

# Picture the process I

## Teacher notes

### Why use this resource?

Students are asked to relate real life situations to their algebraic models via graphical representations. This offers lots of opportunities for discussion as well as reflection on working with different representations. Students may find different situations more or less accessible, so discussion is a really important way to share and clarify ideas here.

### Preparation

There are cards to prepare.

### Possible approach

It might be nice if students are given some time to consider just the process graphs first, and perhaps try to sketch suitable graphs, rather than being presented with all the cards at once.

### Key questions

- What are the really important aspects of the process? Is the quantity increasing or decreasing?
- What are the most striking features of the graphs? How can you link these to the equations?
- What modelling assumptions have you made? What would happen if you changed these?

### Possible support

Note that one equation involves  $e$ , but in the context of this problem, students only need to know that  $e$  is a constant. You could suggest that they replace  $e$  by 2 or 3.

### Possible extension

A follow-on from this, with more challenging scenarios, is [Picture the process II](#)

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A version of this resource has been featured on the [NRICH website](#). You might like to look at some students' solutions that have been submitted there.