Math Datasets – Chart.js Workshop

This file shows two mathematically interesting datasets for each Chart.js module.

Module 1A - Bar Chart

Dataset 3 - Cubic Numbers (n^3)

Day	Value
1	1
2	8
3	27
4	64
5	125
6	216
7	343

Bars grow even faster than exponential doubling, so students see how cubic growth quickly outpaces squared or simple doubling.

Dataset 4 - Gaps Between Perfect Squares

Gap Index	Value
1→2	3
2→3	5
3→4	7
4→5	9
5→6	11
6→7	13
7→8	15

The bars increase by a steady two each time, making the odd number pattern behind square gaps obvious.

Module 1B - Line Chart

Dataset 3 - Exponential Decay (y = 0.5^x)

x	y
0	1.00
1	0.50
2	0.25
3	0.13
4	0.06
5	0.03

Shows a steep drop that mirrors exponential growth in reverse, perfect for contrast discussions.

Dataset 4 - Absolute Value V Shape (y = |x|)

x	y
-3	3
-2	2
-1	1
0	0
1	1
2	2
3	3

Creates a sharp V, helping students see symmetry with straight lines rather than curves.

Module 1C - Pie Chart

Dataset 3 - Three Dice Low Sums

Sum	Percent
3	0.5
4	1.4
5	2.8
6	4.6
7	6.9
8	9.7
9	11.6

Shows how probabilities shift when you roll three dice instead of two, encouraging comparison of distributions.

Dataset 4 - English Vowel Frequency

Vowel	Percent
A	8
E	13
I	7
O	7
U	3

Turns language data into fractions, helping students apply math to real world text analysis. These are actual stats of how often each vowel shows up in English words.

Module 1D - Doughnut Chart

Dataset 3 - Remainders Mod 7

Remainder	Count

0	5
1	6
2	5
3	4
4	6
5	4
6	5

Makes a seven slice clock that helps explain modular arithmetic visually.

Dataset 4 - Unit Circle Quadrant Areas

Quadrant	Area Percent
I	25
II	25
III	25
IV	25

Equal slices highlight how a unit circle splits perfectly into four equal areas.

Module 1E - Radar Chart

Dataset 3 - Five Statistical Descriptors

Descriptor	Sample A	Sample B
Mean	10	14
Median	9	13
Mode	8	12
Range	7	9
Std Dev	3	4

Lets students compare two data sets across common statistics at a glance.

Dataset 4 - Fibonacci Numbers Mod 10

Term	Value
F1	1
F2	1
F3	2
F4	3
F5	5

Shows the repeating pattern of Fibonacci numbers when you only keep the last digit.

Module 1F - Polar Area Chart

Dataset 3 - Daylight Hours by Direction

Direction	Hours
N	0
NE	2
E	6
SE	8
S	10
SW	8
W	4
NW	1

Creates a sun flower where longer petals point to directions with more daylight, mixing geometry with astronomy.

Dataset 4 - Note Frequency in a Scale

Note	Count

C	4
D	3
E	3
F	2
G	4
A	3
B	2

Maps musical data to angles so students see a sound pattern drawn in a circle.

Module 1G - Scatter Chart

Dataset 3 - Log Curve (y = log2 x)

x	y
1	0
2	1
4	2
8	3
16	4

Plots the inverse of exponential growth and is great for inverse function discussions.

Dataset 4 - Circle Outline Points (x^2 + y^2 = 25)

x	y
0	5
3	4
4	3
5	0

4	-3
3	-4
0	-5

Dots form a perfect circle, letting students see a nonlinear relationship without any curve fitting.

Module 1H - Bubble Chart

Dataset 3 - Population vs CO2 vs Elevation

Population	CO2	Elevation Bubble
2	400	50
4	420	30
6	430	20
8	450	10

Combines three variables so students practice reading multivariable data and spotting correlations.

Dataset 4 - Study Hours vs Score vs Confidence

Hours	Score	Confidence Bubble
1	55	10
3	70	20
5	82	25
7	92	30

Shows positive correlation plus a self reported confidence layer with bubble size.

Module 1I - Mixed Chart

Dataset 3 - Monthly Rainfall and Running Total

Month	Rain	YTD
Jan	50	50
Feb	30	80
Mar	40	120
Apr	70	190
May	20	210

Bars track each month, the line shows how totals add up month by month, perfect for additive reasoning.

Dataset 4 - Units Produced vs Cost Per Unit

Week	Units	Cost
1	80	10
2	90	9
3	95	8.5
4	100	8
5	110	7.5

Makes economies of scale visible because as bars rise the cost line falls.