

RSE@Schools

How does a Sailboat Sail?

By Dr Sabrina Malpede



Sailing is an ancient art, which has been developed throughout history: the Vikings' square sailed ships could only sail if the wind was coming from behind, whereas modern yachts can sail into the wind.

How is this possible?

There are two systems of forces in action during sailing:

- The Hydrodynamic Force developed by the interaction between the hull and its appendages, keel and rudder, with the water
- The Aerodynamic Force developed by the air, sails and rig, which moves the boat forwards

Each force system effects the other and successful sailing is determined by the equilibrium of these force systems.

In this talk, suitable for all ages, Dr Sabrina Malpede will tell you how!

Curriculum Links

- 5-14 Science: Energy and Forces
- Standard Grade Physics: Transport
- Higher Physics: Mechanics and the Properties of Matter
- Advanced Higher Physics: Mechanics