

Linear Relationships Starting Task

Explain what changes and what was already there

1 A familiar per-one model

An empty container gains 8 liters in 4 minutes at a stated constant rate. How many liters are added per minute? Give units. In a time–water graph, which quantity is horizontal?

Your calculation and labels

2 Two nonzero observations

A supplied linear model relates elapsed time t in minutes to total water V in liters for $0 \leq t \leq 6$. Its points are $(2, 14)$ and $(5, 23)$. Find the change per minute, the total at $t = 0$ and a rule. Explain why $14 \div 2$ does not necessarily give the change rate.

Your changes, starting amount and rule

3 Greater rate and greater output

For 0 to 6 minutes, $A = 2t + 9$ and $B = 3t + 2$ give total liters. Which has the greater change rate? Which has more water at $t = 1$? Explain why those questions can have different answers.

Your comparison
