

Year Eleven VCE Physics with Juha Ruuska



On a swirly but pleasant afternoon the Year Eleven Physics class recently had the opportunity to test fly, in most cases to test crash, aircraft they had designed and constructed.

Each aircraft was designed to give it the best chance of achieving straight and level flight. In the Physics Lab. wings were lovingly shaped into aerofoils so that maximum lift could be achieved. Tail sections were glued with the utmost precision onto the fuselage. The wings were placed at predetermined angles of attack and angled to give the aircraft a stable dihedral shape. The aircraft were balanced by the addition of modelling clay.

When one spends time crafting a model one becomes eager to see the craft fly. There is also a time of nervous anticipation as one launches a glider which from the moment it leaves your hands is at the mercy of gravity, wind and the hard, unforgiving ground.

Each flight was very dramatic. We saw aircraft perform a range of maneuvers. Aircraft were observed to stall, recover and then plunge into the ground. Some climbed at impossibly steep angles and nose - dived into the ground. Others caught by the wind banked and flew in an unanticipated direction. Through it all the students were able to hastily repair broken sections and adjust the aircrafts centre of gravity and achieve improved performance. The end result was a lot of broken aircraft, although two survived multiple flights and came through the ordeal relatively unscathed.

After all of this the students were required to analyse their aircrafts behaviour in terms of their understanding of the Physics of Flight.

