

Move the pivot, compare the effort

GS_W4B | Tuesday 09:30–10:10 | Name: _____

I can: Compare two lever arrangements while keeping the load the same.

Give your own answer by writing, drawing, pointing, speaking or dictating. Keep the first attempt visible.

1 • Make a first decision

The load changes from one trial to the next. Can we judge the effect of moving the pivot?

2 • Our shared task

Two meshing gears have 20 and 40 teeth. The 40-tooth gear makes one complete turn.

- How many turns must the 20-tooth gear make?
- Do meshing gears turn in the same or opposite directions?
- What does this model leave out?

My decision and the evidence for it:

One change after discussion:

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Independent evidence | GS_W4B

Compare the two prepared lever positions, or explain them from the diagram. Record the same load, the pivot position and the observed effort. Explain the gain and the cost.

My route: ☐ actual comparison I observed/directed/carried out ☐ supplied-data analysis ☐ diagram/model explanation

Same load / lift	Pivot position	Effort observation
Comparison 1	_____	_____
Comparison 2	_____	_____

My explanation, drawing or recorded evidence:

Optional support: Use: “The pivot is closer to I noticed For the same lift, the hand moves ...”.

Exit: Why must the load rise be the same in both comparisons?

What I want to revisit: _____ Agreed next action: _____