

# ***Streamlined Designs***



Study*ladder*



# Streamlining

*A streamlined form presents very little resistance to a flow of air or water.*

*A streamlined form can travel with increased speed and ease of movement.*

*Most fish, sharks, dolphins and whales have streamlined forms. They are often pointy at the front with a curved shape that tapers off.*

*Designers incorporate these shapes in their designs for fast moving vehicles such as boats, aeroplanes and trains.*





***Aerodynamics is the way air moves around things.  
An aerodynamic design is streamlined to allow air to flow easily over a body.***



*Forms that are designed to travel quickly are curved to allow an easy flow of air or water around them.*





*Designers use curved lines in their designs to encourage air to flow quickly over the top of a form. They can test the streamlining of a car by placing it in a wind tunnel. A thin line of smoke is released in front of the car to demonstrate the flow of air over the design model.*



*The curved nose of this train reduces wind resistance, allowing it to travel faster.*





*Where are the curves in this design?*



*Boat designs need water to flow under them and air to flow over them.*



*Designs are often pointier at the front to increase speed.*





# Performance

*Streamlined designs reduce drag on a moving body.*

*Less drag means the body will be able to go faster.*

*Less drag means less thrust is needed to move the object. This uses less fuel.*

*Streamlined shapes are more stable and easily manoeuvred.*

