

HOW TO DRAW

PLANES

Mark Bergin



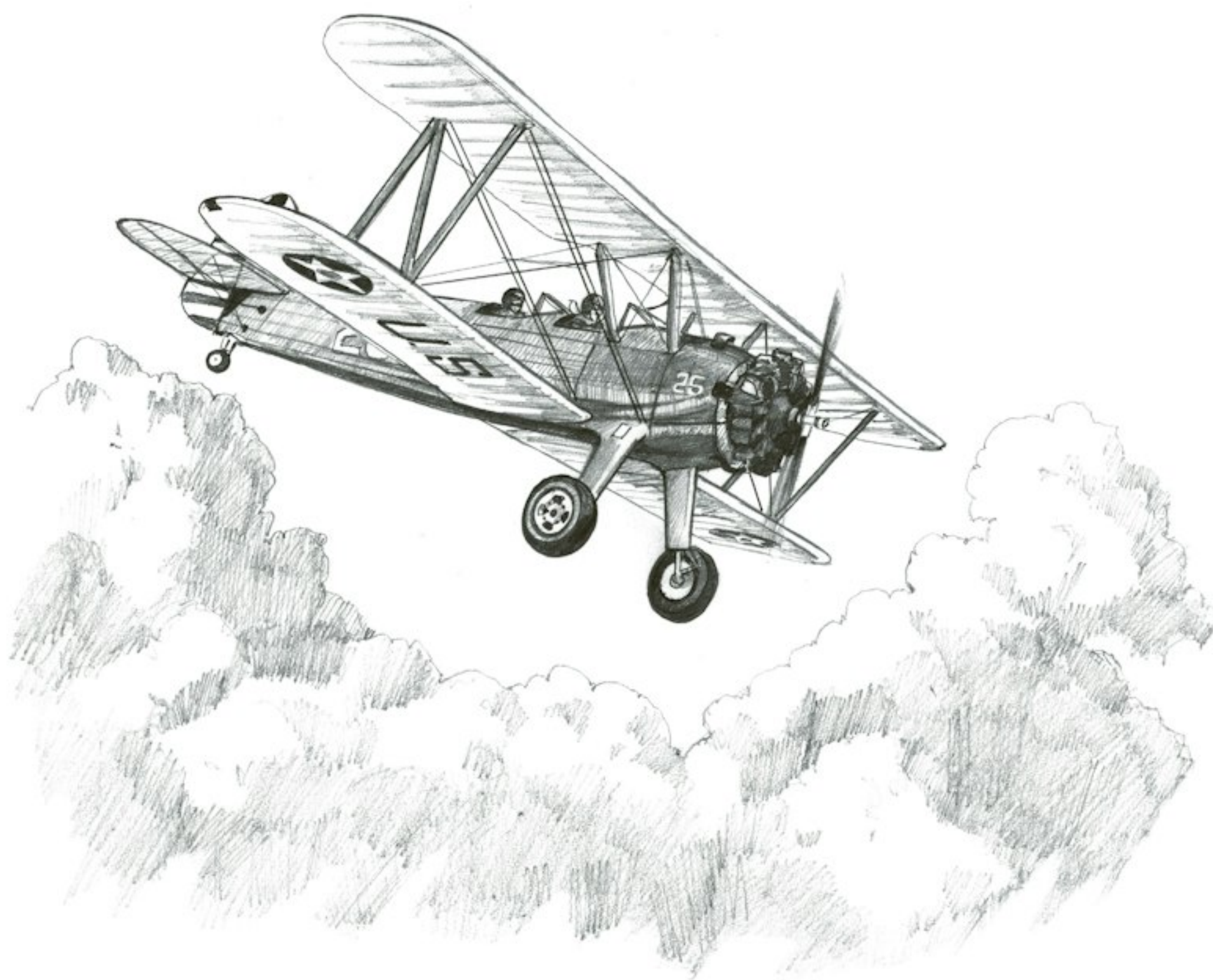
Easy to follow
AMAZING ART!
Step-by-step



HOW TO DRAW

PLANES

Mark Bergin



Hatch

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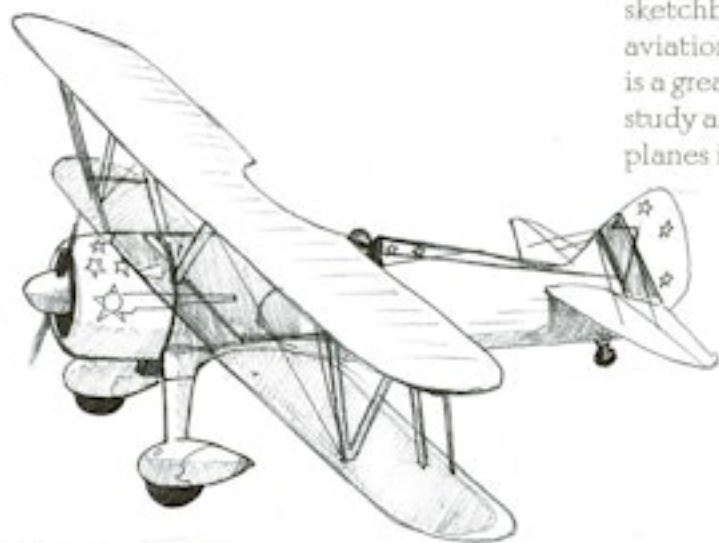
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Making a start

Learning to draw is about looking and seeing. Keep practising, and spend time getting to know your subject. Use a sketchbook to make quick sketches whenever inspiration hits. Start by doodling and experiment with shapes and patterns. There are many ways to draw; this book shows one method. Visit art galleries or look at artists' drawings, see how friends draw, but above all, find your own way.

Supermarine Spitfire

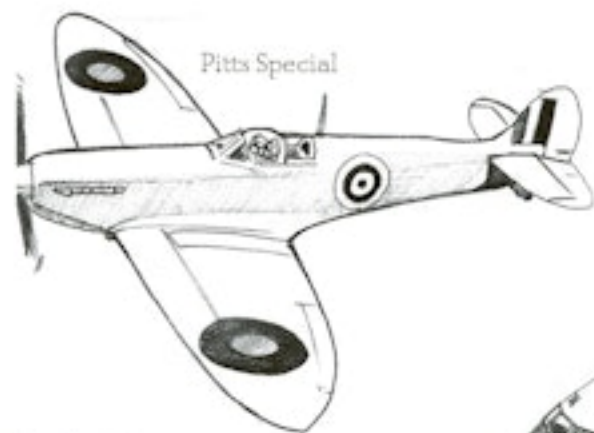


Taking your sketchbook to an aviation museum is a great way to study and draw planes in real life.

Cessna



Pitts Special



Remember that it is practise that will make the drawing work, if it looks wrong, start again. Keep working at it - the more you draw, the more you will learn.

Airbus A380

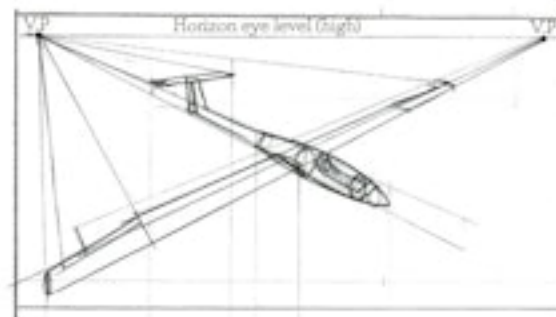
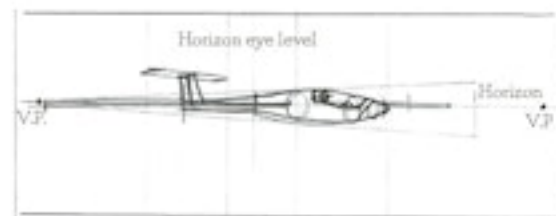
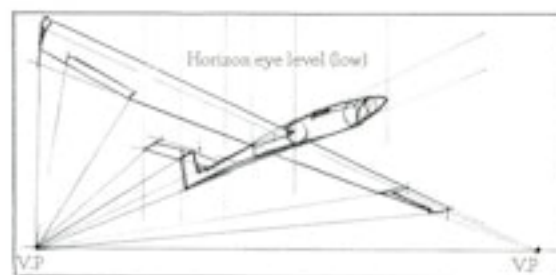


Grumman's X-29

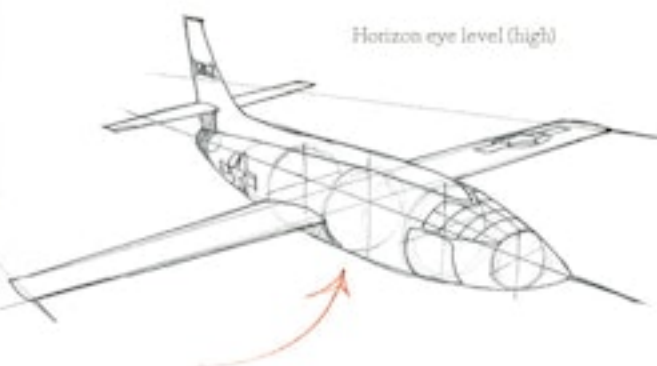
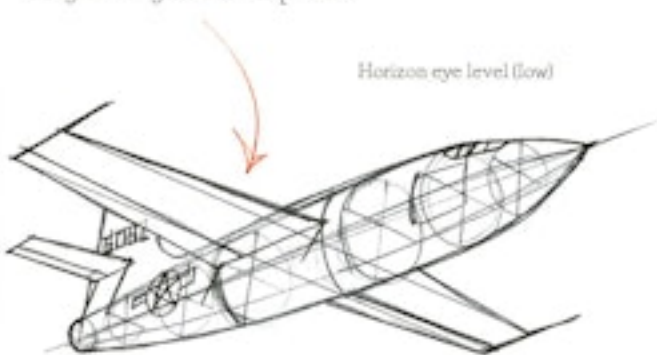


Perspective

If you look at a plane from different viewpoints, you will see that the part of the plane that is closest to you will look larger, and the part furthest away from you will look smaller. Drawing in perspective is a way of creating a feeling of space and three dimensions on a flat surface.

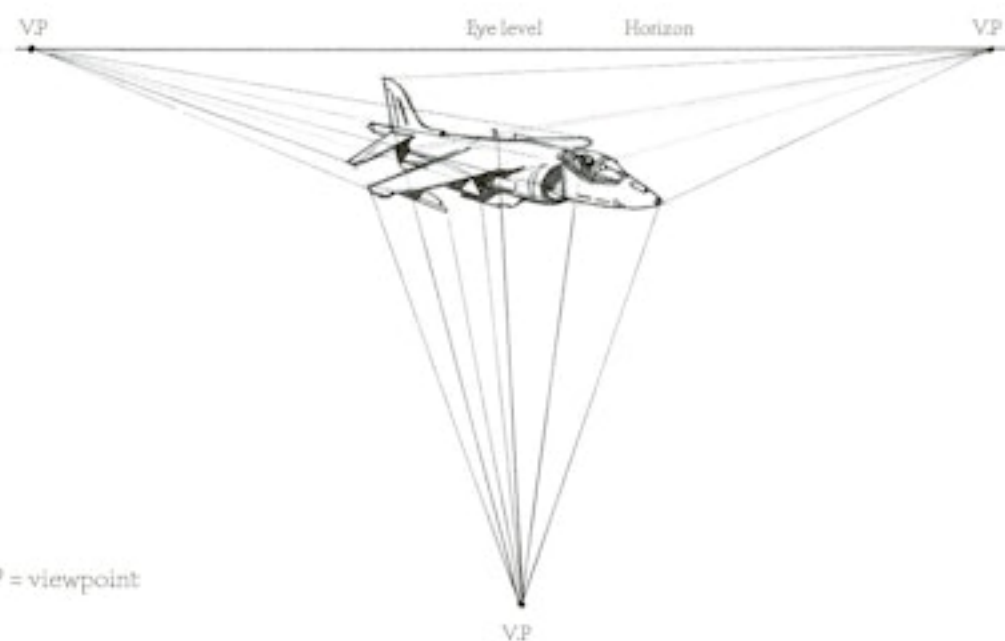
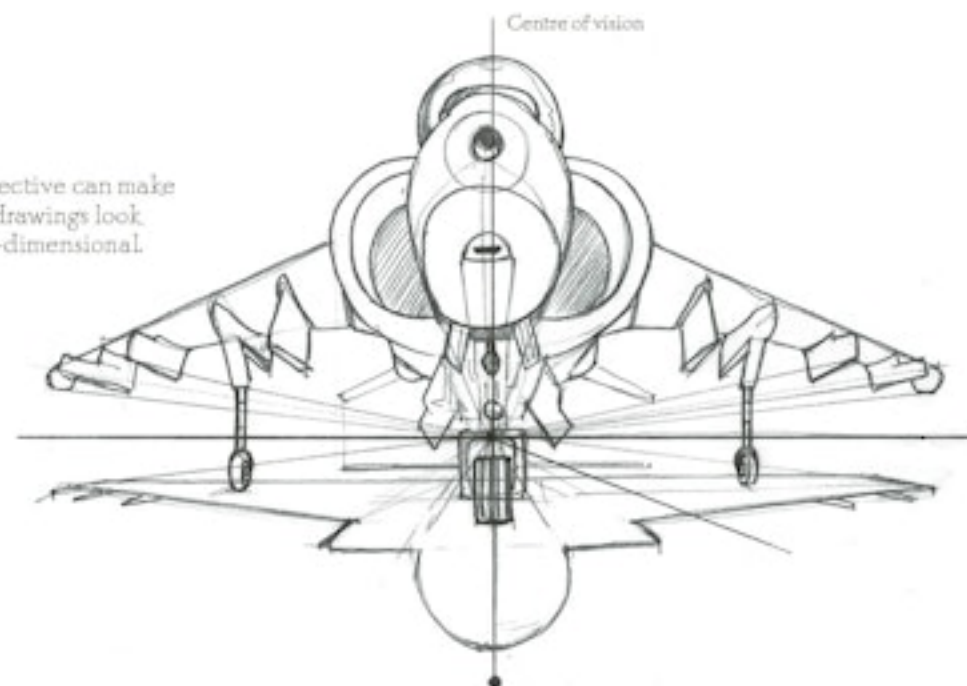


Note how the circular construction lines are larger the nearer they are to your viewpoint. The circles are smaller at the rear of the plane because that is furthest away from your viewpoint.



Note how the circular construction lines are larger the nearer they are to the centre of the plane.

Perspective can make your drawings look three-dimensional.

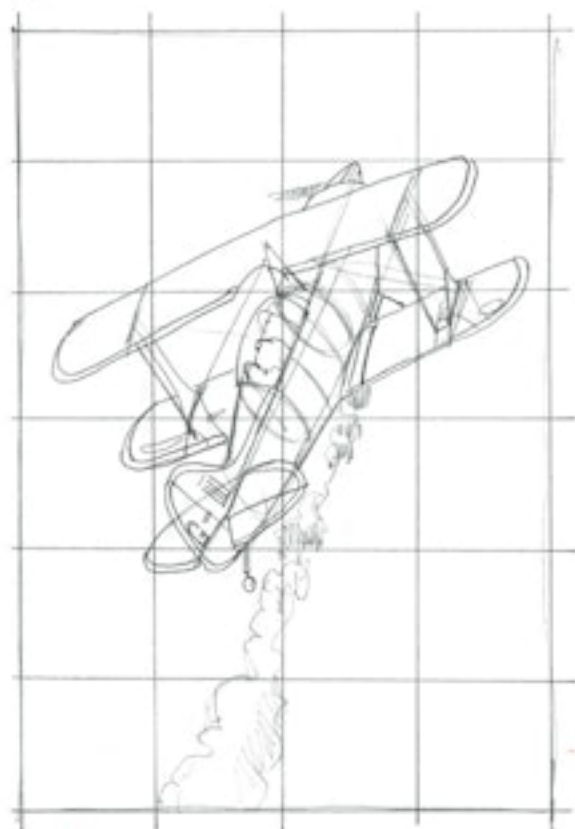
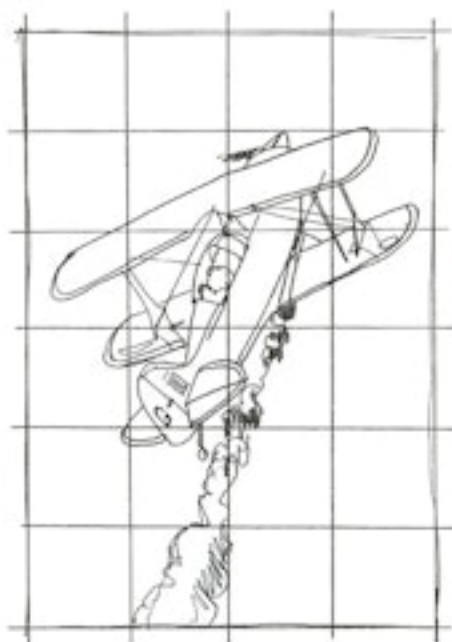


V.P. = viewpoint

Using photographs

It is important that you consider the position of your drawing on page. This is called composition. Drawing from a photograph can help you identify shape and form.

Make a tracing of the photograph and draw a grid over it.



Then draw another grid on a piece of drawing paper, enlarging or reducing the size but keeping it to the same scale as the tracing. Using the grid as a guide, copy the outline of the tracing.



Use construction lines to help you work out the three-dimensional shape.

To make your drawing look three-dimensional, pay attention to how the light falls on its surfaces and shade the areas that are in shadow.



Materials

Try using different drawing papers and materials. Experiment with charcoal, wax crayons and pastels. Pens, from felt-tips to ball-points, will all make interesting marks, or try drawing with pen and ink on wet paper.

Remember, the best equipment and materials will not necessarily make the best drawing. It's all about how you use the equipment. The only way to improve is to keep practising.

Pencils are graded from 6H (the hardest) through 5H, 4H, 3H, 2H to H, then B through 1B, 2B, 3B, 4B, 5B up to 6B (the softest).

Charcoal is very soft and can be used for big, bold drawings. Spray charcoal drawings with fixative (warning ask an adult for help) to prevent smudging.

Pastels are even softer than charcoal, and come in a wide range of colours. Fixative can also be sprayed on pastels to keep the colours locked in place.

Special effects can be achieved by scraping away parts of a drawing done with wax crayons.

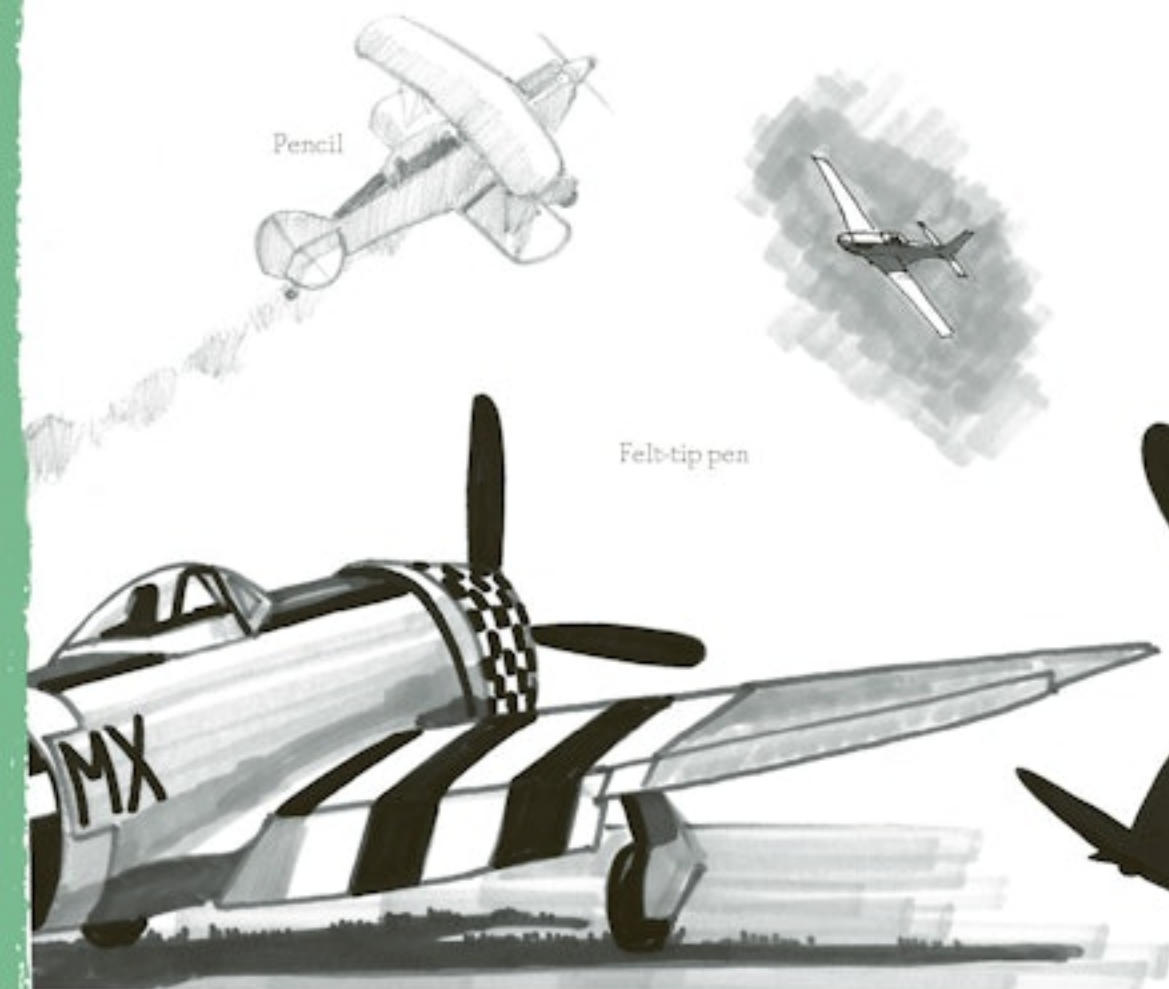
Lines drawn in ink cannot be erased, so keep ink drawings sketchy and less rigid. Don't worry about mistakes, as these will be lost in the drawing as it develops.

Pencil

Felt-tip pen

Line pens

Ink



Sketching

We can't always rely on our memories, so it's important to look around and find real-life things to draw. Taking a sketchbook with you wherever you go is one of the best ways to improve your drawing skills. Learn to observe objects carefully: notice how they move, how they're made, and how they work. What you draw should be based on what you've seen.

Sketching

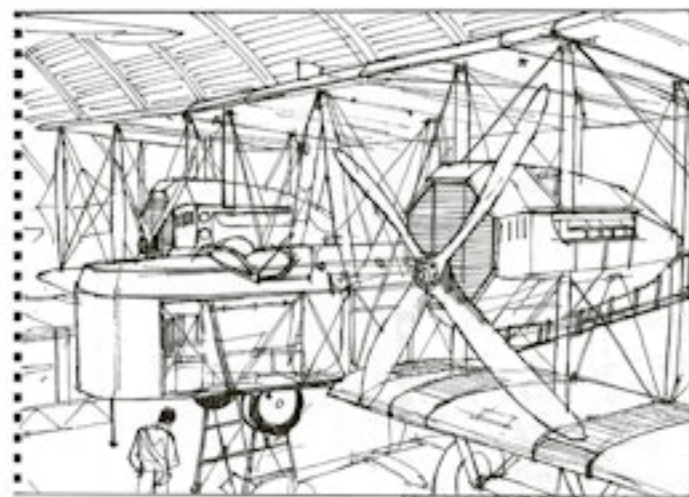
A sketch that has taken a short time can say as much as a careful drawing that has taken many hours.



With careful shading and added details, your sketch of a model plane can look just like the real thing! Focus on capturing light, shadows, and texture to bring your drawing to life. By the time you finish, your model will appear ready for takeoff!

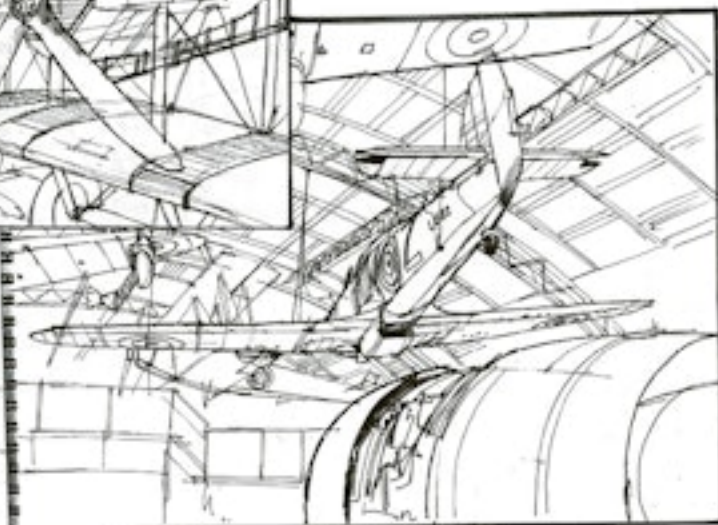
Sketching models

Try drawing model planes. It will be good practice for seeing and observing. The larger the model is, the better it is to draw because its proportions are better.



Aviation museums are filled with many different types of plane from past and present.

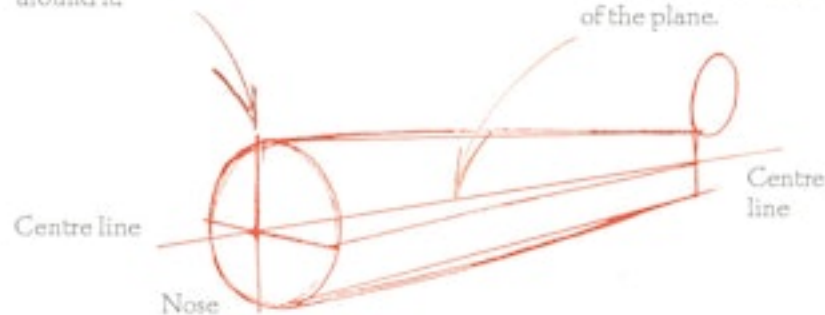
You will be able to walk all the way around many of the planes and see them from different perspectives.



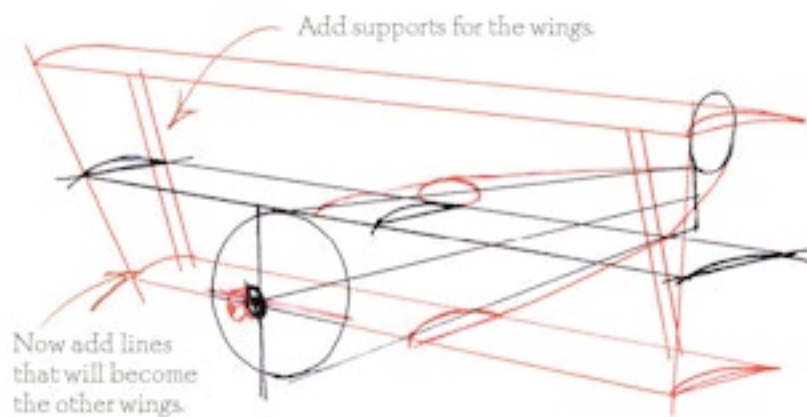
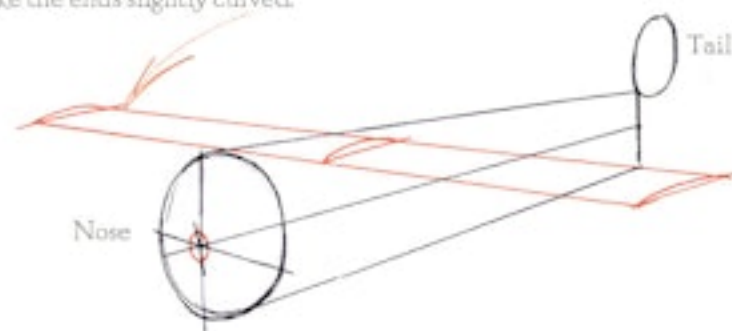
Fokker DR1 Triplane

Triplanes have three sets of wings. One of the most famous triplanes was the Fokker Dreidecker (DRI), used by Germany in WWI to battle the British Sopwith triplane. It had a single pilot and was armed with two machine guns. Its most famous pilot was Baron Manfred von Richthofen.

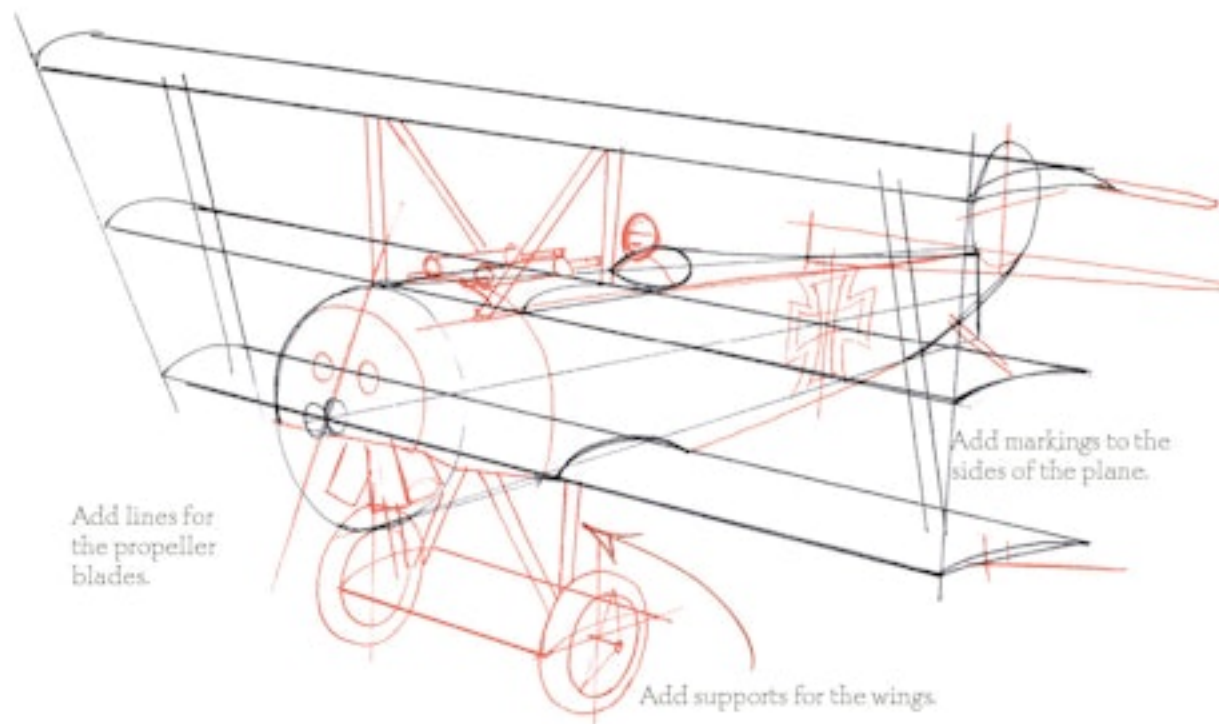
Start by drawing a cross, then a circle around it.



Add lines that will become one pair of wings. Make the ends slightly curved.



Take a line from the centre of the cross, this is the centre line of the plane.



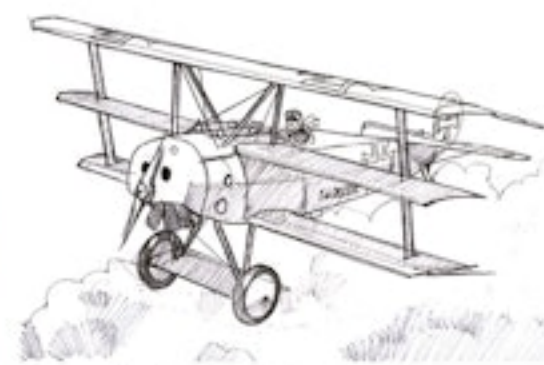
The DRI was a difficult aircraft to fly, and was regarded as a machine strictly for experienced pilots.

When your drawing is complete, remove construction lines with an eraser.



Backgrounds

Add a background to create depth and atmosphere. See how the night sky behind this biplane wing makes it stand out, while shading adds realism. Don't be afraid to let your pencil marks show - they give your drawing texture and life!



Baron Manfred von Richthofen was born in Breslau, Germany (now Wroclaw, Poland) and died on 21 April 1918, aged 25, in the skies over Vaux sur Somme, France. The Germans called him Der Rote Kampfflieger ('The Red Battle-Flyer'), the French called him Le Petit Rouge ('the little red') and in Britain he was known as the Red Baron.

Supermarine Spitfire

In the summer of 1940, fewer than a thousand British Hurricanes and Supermarine Spitfire planes defeated 3,000 aircraft in the Luftwaffe (German airforce).



Start by drawing a cross to form the centre lines for the body and wings.

Diagram illustrating the basic structure of a fish, showing the Tail, Centre line, and Nose.

Draw a line coming up from a halfway point.

Tail wings: draw a centre line, then a line on either side.

Draw a curved line on either side of the centre line from tail to nose.

Wings: draw two lines parallel to wing line.

Ellipse markings

To draw the ellipse markings on the wings, first draw a cross with a centre line. Then add circles to the ends of the cross to form the ellipses.

Ellipse markings

To draw the ellipse markings on the wings, first draw a cross with a centre line. Then add circles to the wings. Remember to curve the circles downwards to show how the wings curve.



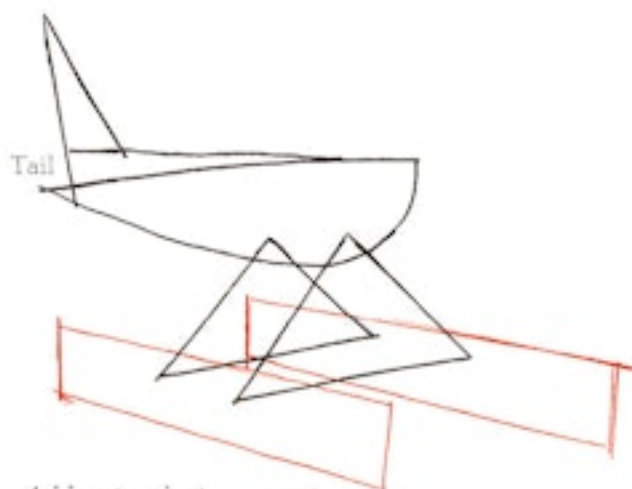
In 1918, at the end of WWI, fighter planes struggled to reach speeds of 200 km/h. By the end of WWII, advanced aircraft like the Spitfire could soar at nearly 720 km/h, marking a remarkable leap in aviation technology.

Supermarine S6B

The Supermarine S6B Seaplane became the fastest aircraft on Earth in September 1931 when it achieved a record-breaking speed of 656 km/h.

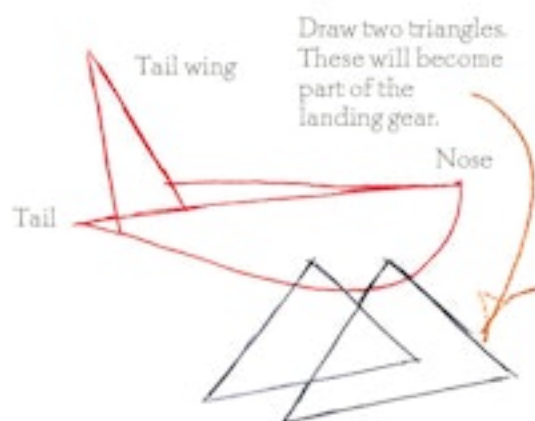


Start with a triangular shape with one curved side.

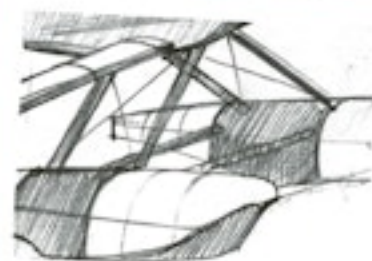


Add rectangles to the triangles.

In September 1931, the Supermarine S6B won the Schneider Trophy Seaplane contest for speed over a set course, for the third successive year.

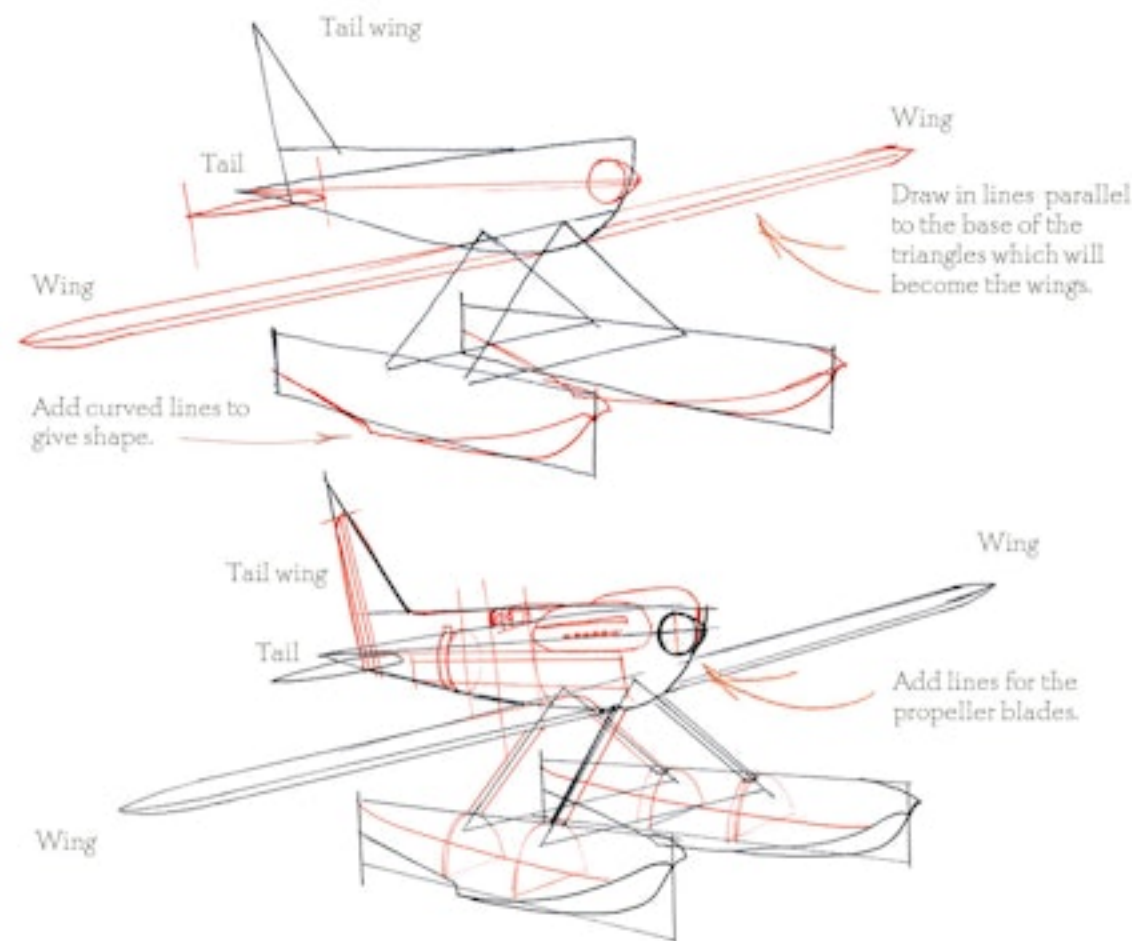


Draw two triangles. These will become part of the landing gear.



Light and dark

Playing with shading can suggest where the sunlight is hitting the plane and add atmosphere to your drawing.



Add curved lines to give shape.

Draw in lines parallel to the base of the triangles which will become the wings.



Add lines for the propeller blades.

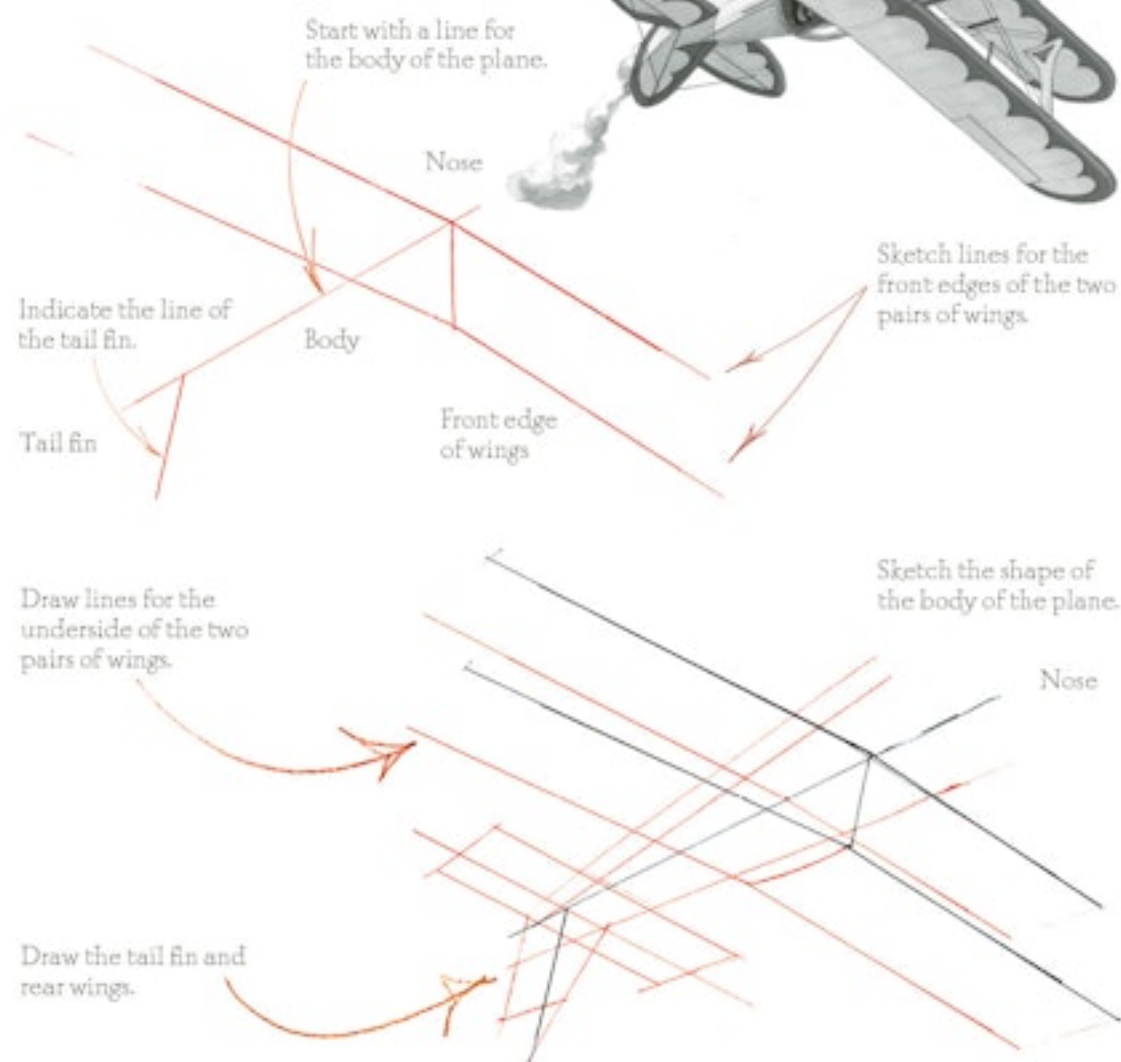
The S6B was designed by Reginald (R.J.) Mitchell, who later became famous for designing the iconic Supermarine Spitfire fighter. Powered by a Rolls-Royce R engine, it showcased Mitchell's engineering brilliance.

When your drawing is complete, remove construction lines with an eraser.

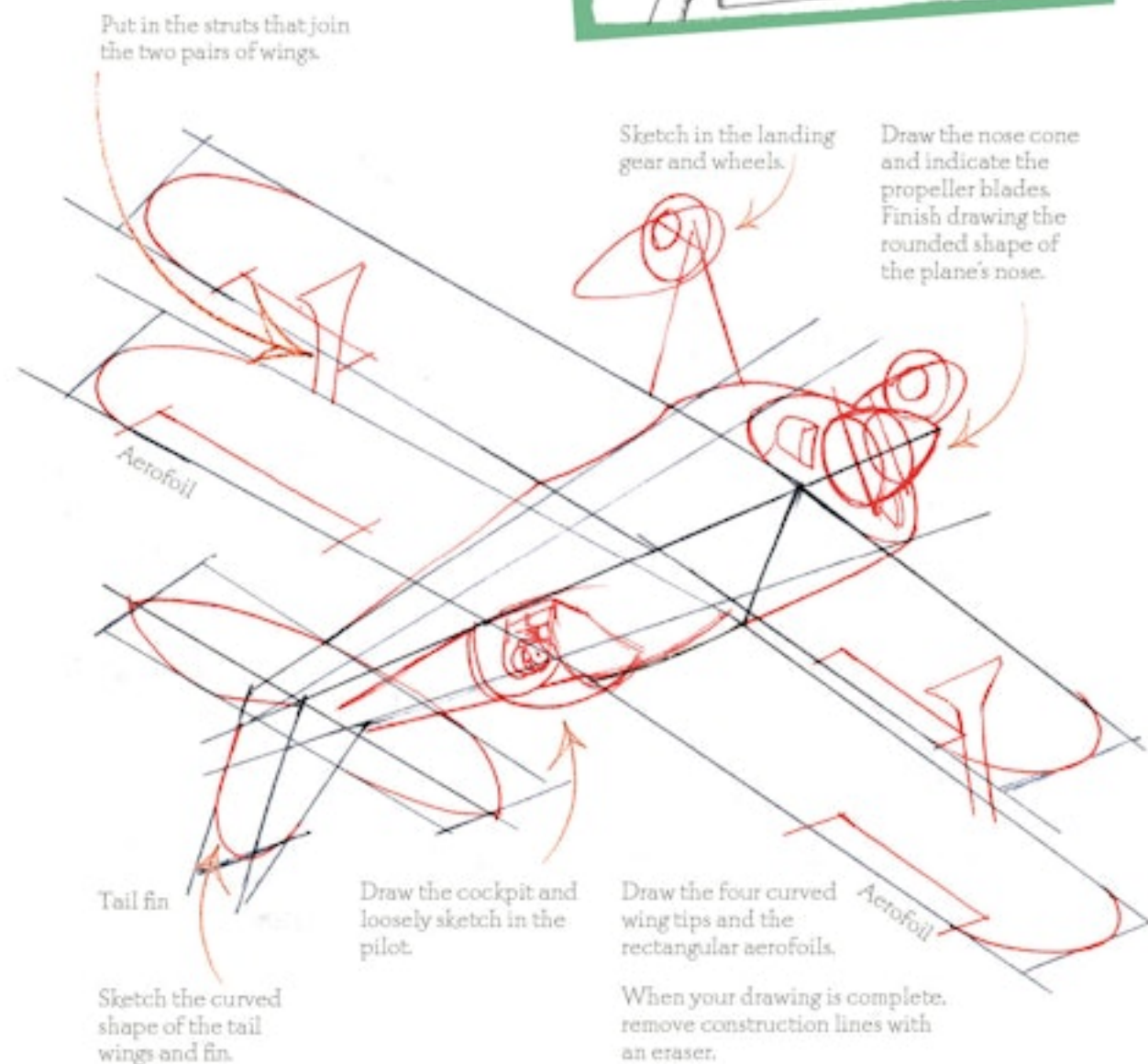


Pitts Special

One of the world's most famous stunt planes, the Pitts Special, was designed by Curtis Pitts in Florida, 1944.



Continuing to compete until the early 1980s, the Pitts Special won more aerobatic contests than any other type of aircraft.



Blackbird

The Lockheed SR-71, or 'Blackbird', is the world's fastest jet plane, and reached a speed of 3,529 km/h (over three times the speed of sound) in 1976. It was used for spying.



Draw a large triangle to form the wings.

Draw two curved lines to make the front of the aircraft.

Nose

Nose

Engine tail

Tail

Engine tail

Draw two triangular shapes to indicate the tails on the engines.

Sketch a rectangle from the nose of the plane to the rear. Make the shape slightly wider at the front.

Start by drawing an angled, horizontal line for the rear of the plane's wing.

Draw two parallel lines, one shorter and one longer.

Make one of those lines long so that it will reach the nose of the plane.

Tail

Body

Sketch a long oval with a circle at each end to make the shape of each engine.

Engine tail

Engine tail

Tail

Round the sharp corners on each wing tip.

Engine

Sketch the windows and cockpit.

Engine

Draw cone shapes for the front of the engines.

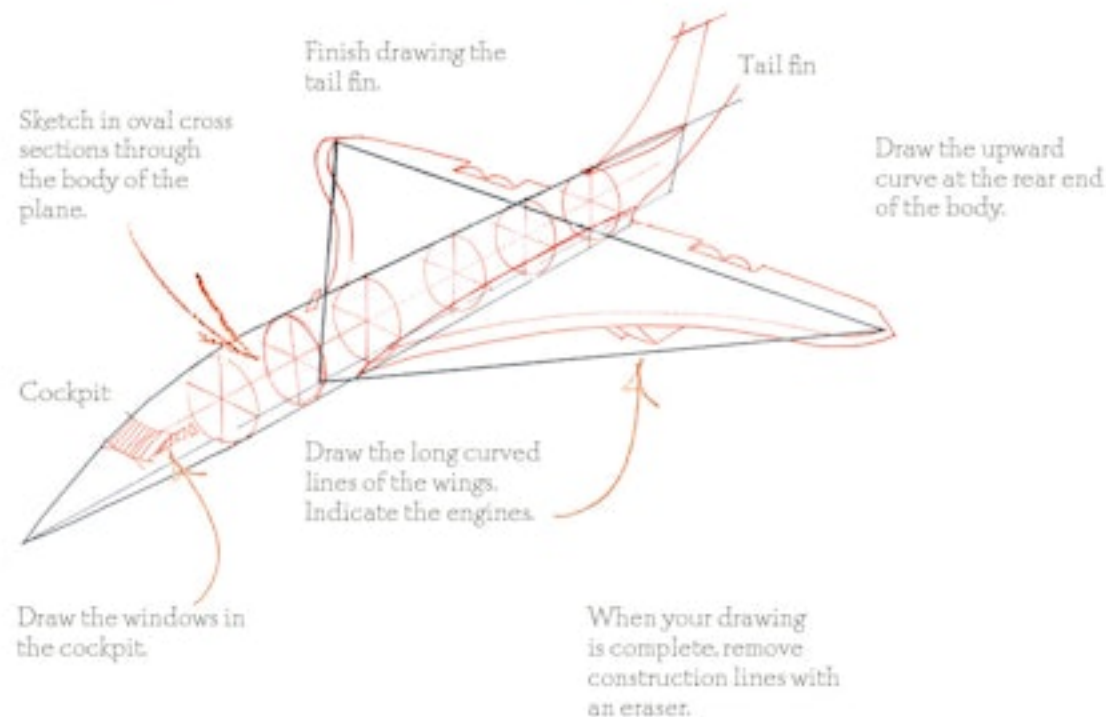
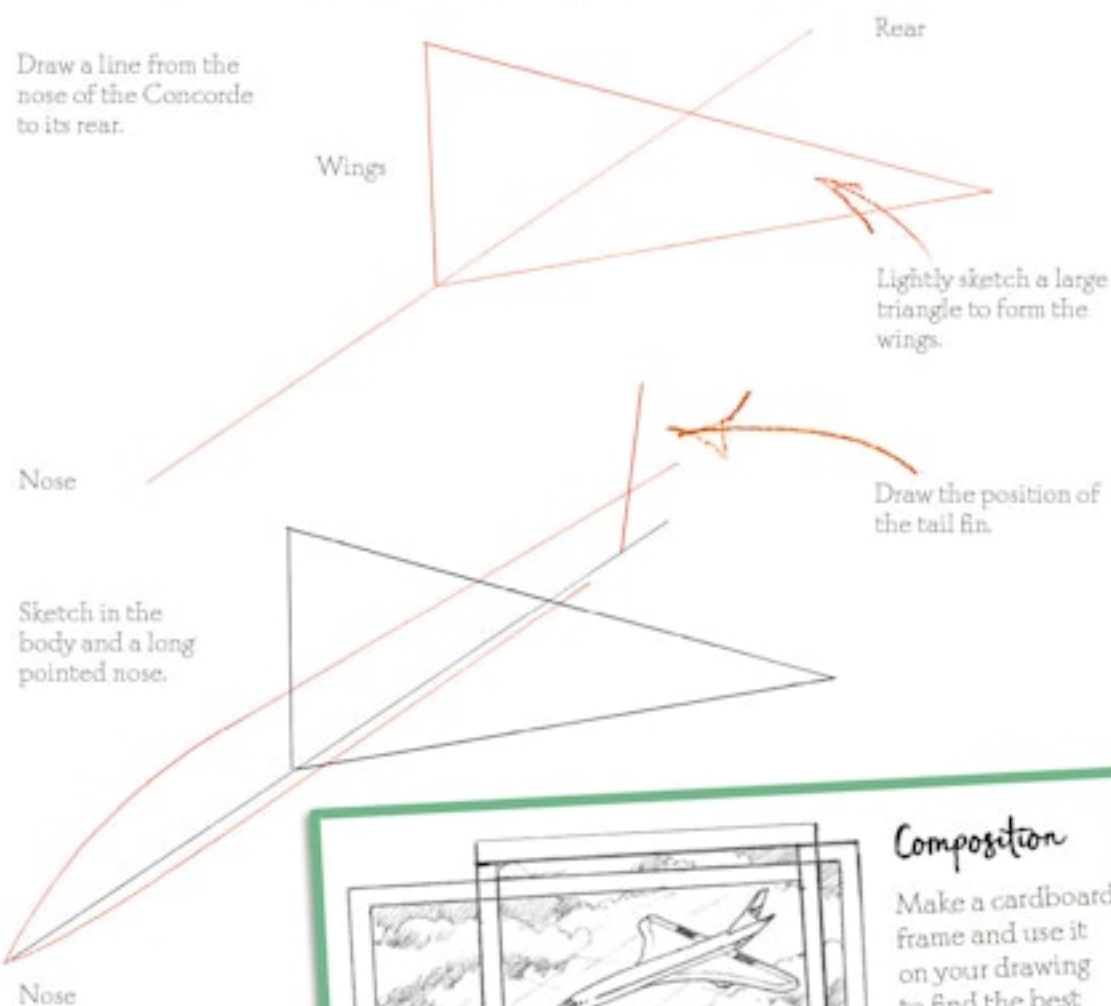
Lightly sketch the shape of cross sections of the body of the plane.

When your drawing is complete, remove construction lines with an eraser.

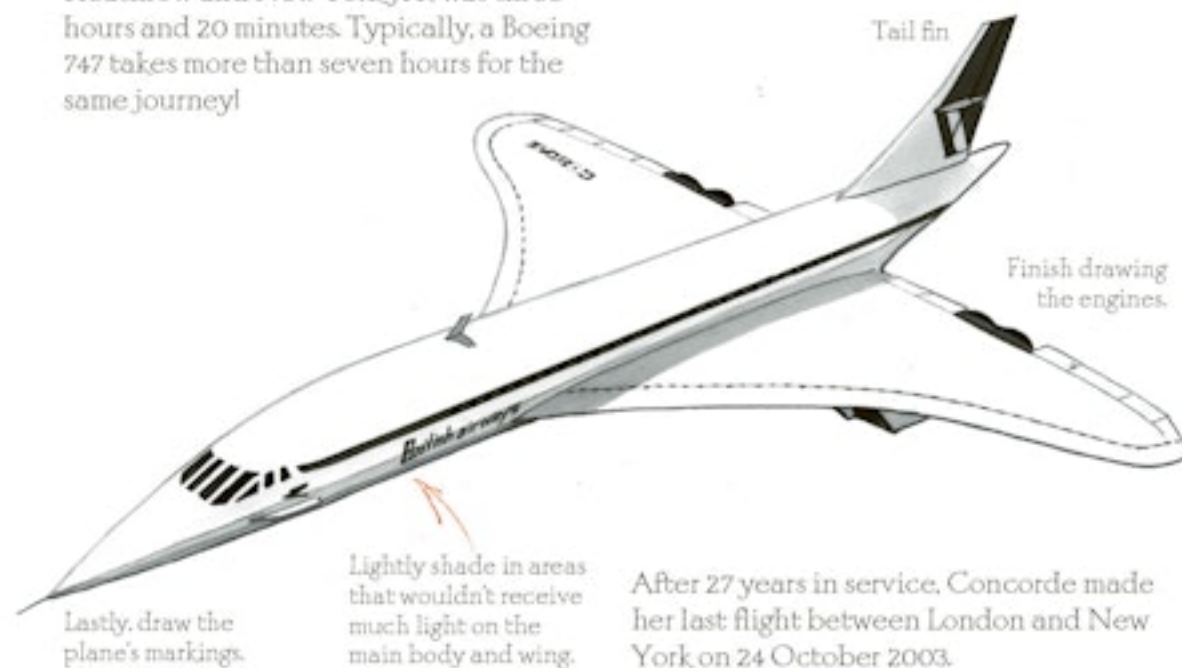
The thin skin of the Blackbird is painted with a special heat-resistant paint. The skin of the plane can withstand a temperature of over 300 degrees centigrade during flight.

Concorde

Concorde had four specially designed Rolls-Royce engines. These provided the extra power needed for take off and the transition to supersonic flight. It was the most powerful pure jet-engine flying commercially.



The average flight time between London Heathrow and New York JFK was three hours and 20 minutes. Typically, a Boeing 747 takes more than seven hours for the same journey!



After 27 years in service, Concorde made her last flight between London and New York on 24 October 2003.

F-16A Fighting Falcon

The F-16A Fighting Falcon is a compact and manoeuvrable fighter aircraft. It is highly effective in both air-to-air combat and air-to-surface attacks.



Start by drawing a line from the nose of the plane to its rear.

Nose

Indicate the angle of the rear tail fin.

Add a line to indicate the rear of the wings.

Rear of wings

Rear

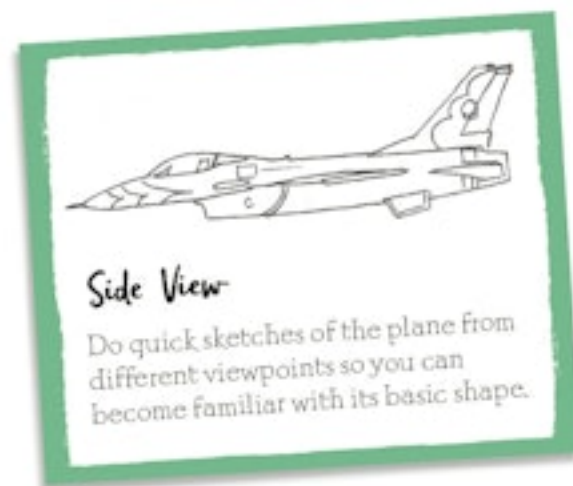
Sketch in the pointed shape of the nose.

Draw a long cylinder for the Falcon's body.

Sketch the Falcon's rear wings and tail fins.

Draw the front edges of the wings and indicate the wing tips.

Draw a blunt cone shape at the rear of the body.



Side View

Do quick sketches of the plane from different viewpoints so you can become familiar with its basic shape.

The F-16A can accurately locate targets in all weathers and detect hard-to-find, low flying aircrafts. It can also fly more than 860 km without needing to stop and refuel.

Draw the cockpit with the pilot inside.

Lightly sketch the cross section of the body of the plane.

Nose

Rocket

Rocket

Rear

Draw the rear end of the Falcon, and finish drawing the tail fins.

Sketch in the rockets at the end of each wing.

When your drawing is complete, remove construction lines with an eraser.

Airbus A380

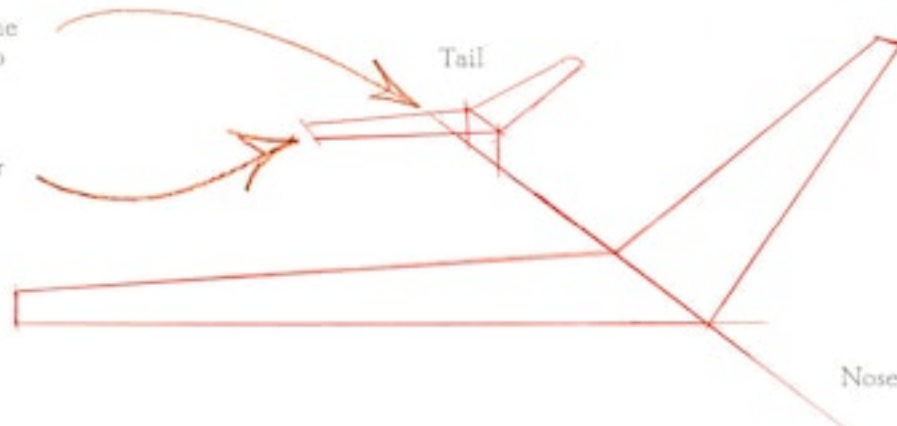
The double-decker Airbus A380 is able to carry up to 853 passengers, making it the world's largest passenger carrying airliner.



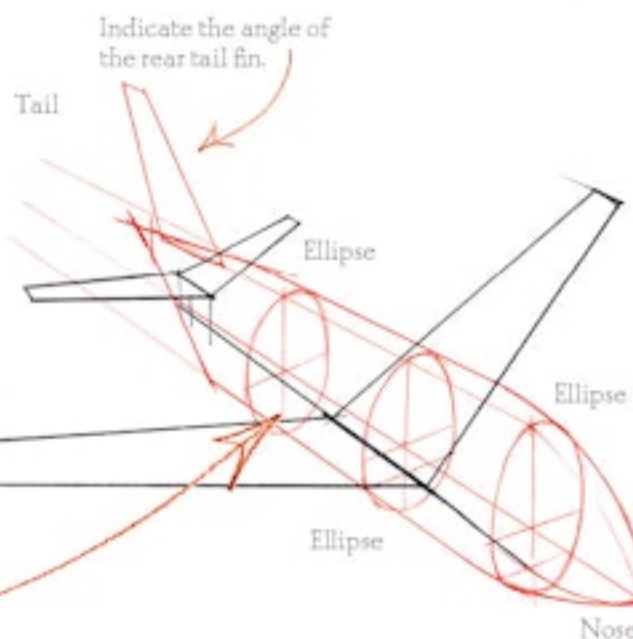
Draw a line from the rear of the plane to its nose.

Draw the back pair of wings.

Draw the front pair of wings.

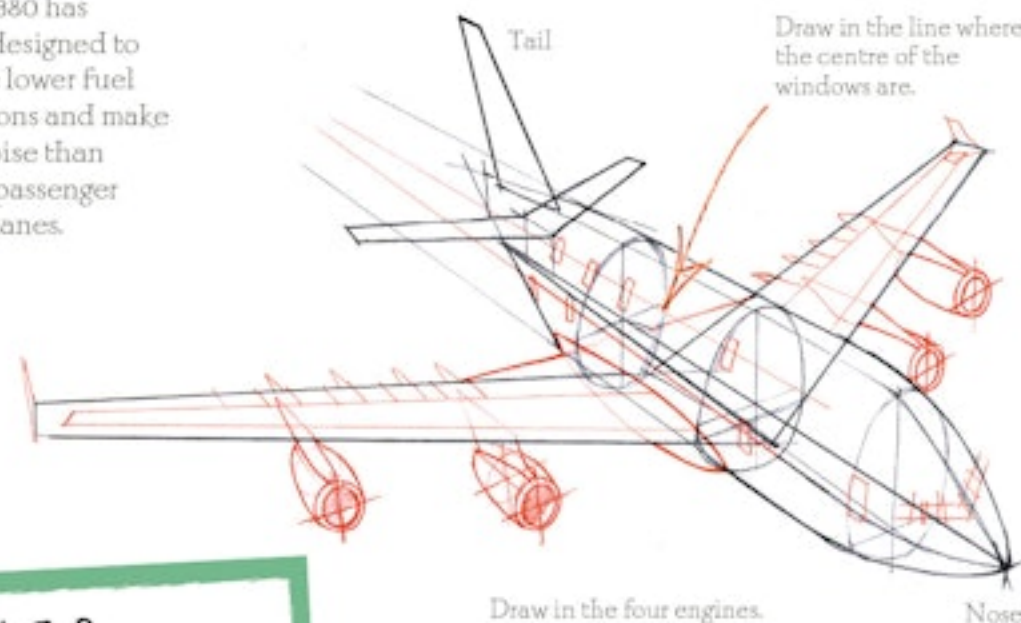


The first flight took place on 27 April 2005. It can fly over 14,000 km without refuelling.

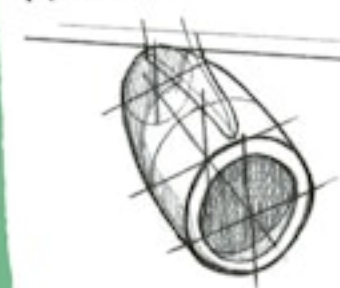


Draw in three ellipses, then join them together to form the body of the plane.

The A380 has been designed to create lower fuel emissions and make less noise than other passenger aeroplanes.



Think 3-D



Draw in construction lines to help you draw the engines attached to the underside of the wings.

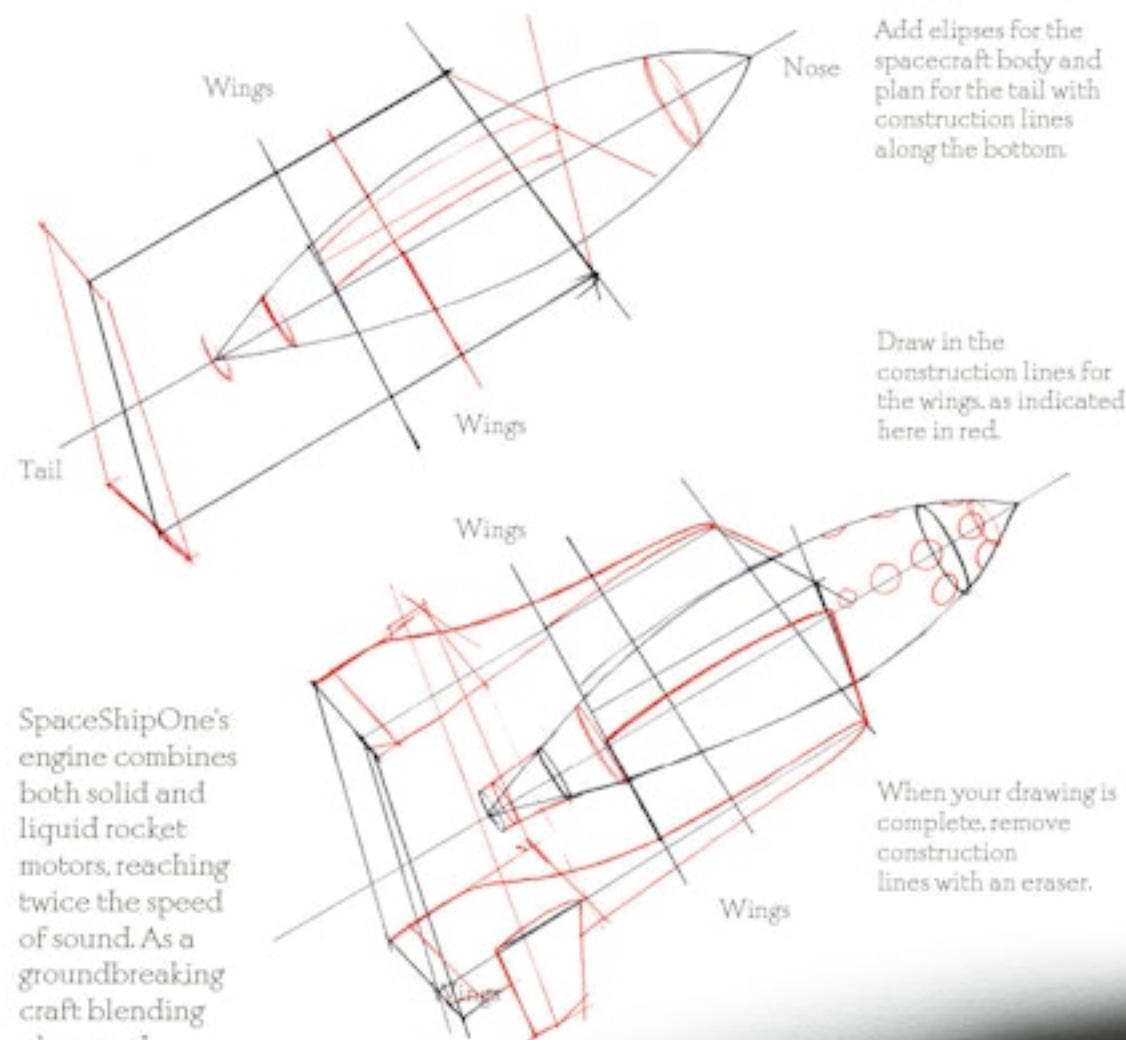
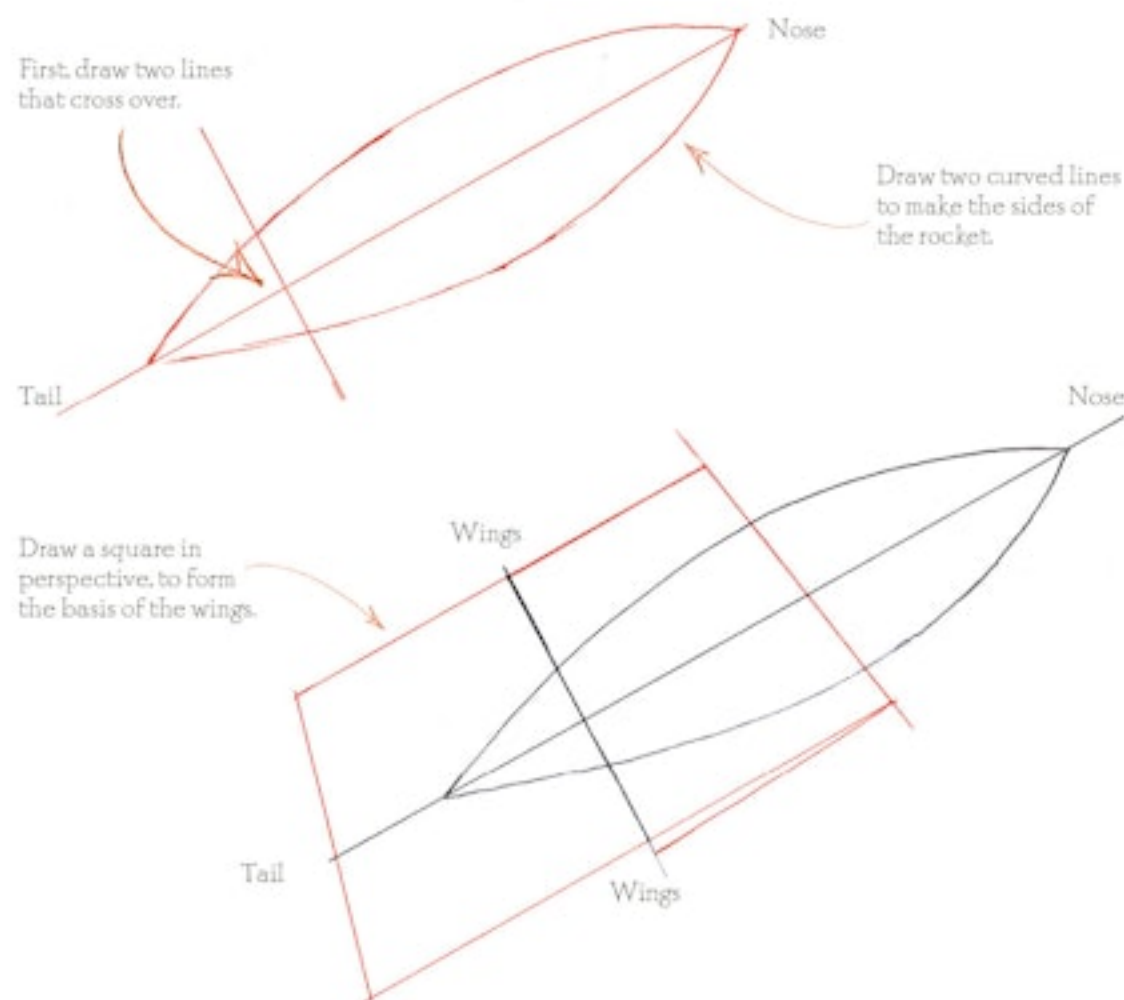
Draw in the logos and windows. Be careful to make the windows slightly smaller towards the tail of the plane.



When your drawing is complete, remove construction lines with an eraser.

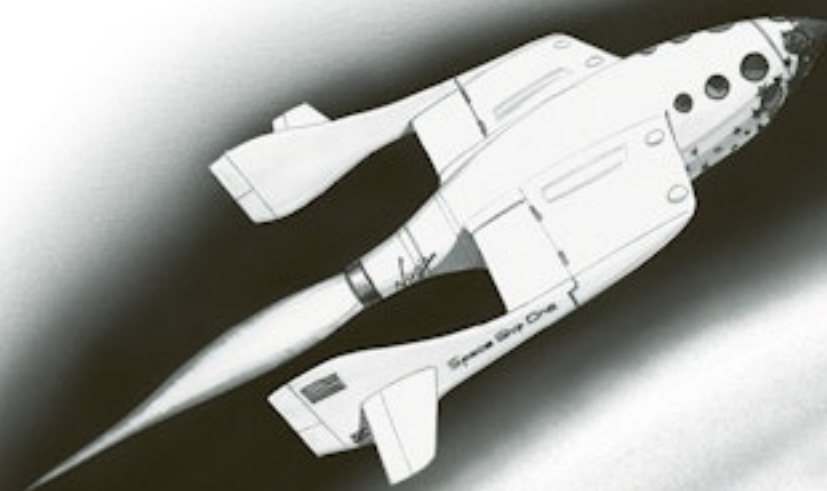
SpaceShipOne

SpaceShipOne made history with the first privately-funded space flight on 21 June 2004, marking a huge leap toward the future of space travel. While space tourism is still developing, SpaceShipOne remains a symbol of aviation innovation, blending the design of planes and spacecraft. Its unique shape and engineering make it an exciting challenge for aspiring artists to draw and understand how aircraft evolve."



SpaceShipOne's engine combines both solid and liquid rocket motors, reaching twice the speed of sound. As a groundbreaking craft blending plane and spacecraft design, it's a perfect subject for drawing advanced aerodynamics.

Add background to give your drawing atmosphere and appear as if it is soaring through space!



Glossary

Chiaroscuro The use of light and dark shades in a drawing or painting.

Composition The position of a picture on the drawing paper.

Construction lines Structural lines used in the early stages of a drawing.

Fixative A type of resin used to spray over a finished drawing to prevent smudging. It should only be used by an adult.

Focal point A central point of interest.

Light source The direction the light is coming from.

Proportion The correct relationship of scale between parts of a drawing.

Reference Photographs or other images that can be drawn, if drawing from life is not possible.

Squaring up To transfer a drawing or photo accurately using square grids.

Three-dimensional An image that has the effect of making it look lifelike or real.

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