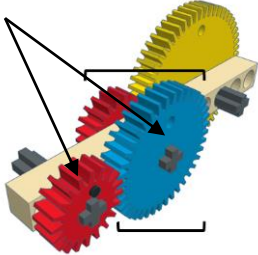
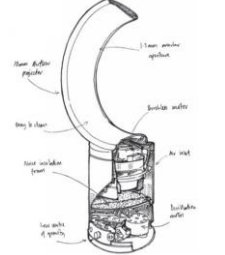



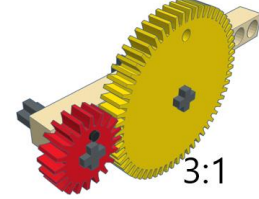
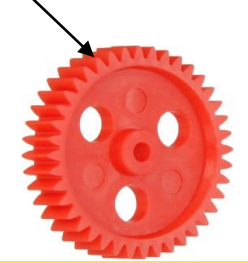


# “Feel the force: What would life be like without them? (D&T)”

## Vocabulary

| coaxial gears   | exploded diagram  | gear  | mechanical engineer  | prototype   | ratio   | teeth   |
|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |
| Gears on the same axle.   | Drawing that shows how separate parts fit together.                               | Rotating part of a machine.   | People who design and build mechanical products.                                   | Early sample model of a product. Not functional.                                    | Relationship between two amounts (turns).   | Grooves of a gear that interlock.   |

## Important People

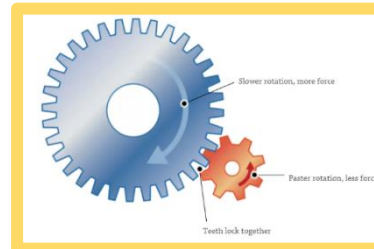
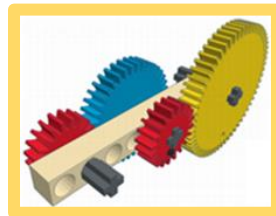
James Dyson (1947 - now)



- After five years and **over five thousand prototypes later, persevered** and invented the world's first bagless vacuum cleaner.

## Big Ws: Gears

- Different **sizes**.
- Different **amounts of teeth**.



- Fit together on an **axle** to create a **gear train**.

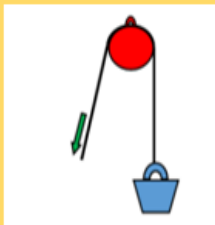
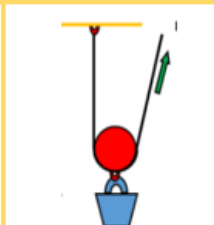
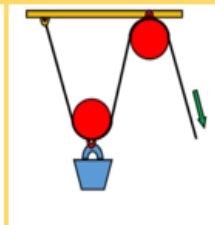
- When a larger gear is connected to a smaller gear, the **larger gear turns slower** whereas the **smaller gear turns faster and with a greater force**.
- The gears also turn in **different directions**.

## Big Ws: Pulleys

- Looping the rope over **more wheels increases the upward force**.
- Using **two wheels** means you can lift something **twice as heavy** using the same force.

SCAN ME



| fixed pulley  | moveable pulley   | compound pulley   |
|---|---|---|
|  |  |  |

