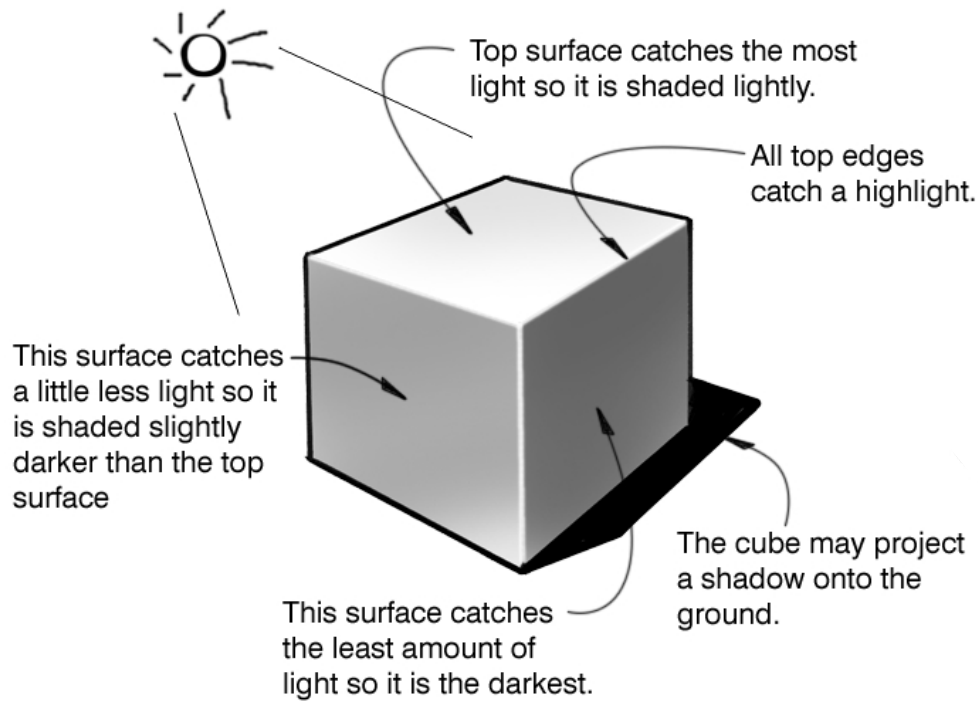
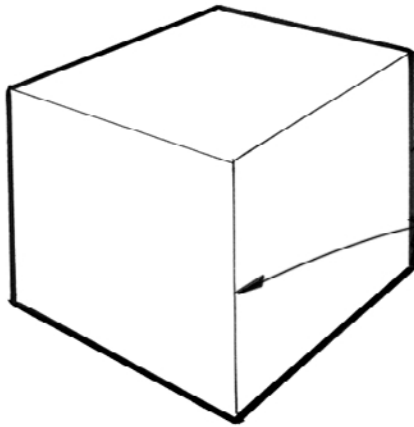


Design School Cheat Sheets



line weights

Varying the thickness of lines can take your drawing from being flat and lifeless to looking three dimensional and full of impact.



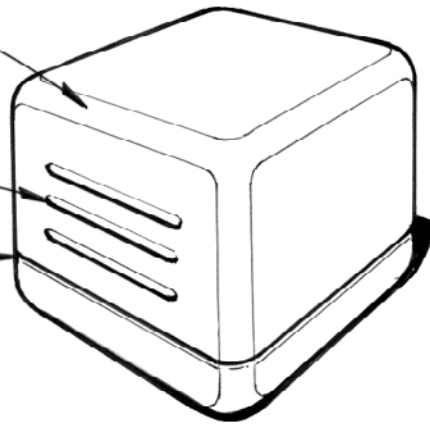
All outside edges should have a heavier line. This helps define the shape of the object and focuses the eye on the object.

A lighter line should be used where two different surfaces meet. This de-emphasises the join but gives an indication of the form.

Radiused corners can be indicated by two light lines. The distance between the lines indicates the size of the radius. Lines close together shows a small rad and lines spread further apart shows a large rad.

A light line above a heavy line can indicate raised detail.

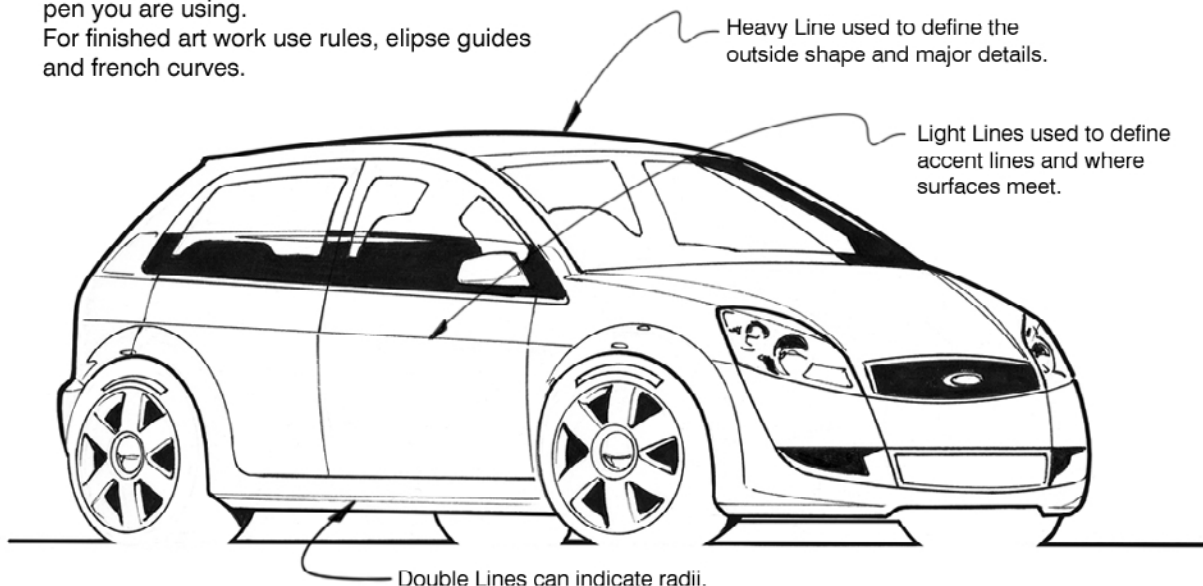
A light line below a heavy line can indicate recessed detail like shut lines. The heavy lines give the impression of a slight shadow.



The use of light and heavy lines is used often in technical illustration - such as in instruction sheets and technical manuals.

The different line weights can be achieved by using pens of different thicknesses or by varying the pressure on the page of the pen you are using.

For finished art work use rules, ellipse guides and french curves.



Heavy Line used to define the outside shape and major details.

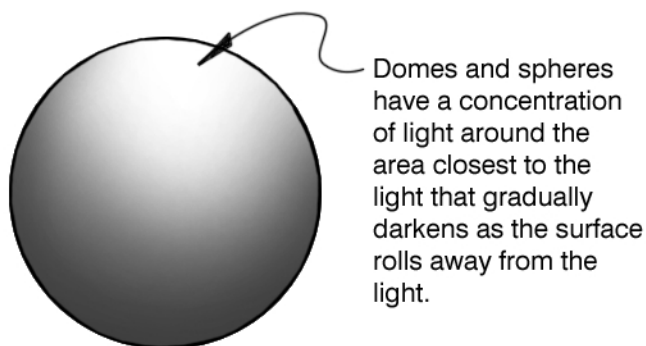
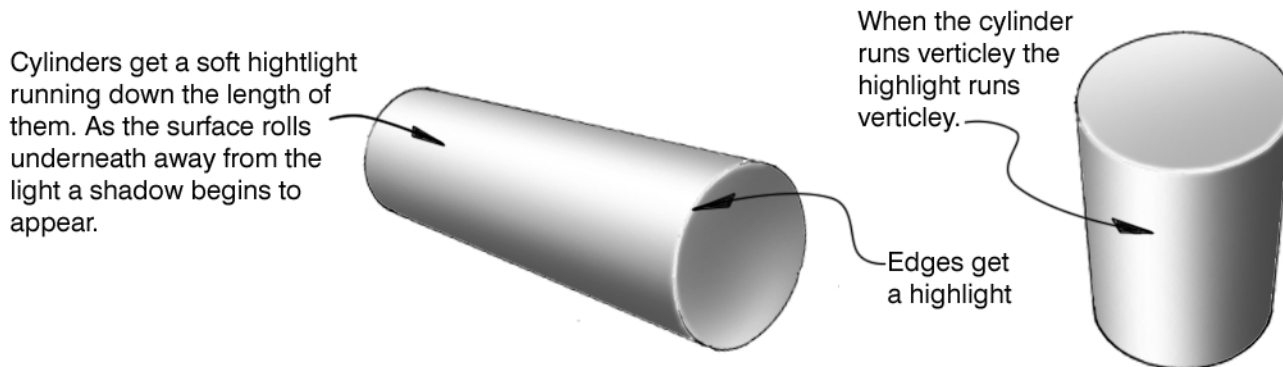
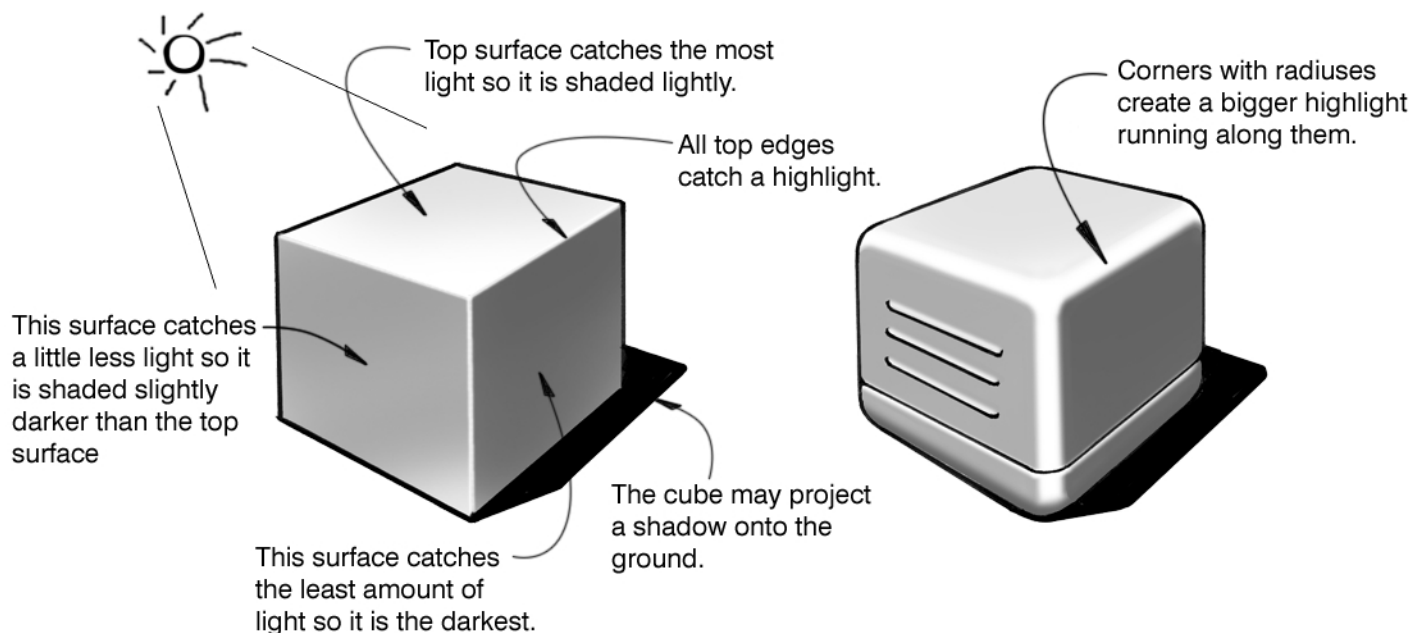
Light Lines used to define accent lines and where surfaces meet.

Double Lines can indicate radii.

light & shadow

Shading is used to show light and shadow on objects. This shows the form of an object. It is useful for the designer to be able to imagine where the light source is coming from and to visualise where highlights and shadows will fall on an object.

Generally for product rendering, the light source is assumed as coming from above the product.



When rendering spheres and domes it is important to get an even graduation of tone since the surface rolls evenly away from the light.

Most objects can be broken down into cubes, cylinders and spheres. These simple rules of shading can be applied to any object to show its form.

gloss surfaces

Gloss surfaces reflect the outside world. There is an art to rendering gloss surfaces correctly however a few simple rules can be followed to make it easier.

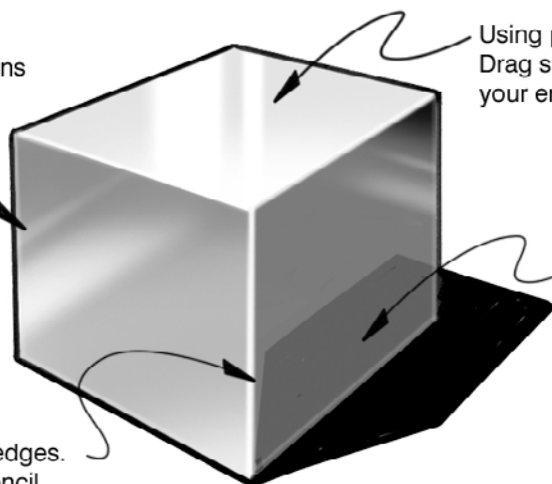
On flat surfaces reflections should follow the line of perspective.

Simple use of a thick and thin highlight line in perspective can indicate reflections. Try not to go overboard though.

Highlights on edges. Use a white pencil or white paint.

Using pastel on top surfaces works well. Drag some verticle lines through using your eraser.

The reflection should mirror what is happening in the outside world, staying in line with the perspective. **Note** that the thickness of the shadow in the reflection is equal to the thickness of the shadow outside the box.



Cylinders reflect a 180 degree view of the world, from the sky down to the ground.

The most common way to render reflections on a cylinder is to assume that the outside world is a desert with a sky, horizon line and an earth.

Below are some example of how this theory applies to different surface finishes.

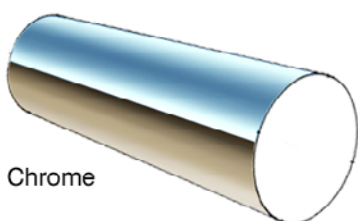
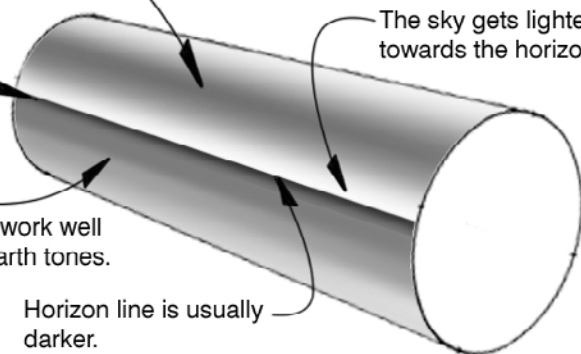
Sky
Pastels work well for the sky tones.

The sky gets lighter towards the horizon line.

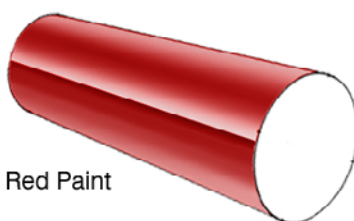
Horizon Line

Earth
Markers work well for the earth tones.

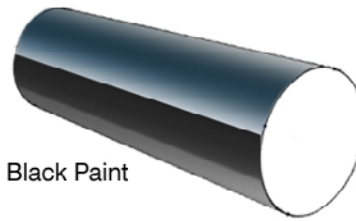
Horizon line is usually darker.



Chrome



Red Paint



Black Paint

If the curve is concave (dishing in) then the reflection gets turned upside down.

Earth
Horizon Line
Sky

Shadow starts to appear.

