Physics > Big idea PFM: Forces and motion > Topic PFM3: More about force

Key concept (age 11-14)
PFM3.3: Turning effects

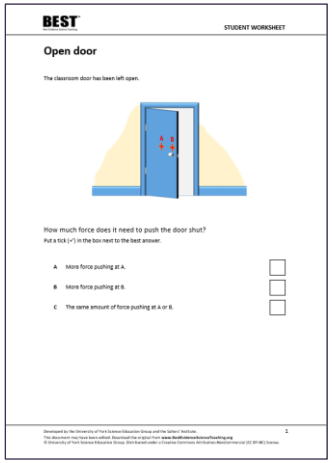
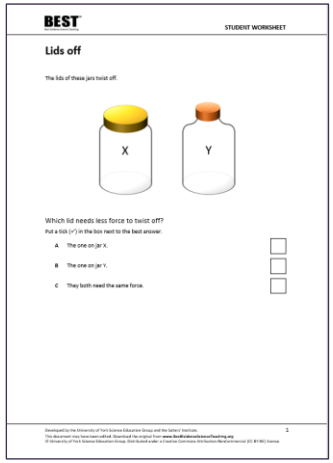
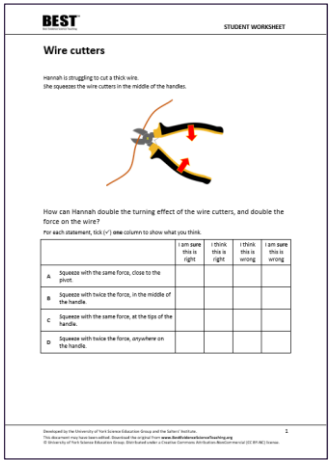
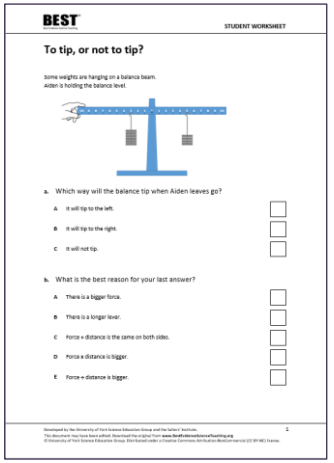
Progression toolkit: Turning effects

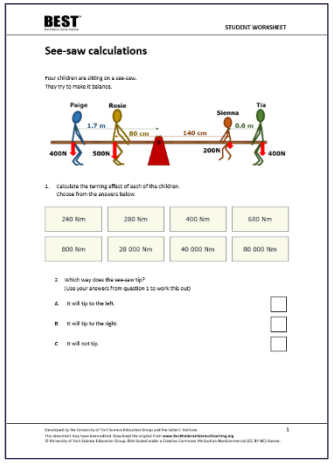
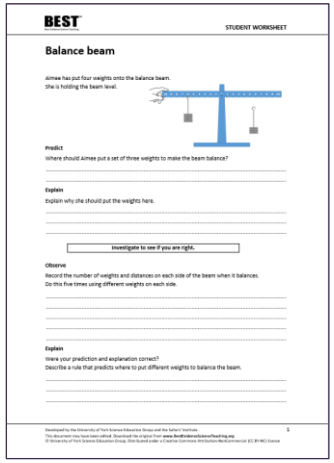
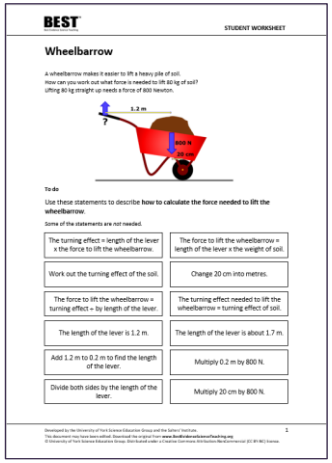
Learning focus	If a force acts on a pivoted object, the object turns about its pivot: the size of the turning effect depends on the size of the force and on its (perpendicular) distance from the pivot.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION →				
	Recall that a bigger applied force and/or a longer lever gives a larger turning effect. **P**	Identify levers and their pivots, and describe what they do.	Predict the relative size of different turning effects by comparing forces applied and lengths of levers.	Predict where to place different sized weights on either side of a pivoted beam, in order to make it balance.	Calculate the size of the turning effect. **B**
Diagnostic questions	Open door	What's a lever?	Wire cutters	To tip or not to tip?	See-saw calculations
	Lids off				
Response activities			Balance beam		Wheelbarrow

Key:

P Prior understanding from earlier stages of learning

B Bridge to later stages of learning

Open door	Lids off	What's a lever?	Wire cutters	To tip or not to tip?
				
Simple multiple choice	Simple multiple choice	Simple multiple choice	Confidence grid	Two-tier multiple choice

See-saw calculations	Balance beam	Wheelbarrow
		
Linking ideas and simple multiple choice	Predict, explain; observe, explain	Sequencing