

Using light and shadows isn't simply a question of 'either or' because even those areas that are thrown into shadow are affected by reflected light. The two cubes and the sphere in the diagram on the opposite page show why.

1

The upper cube reminds us that the surfaces directly exposed to the main light source are the lightest in tone, and that this tone is more or less even over the whole area. But the tone on the shadow surfaces, though darker overall, shows much more variation.

Around the edges, where there is little reflected light, the tone is dark - an effect which is further emphasized by the lightness of the adjacent surfaces. As you move down towards the middle of the shadow, however, it grows lighter in tone because of light reflected back into it from the table top.

The cast shadow on the table top receives hardly any reflected light from the shadow surface of the cube so this is where the darkest tone is to be found - particularly where the two surfaces meet.

#### **The Right Angles**

2

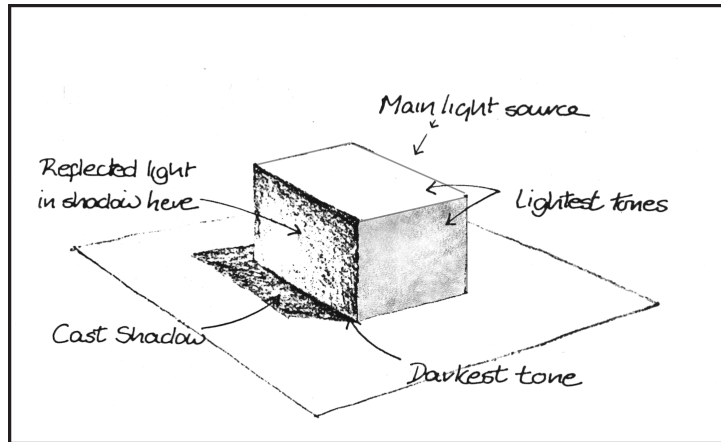
The second cube illustrates two more important rules about light and shadows. First, if you want to find the length of the shadow cast by an object, simply draw a straight line taking in the main light source, the 'shadow edge' of the object and the surface on which the object sits.

The second rule is that light is always reflected back off a surface at the same angle at which it strikes it. Use this to help you decide which areas of a shadow should be lighter in tone.

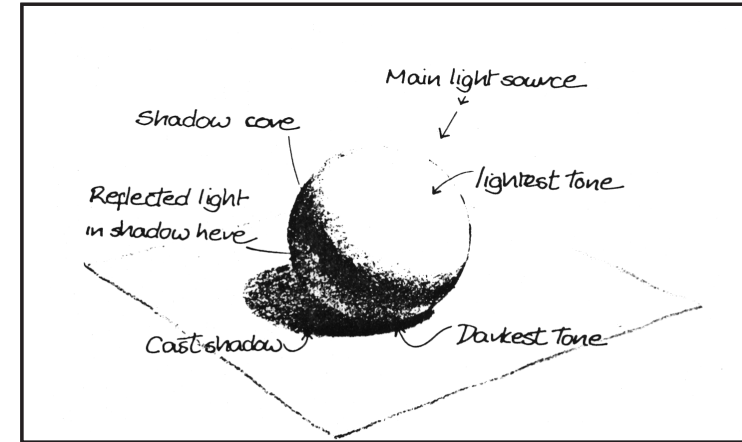
3

The sphere diagram shows that the angle of light reflected off a curved surface changes constantly, producing graduated shadow tones. The darkest areas are those parts of the sphere 'missed' by reflected light from the table top and in the cast shadow, where it meets the sphere and there is no reflection.

①



③



②

