground swing period using a stopwatch. Graph against chain length. • Measure time and angles using a sundial. • Use folding mirrors to graph image number against angle	**Linear relations as expressions and graphs** • Estimate number of blades of grass in a school field, by scaling up a smaller area within which blades are counted. **Read graphs to understand trends** **One step equations with variable** • Create scenarios about the cost of school ground plants. Write equations with x to calculate total costs, with variable number of plants ordered.	• Use spinners, dice and coins outdoors. • Drop leaves. Experimental probability of landing on lower/upper side. • Bag of leaves of different colours. Theoretical and experimental probability of picking a colour.
7	• Draw **circles**. Calculate circumference and area • Find rectangular prisms/cylinders. Calculate volume.	• Measure air temperature through the seasons. Make a line graph. • Measure leaf length. Graph leaf length against plant type (point graph). • Count petals. Graph flower and petal # (point graph). • Car colours/types passing: **circle graph**. • Measure bounce heights for balls. • Measure playground swing period using a stopwatch. Graph against chain length. • Measure time and angles using a sundial. Estimate the angle the shadow moves in an hour using 45 and 90 ref. angles. • Use folding mirrors to graph image number against angle	**Linear relations as expressions and graphs** • Estimate number of blades of grass in a school field, by scaling up a smaller area within which blades are counted. **Read graphs to understand trends** **Two step equations with variable** • Create scenarios about the cost of school ground plants. Write equations with x to calculate total costs, with variable number of plants ordered.	• Use spinners, dice and coins outdoors. • Drop different kinds of leaves, each multiple times. Experimental probability of landing on lower/upper side. • Bag of leaves of different colours. Theoretical and experimental probability of picking a colour.