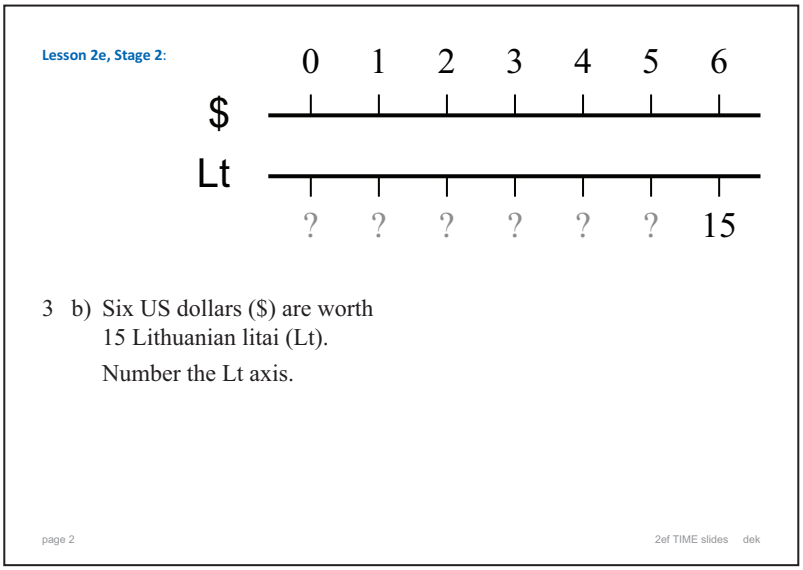
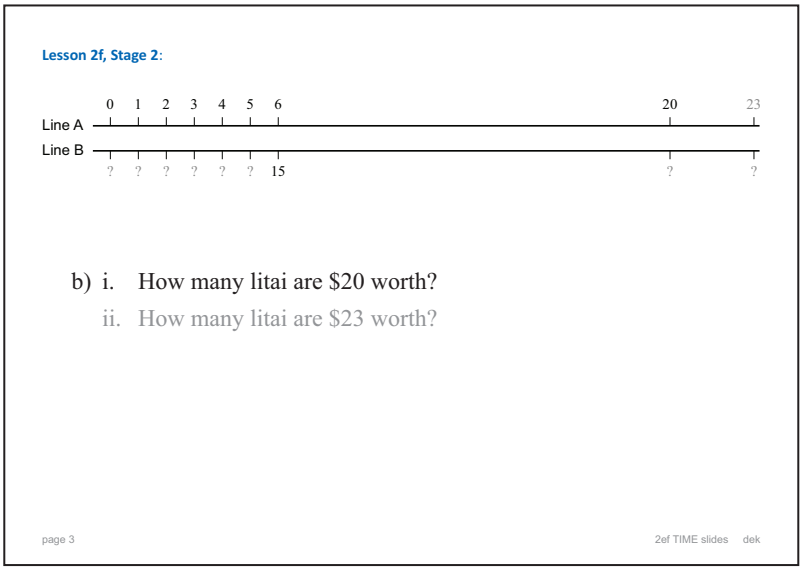
2ef TIME slides: commentary

These three slides (below) give teachers the chance to work with a DNL and to compare the DNLs for a ratio and non-ratio context. The remaining slides compare the DNL to other representations.



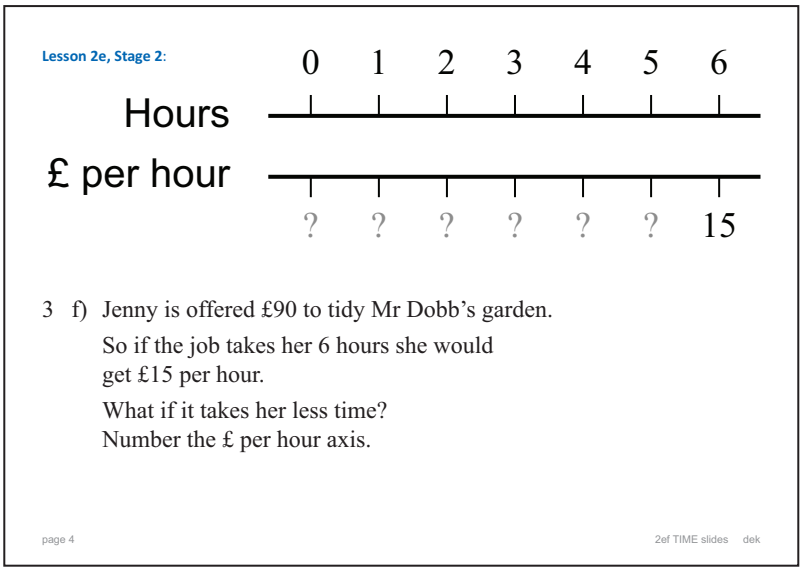
Ask teachers to work through this task (from Lesson 2e Stage 2).

Think of the different strategies (appropriate and inappropriate) that students might use to number the litai axis.



Ask teachers to work through this task (from Lesson 2f Stage 2).

Think of the different strategies (appropriate and inappropriate) that students might use to find the value of $20 (and $23) in litai.

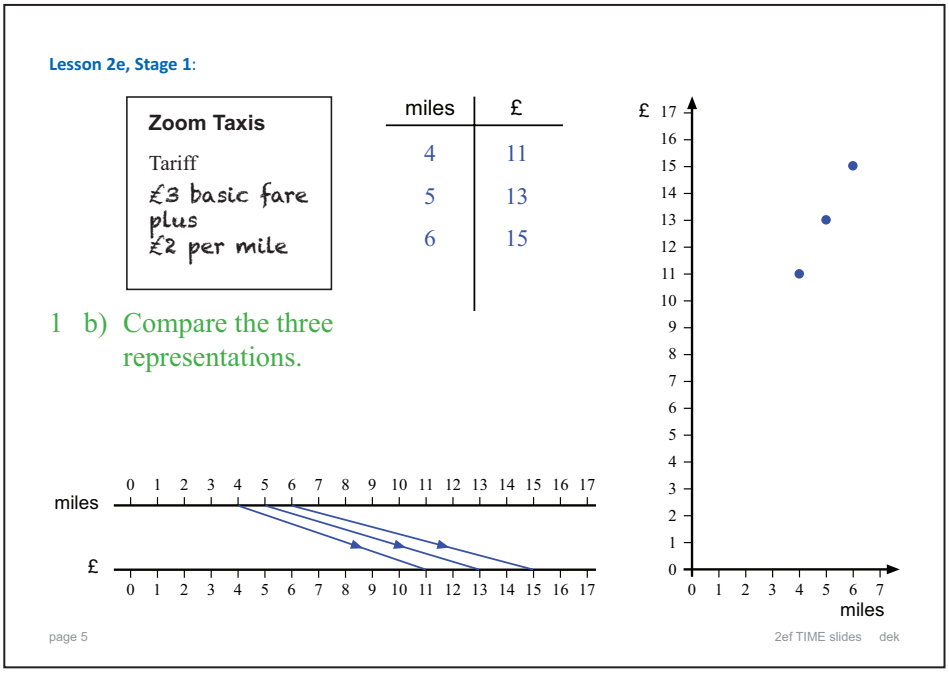


Ask teachers to work through this task (from Lesson 2e Stage 2).

Compare this DNL with the DNL for the $ → lita task.

What is special about the $ → litai DNL?

The sets of slides on each of these next three pages compare the DNL to other representations. We start by asking teachers to work through the Lesson 2e Stage 1 task.
On this page we then look at a particular feature of the mapping diagram and Cartesian graph.
We then consider how a mapping diagram can be transformed into a Cartesian graph (p3) and a DNL (p4).



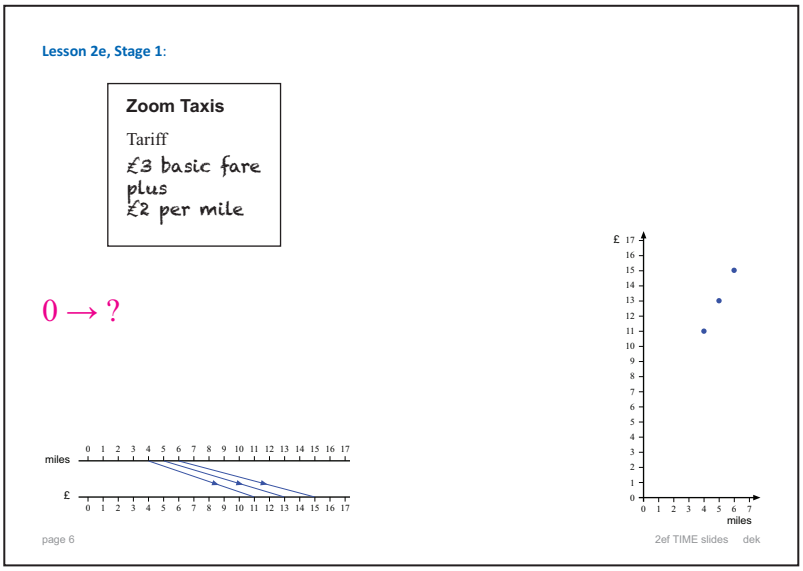
This slide shows part of the Lesson 2e Stage 1 task.

Students are asked,

Compare the three representations.
i. Where would the given information (about £3 and £2) appear in each?
ii. What are the strengths and weaknesses of the representations?

Ask teachers to work through this. Discuss it collectively. **Allow plenty of time**.

AFTER this, use the remaining slides in this file to reinforce and develop the points made.



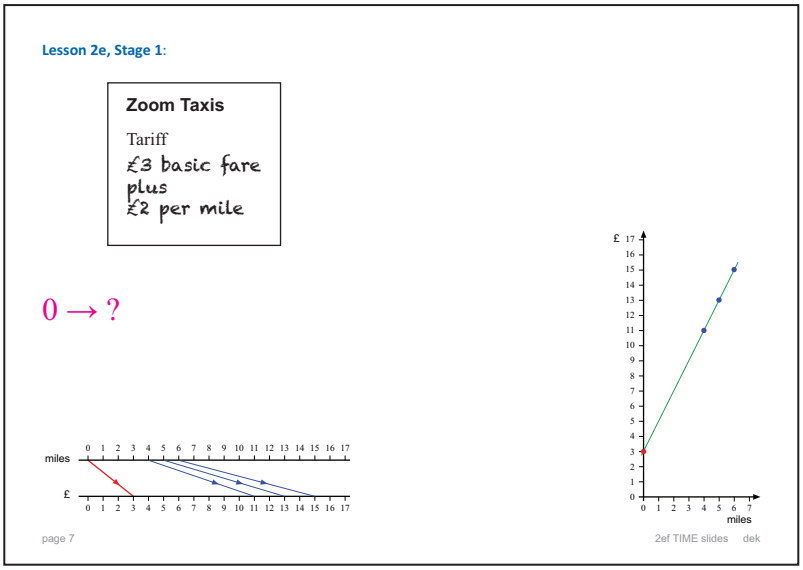
This pair of slides considers where 0 → ? appears on the mapping diagram and Cartesian graph.

The points on the Cartesian graph seem to lie on a straight line.

Where does the line cut the axes?

Where does this information appear on the mapping diagram?

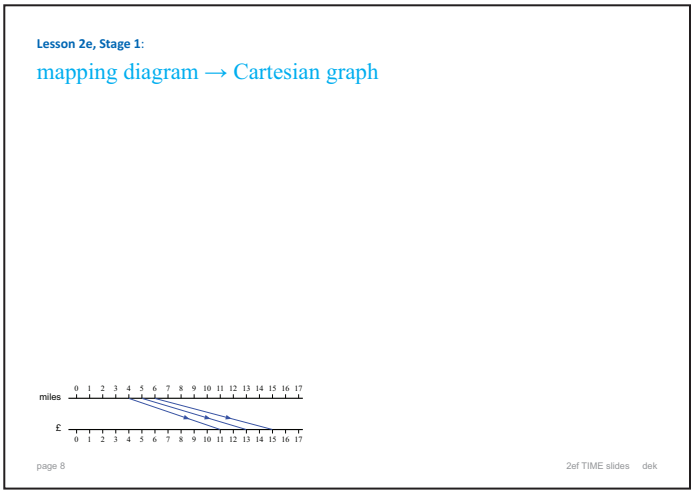
Does this information fit the story?



You might want to ask,

Why do the points on the Cartesian graph lie on a straight line?

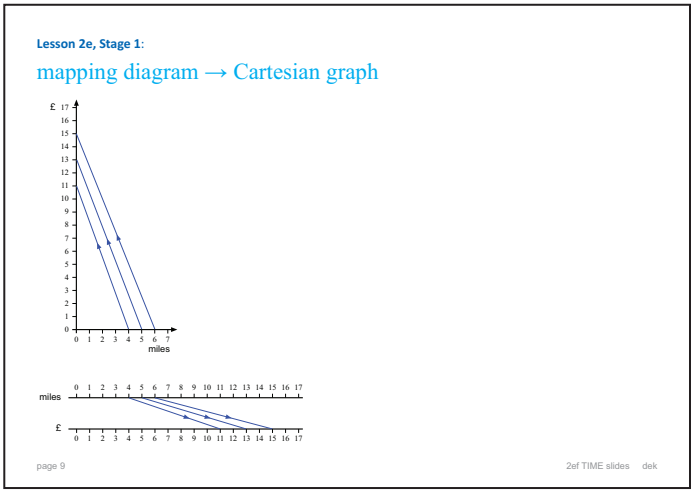
Why does the line *not* go through the origin?



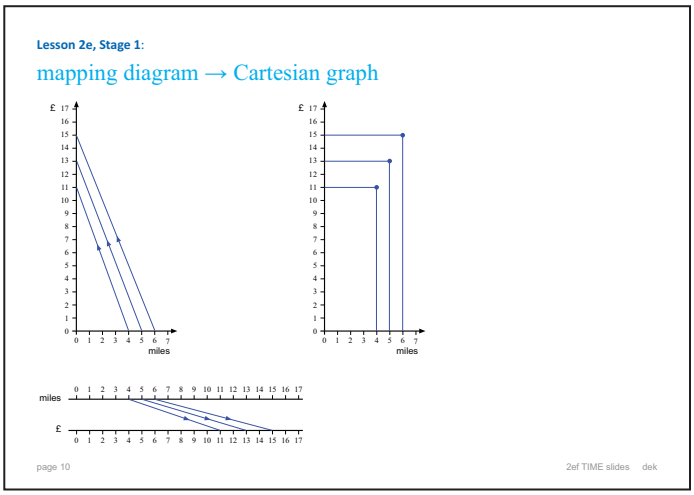
These four slides show how a mapping diagram can be transformed into a Cartesian graph.

Make sure that teachers have spent sufficient time discussing the Lesson 2e Stage 1 task before showing these slides.

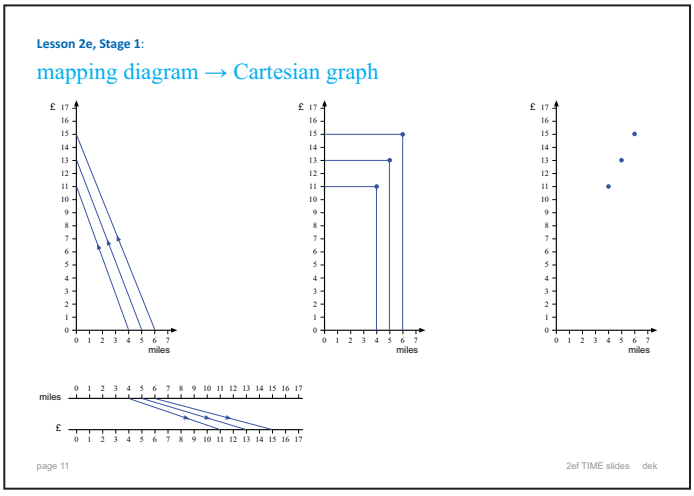
The slides are primarily intended as enrichment for teachers rather than as direct ideas for the classroom.



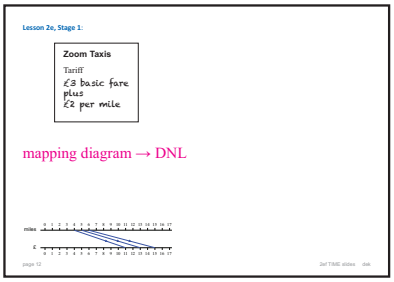
Here the bottom axis in the mapping diagram is rotated through 90°.



Here each mapping line is transformed into two lines, each parallel to an axis.



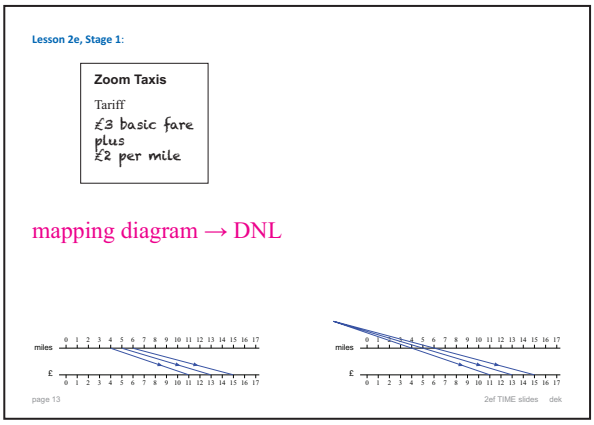
Here each mapping line pair is reduced to a point ...



These 5 slides show how a mapping diagram can be transformed into a DNL.

Make sure that teachers have spent sufficient time discussing the 2e Stage 1 task before showing these slides.

The slides are primarily intended as enrichment for teachers rather than as direct ideas for the classroom.



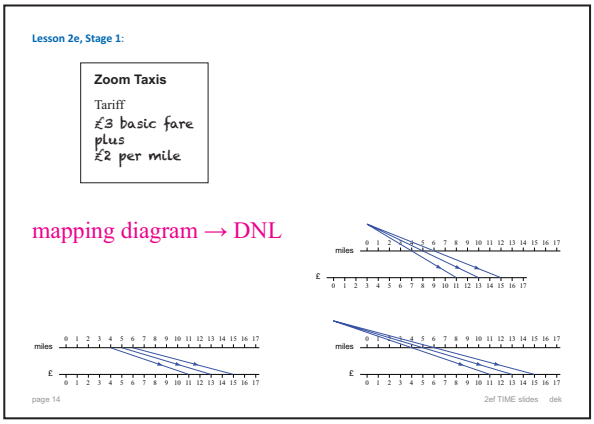
Here the mapping lines are extended.

It turns out that they meet in a point.

[Is that amazing, or obvious, or both?!]

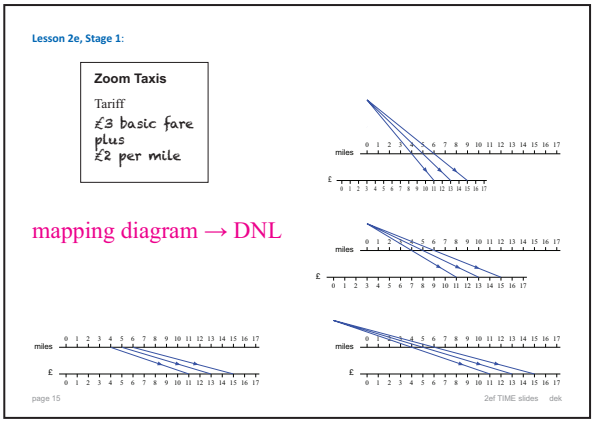
What does the point represent?

What can we say about its position?



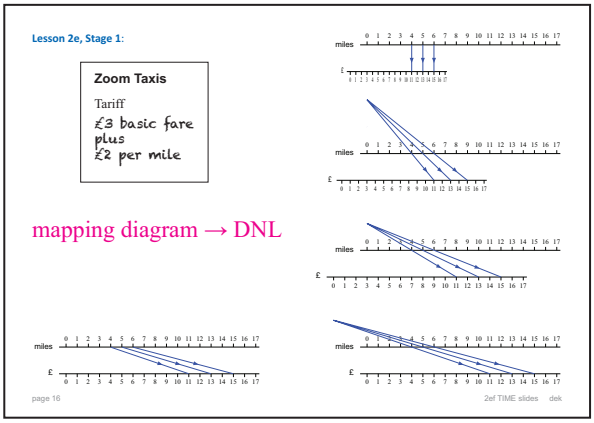
Here the lower axis is moved ‘3 to the left’, so that 3 is directly below 0.

What has happened to the position of the point of intersection [ie the centre of enlargement] ?



Here the lower axis has been ‘shrunk’ a bit [but with 3 still directly below 0].

What has happened to the centre of enlargement?



Here the lower axis has been shrunk further, until 15 is directly below 6 [and with 3 still directly below 0].

What has happened to the centre of enlargement?

What has happened to the mapping arrows?