# Mechanisms

**Here are some useful resources related to mechanisms including pulleys, levers and gears. Please note we cannot control the content of external websites.**

## Curriculum links

Science – Year 5

- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect

Design Technology

- KS1 – Explore and use mechanism [for example, levers, sliders, wheels and axles] in their products
- KS2 – Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

## Useful videos

- OK Go – This too shall pass – Why not see how many simple machines your students can spot in this video? https://www.youtube.com/watch?v=qybUFnY7Y8w
- How bike gears work https://www.youtube.com/watch?v=YhOT5GYUZJw

## Historical links

There are lots of different ways that simple machines could link with your history topics. You could look at technology in different time periods and see if any simple machines were used. For example:

- the use of pulleys, levers and gears in mining
- the use of levers in signal boxes and the development of the railways
- the Archimedes screw if studying the Greeks (this machine also has local links to Cragside in Northumberland)
- the use of mechanisms in farming, for example in horse gins https://www.locallocalhistory.co.uk/brit-land/power/page03.htm

Check out our interactive map to see more examples of inventions that might use different types of mechanisms https://museumsnorthumberland.org.uk/opyf

## Lesson plans/ classroom activities

**Primary Science Teaching Trust**

A full series of lesson plans on Forces (Year 5) is leading to them creating a chain reaction machine in the last lesson. There is also a comprehensive booklet and matrix available to download. The lesson plan document available to download also includes a page of links to useful websites.

https://pstt.org.uk/resources/curriculum-materials/chain-reaction

**Practical action**

Squashed tomato challenge. Challenge your students to create a system to get tomatoes safely up and down a mountain!

https://practicalaction.org/schools/squashed-tomato-challenge/

**Ogden Trust**

Physics related activities on their website aimed at schools.

Timeline of simple machines activity https://www.ogdentrust.com/assets/general/till-roll-timeline-simple-machines.pdf

Making gears classroom activity
https://www.ogdentrust.com/resources/resources?type=&age=&series=phizzi-practicals

**NUSTEM**

**O**ur project partners at Northumbria University have a helpful page of links for teachers

https://nustem.uk/activity/levers-pulleys-and-gears-key-stages-1-2/#activities

**Teach Engineering**

What are gears and what do they do?
https://www.teachengineering.org/lessons/view/umo_challenges_lesson02

**Inventors of tomorrow** – Lesson ideas and links to simple machine activities

https://inventorsoftomorrow.com/2016/10/26/simple-machines-engineering-for-kids
https://inventorsoftomorrow.com/2016/09/26/pulleys-2/

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