



The Educational Coordinator

January 12, 2012

ANATOMY OF FLIGHT

We know that Leonardo da Vinci was a remarkable scientist because he kept an extensive record of his work in his note book. Scholars' that have studied Leonardo's scientific writings have concluded that he has emerged as one of the finest scientific minds in history. Most famous are his inventions of helicopters, tanks, cars, aero foils, and parachutes.

Leonardo kept his thoughts to himself. He may have planed on publishing his works but they remained in his notebook with his sketches. The note book finally surfaced and was sold in parts but many of its pages lost forever.

Leonardo was born in 1452 and died in 1515 without the recognition of his great achievements in science and was only remembered as an artist and engineer for many years.

Ten years before his death he drew a design of a glider that had a control system similar to a modern day hang glider. This concept proved that Leonardo understood the dynamics of steering. 400 years later, in 1903 the Wright Brothers famous flight at Kitty Hawk proved flight possibilities with a controlled wing design.

Recently, flight and hang glider experts have built a wing design based exactly on the Leonardo design using only materials that would be available to Leonardo in his life time. They proved that the design was air worthy and could also be controlled in flight.

Leonardo's concept drawings clearly demonstrated that he knew that the air has enough substance to support wing shapes. His designs showed a boat like shape that was rowed like a boat through the air. He had recognized a concept that lead to propellers and rotor blades to power an aero foil with rudders and elevators to give control in flight.

To further his knowledge, Leonardo studied birds, falling leaves and water currents to gain insight about the natural world around him, and then applied these natural shapes and movements to his designs. One of the things he designed is the first anemometer to measure wind speed. He also applied these natural concepts to the vast array of inventions, notes, and drawings in subjects such as geology, anatomy, astronomy, gravity, flight, optics, and many other subject that stand today for research and study.



da Vinci's Wings



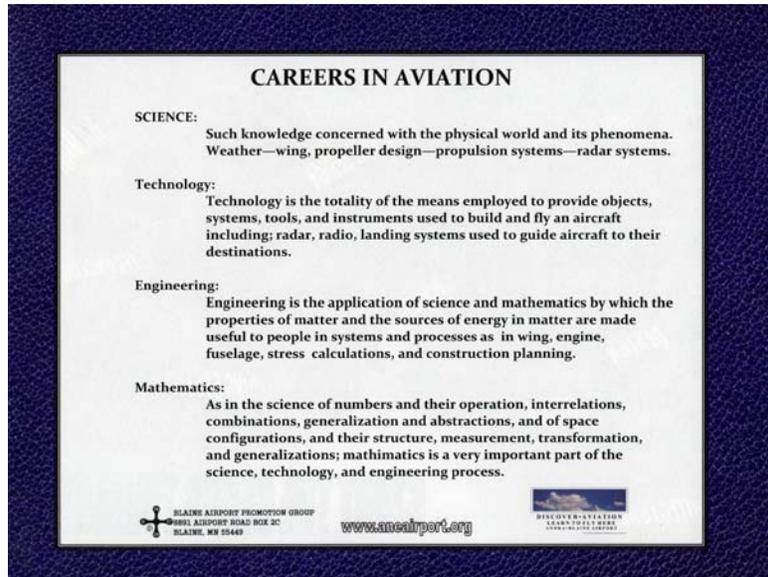
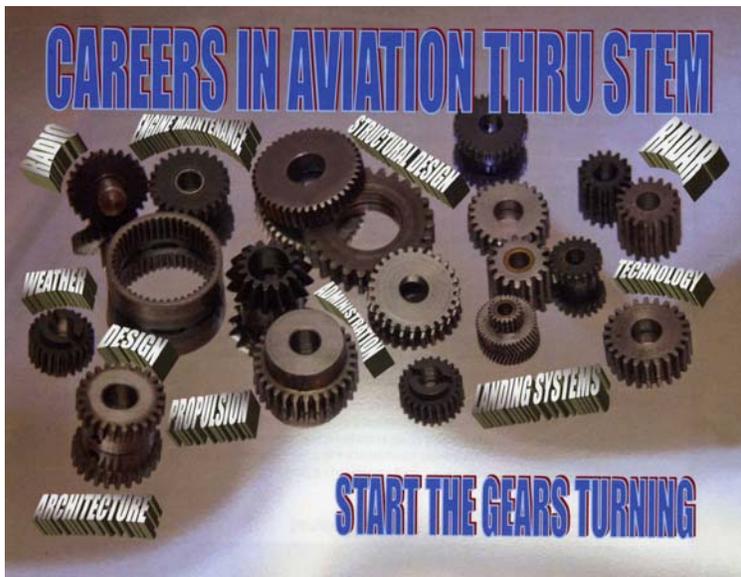
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OUR LAST EVENT FOR 2011 WAS HELD AT GOLDEN WINGS MUSEUM ON DECEMBER 15TH.

The University Avenue ACE Aerospace School participated in an evening program that was supported by several businesses that provided display and tour information to the students, parents, and teachers. A sheriff department helicopter flown in for the event and the American Wings Mobile Museum was made available.

1200 participants visited the Blain Airport during 2011



REQUESTS FOR TOURS IN 2012 ARE BEING RECEIVED

We have been working with a number of people that have an interest in events for their group. We will expect to see the schools that participated last year to make a return in 2012. One group is considering an event for a fund raiser that supports student grants and special education within the Anoka County-Blaine area. A Girl Scout group has

requested help in providing instruction and tour to complete the Aerospace Badge for their program.

We again look forward to working with the many businesses that participated with us and be available with their expertise and technology for students to have a hands-on approach to learning.



PILOT INSTRUCTION



MUSEUM TOURS



HANDS-ON INSTRUCTION