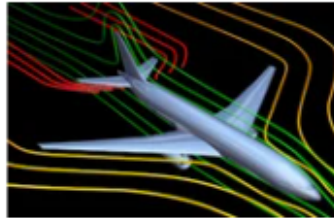




: Race to the Line

Science. Technology. Engineering. Maths

Aerodynamics: How air moves around objects and how objects move through the air.



Thrust: A mechanical force that pushes an object forward, usually generated by an engine or propeller.

Acceleration: The rate at which an object changes its speed or direction over time.



Mass: A measure of the amount of matter an object contains.

Friction: A force that opposes motion when two surfaces are in contact.

Linear motion

Motion that moves in a straight line in one direction.



Reciprocating motion

A continuous back-and-forth or up-and-down motion in a straight line.



Rotary motion

Motion that turns or spins in a circle around a central point.

Oscillating motion

A continuous back-and-forth or up-and-down motion in a straight line.



User centred design

Bases the design of a product around the needs of the target market by using questionnaires and surveys.

Positive:

- You make a product that people want
- Its targeted to their real needs
- Results are used to improve the product

Negatives:

Costly and takes a lot of time.

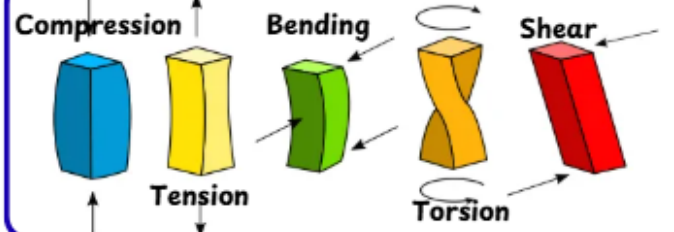
Collaborative design: working with a group of people in a team

Positive:

- Different skills and more ideas
- More eyes to spot mistakes early
- More productive

Negative:

- Can cause arguments



Thermoforming:

A group of polymers that are able to be formed into different shapes over and over.

- more flexible
- **easier to recycle**
- can be formed into complex shapes



Thermosetting:

A group of polymers that once set in shape cannot be reformed.

- **Harder to recycle**
- Makes excellent insulators



Polymers come from crude oil, gas or coal. Found beneath the Earth's surface.

At the refinery the oil is heated and the different temperatures create different types of plastics

