

Year 3 Mechanical systems (levers and linkages)

**Prior Learning:** Explored and used mechanisms such as flaps, sliders and levers. Gained experience of basic cutting, joining and finishing techniques with paper and card. Toys over time.

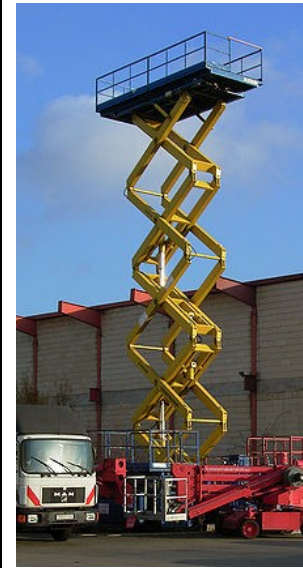
**Facts**

● Fixed pivot  
○ Loose pivot

When you push the card strip (input movement), the two levers move (output movement).

**Vocabulary**

- Oscillating— backwards and forwards in an arc e.g. a lever.
- Reciprocating— backwards and forwards in a straight line e.g. a slider.
- Linkage— the card strips joining one or more levers to produce the type of movement required. The term 'linkage' is also used to describe the lever and linkage mechanism as a whole.
- Loose pivot—a paper fastener that joins card strips together.
- Fixed pivot—a paper fastener that joins card strips to the backing card.



An extended scissor lift is a platform that can move vertically. It works by adding pressure to the outside of the bottom set of supports, pushing up each consecutive part of the scissor pattern and propelling the platform up.

It was first invented in 1963 by Charles Larson in the USA.

It is mainly used for workers to access hard to reach areas on buildings or to help raise or lower heavy loads.

Pop-up mechanisms can be added to children's moving pictures as an enhancement. However, to build on work with simple levers and sliders in KS1, it is important to focus children's learning during this project on levers and linkages.



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○ Loose pivot

Youtube: