

ES	TECHNOLOGY	Knowledge & understanding	Needs	Resources	Processes
	TECHNOLOGY	Skills in designing & making	Preparing	Carrying out	Reviewing
	SCIENCE	K & U - Energy and forces	Properties of energy	Conversion of energy	Forces <i>levers, gravity, friction</i>
	SCIENCE	K & U - Earth & space	Materials from Earth	Changing materials	
	SS&T	K & U - People in the past	Change and continuity		

With one unit sliding smoothly inside another unit, ie. the body inside the lid, we have the components for a **telescopic** unit. We can make a device which can be made longer or shorter by nesting one section inside another. (*Why telescopic?*)

Let us suppose that we need a platform that we can raise or lower, like the ones you often see in the streets servicing street lights. Your task is to design and make a model of a lifting platform using the experience you have gained making your box. It should increase the height of the platform by at least 75%. That means that if the platform starts at a height of 20cm the raised height should be at least 35cm. if it starts 28cm it should finish at least 49cm. Got the idea?.

STAGE ONE

We can make a square tube that will slide inside another, but how do we operate our telescopic unit? Levers? Pulleys? What size? Can we use thicker card and still use the 'boxing clever' system, or will we need to measure and score corners? How many sliding sections? Could we combine the telescopic system with some other system? Hydraulics perhaps? Should it be mounted on a wheeled chassis?

STAGE TWO

Having decided the answers to the questions, go ahead and build your model. In what order are you going to build it? Start with a base and build up? Or start at the top and build down? Or is this just nonsense? Test at every stage and be prepared to change your mind if you think that it isn't going to work, or if you have thought of a better, more efficient, way to proceed.

STAGE THREE

Well, does it work? Maybe you can think of improvements, or rather refinements. How about a safety warning when the platform is at maximum height - a buzzer perhaps? How does a person get onto the platform in the first place - ladder?, steps? Do the steps need to grow longer when the platform is raised?

