Primary School Education Resource

John Ackroyd (1937 -) Prolific 20th Century Innovator

Who is John Ackroyd?

John Ackroyd is aeronautical engineer and designer, who is responsible for designing cars and aircraft, to hovercraft and balloons. He was one of the designers of the first electric car, and was also involved in designing and building Thrust 2, which held the land speed record from 1983 to 1997.

What did John Ackroyd do?

John started his working life as an apprentice at Saunders Roe in East Cowes, where he gained skills and also started hobbies and projects of his own like building and maintaining his first bicycle.

The Isle of Wight has been a place of amazing innovation over the years and the Island's proud engineering history reaches back a long way, across many companies. Saunders-Roe was a powerhouse of engineering in England, starting off as S.E Saunders in water-borne craft, particularly high speed racing craft, they later took the opportunity to move into wider engineering.

John was quickly noticed as a man of strong talents, becoming involved in the 1950's ground-breaking projects such as the earliest of mixed jet and rocket propulsion fighter jets - the experimental SR.53 and SR.177.

He later also worked on an early Hovercraft competitor, the Cushioncraft (subsidiary of Britten Norman) at St Helens Duver.

John's next major achievement was his involvement with the Enfield 8000 - the first production electric car. Electric cars are becoming commonplace now, but back in 1973, when John joined a little company on the Isle of Wight called Enfield Automotive, it seemed like science fiction. Tesla Motors' Elon Musk was a mere two years old when John's design was being used to build this first electric car in a factory in Somerton, near Cowes, here on the Isle of Wight.

The company, Enfield Automotive, backed by a wealthy Greek shipping tycoon John Goulandris, had beaten major companies including Ford to win a competition run by the United Kingdom Electricity Council in 1966, to build an electric car. The Enfield 8000, as it was named, was designed as an electric-powered city car with a 55 miles range and a top speed to 40mph. John designed its tubular space frame chassis. They were initially built at Somerton Works, Cowes, with many people employed on the Island.

With the global oil crisis of 1973, its timing was spot on, but a combination of the Enfield being too far ahead of its time, and its cost ~£2,600 - the equivalent price of two Minis - by 1976 production had ceased.

In the next chapter in John's life, he met Richard Noble, a man who had the ambition to become the fastest human on earth. Not only did they succeed, but the Land Speed record that Thrust 2 gained would stand for nearly 14 years.

It all started while John was working as a deckchair attendant on the beach in Ryde in 1977, he responded to a newspaper advert: "Wanted - 650 mph Car Designer."

Renting a shed from some boat building friends nearby in Fishbourne, and having bought the jet engine from a MAch 2 English Electric Lightning fighter jet, John set about turning his designs into reality by building the framework of Thrust 2.

Thrust 2 went on to capture the Land Speed World record reaching 633.468 mph (1,019.468 km/h) in the Black Rock Desert in Nevada, US, on 4 October 1983. It stood for 14 years.

Never one to rest on his laurels, John went on to do further extraordinary things, like designing a toilet that could be used in the zero-gravity of space.

His next great shift was to get involved in the world of hot air ballooning. Being John, it was further record breaking stuff.

John worked with the team on a balloon, Stratoquest, that in 1987 reached the then-highest altitude, nearly 12 miles high.

Further projects included Virgin Atlantic flyer - the first hot air balloon to cross the Atlantic and Pacific Flyer, a balloon that would contain 80 Tonnes of air when inflated, that ended up being the longest, fastest (nearly 200mph) manned balloon flight.

Why is John Ackroyd a Hidden Hero?

Thrust 2 © Coventry Transport Museum

- John and the many other Islanders that worked with him are the embodiment of the truth that anything can be achieved on the Isle of Wight - and that the Island is bursting with capability and creativity.

John Ackroyd Facts

- John built the first practical electric city car - in 1970.
- John designed and built world's fastest vehicle (all in a shed in Fishbourne).
- John was on the team whose balloon went the highest a human had been (64k ft, ~12 miles)

Educational Resources

The Enfield 8000 © Enfield Automotive, Electricity Council and Constantine Adraktas archives

Ideas for Incorporating John Ackroyd into the Classroom

Ackroyd and other Hidden Heroes can link into many areas of the National Curriculum, including design and technology, and art and design.

Below is a breakdown of subject areas and content quoted from the National Curriculum where it might be appropriate for Ackroyd, plus some ideas for study:

Design and Technology

Link to National Curriculum for Design and Technology

https://www.gov.uk/government/publications/national-curriculum-in-england-design-and-technology-programmes-of-study/national-curriculum-in-england-design-and-technology-programmes-of-study

Ideas:

- Design and draw a capsule so people could fly in a balloon and survive in the cold upper atmosphere for weeks. What would you need in the capsule? How would you go the the toilet? How would you eat and drink? How would you navigate? Label your diagram.
- Design and make a hovercraft, or car that propels itself along - how could you power it? An elastic band? A slope? Pushing it?

Art & Design

Link to National Curriculum for Art and Design

https://www.gov.uk/government/publications/national-curriculum-in-england-art-and-design-programmes-of-study/national-curriculum-in-england-art-and-design-programmes-of-study

Ideas:

- Draw an interpretation of the Thrust II land speed record and use paint or other materials to try and capture the sense of speed.
- Make a junk model car like John's Enfield 8000, or Thrust II, or a balloon.

Website Links

- Hidden Heroes web page on John Ackroyd - https://iwhiddenheroes.org.uk/john-ackroyd-1937/
- A great archive of John's photos on the excellent Wootton Bridge historic site - http://www.woottonbridgeiow.org.uk/ackroyd/gallery5.php

Books/Research

- Jet Blast and the hand of fate by John Ackroyd. ISBN:9780954435783

- Made on the Isle of Wight - From Torpedo Boat To Spacecraft by David L Williams. ISBN: 9780750967549.