

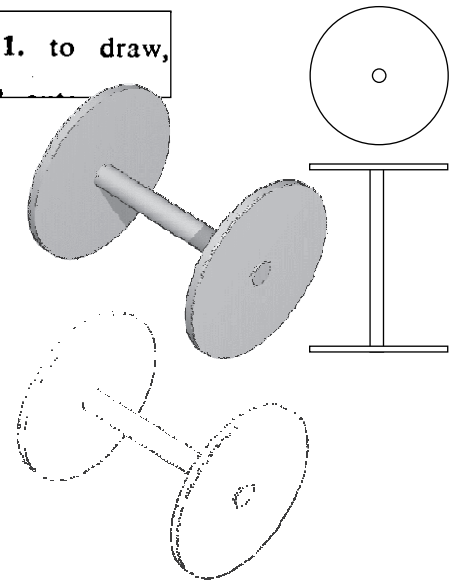
désigner [dezine], *v.tr.* 1. to show, indicate. 2. (a) to fix (date); (b) to appoint (s.o. to job). *s.f.* -ation.

dessiner [desine], *v.tr.* 1. to draw, sketch. 2. to design.

Two French verbs - what a pity that it's the second one that gives us our verb 'to design', because it would seem that most people think that to 'design' you have to 'draw', and that is not really the case.

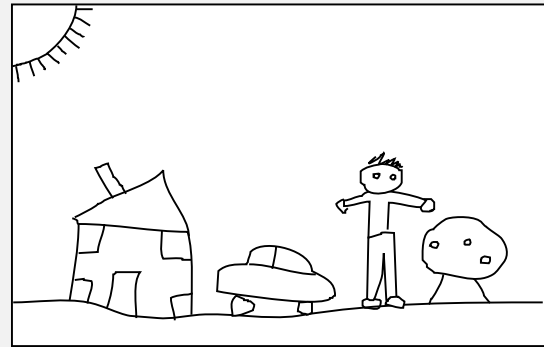
Drawing three-dimensional objects isn't easy - how do you manage? Solving three dimensional, spacial problems on a piece of flat paper is just about as advanced a mental process as you can get. It certainly isn't within the capabilities of the average primary school child.

The assembly of a simple axle unit, as shown here, presents few problems. Compare that with making a drawing of the unit. Drawing the 3D view is an extremely difficult task, and the top and side views don't, at first glance, make sense. One drawing doesn't show anything that looks as if it might be round and the other only shows one disc!

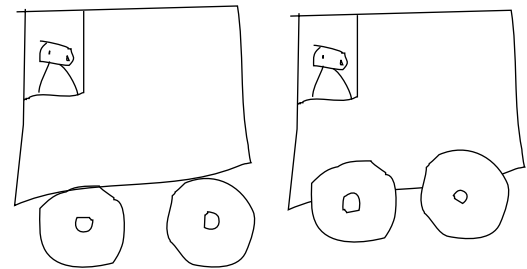


There are three important obstacles to children drawing the articles they're going to make. These make it unlikely that they will be able to recognise potential problems, let alone find solutions.

1. Children, especially those under ten, do not overlap the objects that they place into their drawings. They will go so far as to distort shapes in order to avoid overlaps.

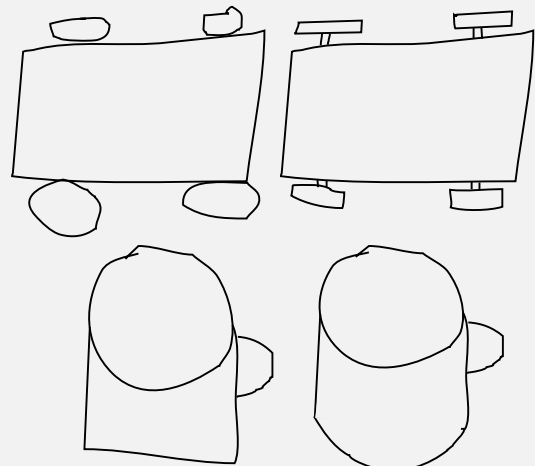


If a young child intends making a van from a cardboard box and they have to draw the van first, they will always draw the wheels underneath the van, like the drawing on the left. Never like the drawing on the right. If the drawing is being used to decide how the wheels are to be fitted the child has to decide between two different sites for the axles. Either they are fastened to the box or they pass through the centre of the wheels. In reality there is no problem. Only on the drawing does this 'problem' exist. So why make the drawing?



2. Children draw what they know about the subject, not what they see. They know that wheels are round, that they are circles, so if a wheel appears on a drawing it needs to identify itself by being round. You will find some children, even in P7, who will be compelled to make the top view of wheels at least a little 'round'.

A cup is perfectly described by the left hand drawing. It's circular at the top, where you put the tea, and flat at the bottom so that it doesn't fall over. The handle is on the side and is in the form of a loop. The right hand drawing might be a more accurate representation of what you see when looking at a cup - but it's bound to fall over, isn't it?



3. Children do not use proportion and scale in their drawings. Sizes are usually more dependent on the available space on the paper. They'll give grandpa short legs rather than no feet! This means that, on the child's drawing, there's every chance that a camel will pass through the eye of a needle!