Stage 9 – Number: Proportional reasoning

Know it! 💡📖

Knowledge	
I know…	The difference between direct and inverse proportion
I know…	The features of graphs that represent a direct or inverse proportion situation
I know…	How to solve simple problems involving direct and inverse proportion
I know…	How to solve simple and complex problems involving unit pricing
I know…	How to find missing lengths in similar shapes when information is given as a ratio
I know…	How to convert between compound units of speed, density and pressure and solve problems using this

Link it! 🔗

Backward	Forward
Find a relevant multiplier in a situation involving proportion Convert between units of length, capacity, mass and time	Plotting graphs of direct and inverse proportion Solving complex proportion problems using k, k^2 and 1/k

Prove it! ✏️

Show me an example of two quantities that will be in direct (inverse) proportion. And another. And another …

Convince me that this information shows a proportional relationship. What type of proportion is it?

40   3
60   2

Say it! 💬

Vocabulary	Definition
Direct Proportion	Proportion says that two ratios (or fractions) are equal. Direct Proportion they will both increase in the same ratio.
Inverse Proportion	Proportion says that two ratios (or fractions) are equal. Inverse proportion as one variable increases the other decreases in the same ratio.
Multiplier	The number that you are multiplying by.
Linear	A linear equation will have a value of x and will generate a straight line on a graph.
Congruent	Shapes that are exactly the same shape and size.
Similar	Shapes that are exactly the same shape, but one will be an enlargement of the other.
Compound unit	Measurements that require two different types of unit. Eg miles per hour