



# Where sunlight reaches

When sunlight reaches something it makes it bright. This is called **illumination**. Other places lie in shadow.

So far we have seen that light starts out at a source. The Sun is a source, as is a torch, a headlamp and a street light. We have also found that light travels in straight lines, but what happens next?

When light reaches something it lights it up. We say that the light has lit it up, or **ILLUMINATED** it.

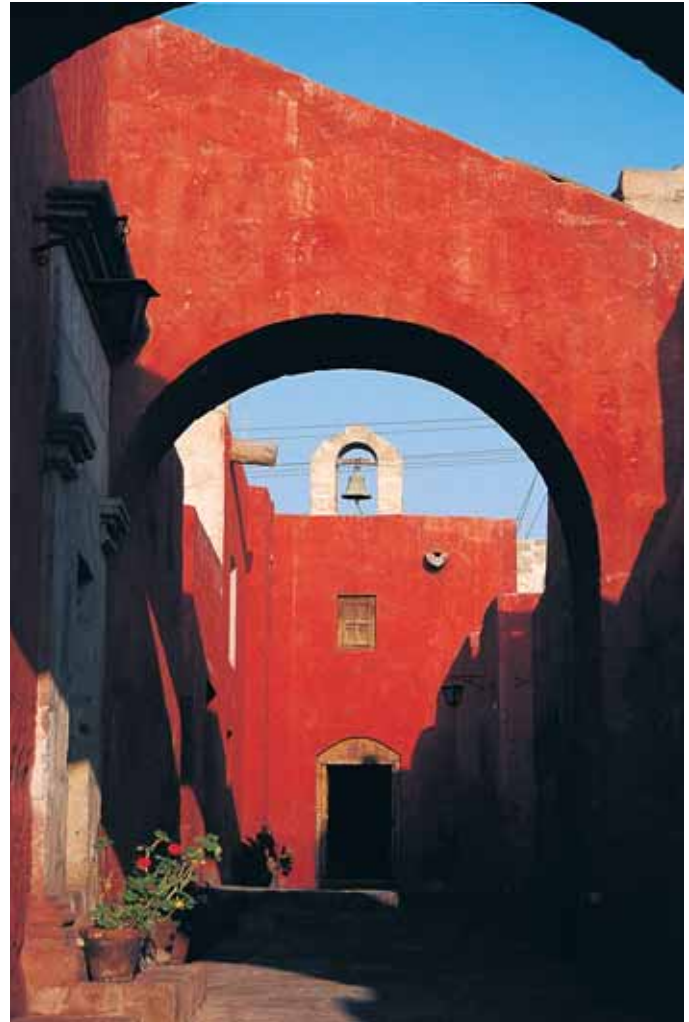
## Blocking out the light

Sunshine reaches our world by travelling in straight lines. How does this affect what we see? Look at Picture 1. Notice how bright some things are. These are places where the sunlight can reach. Now see how dark it is in other parts of the picture. This is where direct sunlight has been blocked by the wall or the arch. Places which do not get direct sunlight are darker. We say they are in **SHADE**.

## Shadows and silhouettes

In fact, if you stand in the shade, you can see darkness by looking towards the light as well as away from it. For example, when you stand in the shade of a tree lit by the Sun you see two dark shapes (Picture 2).

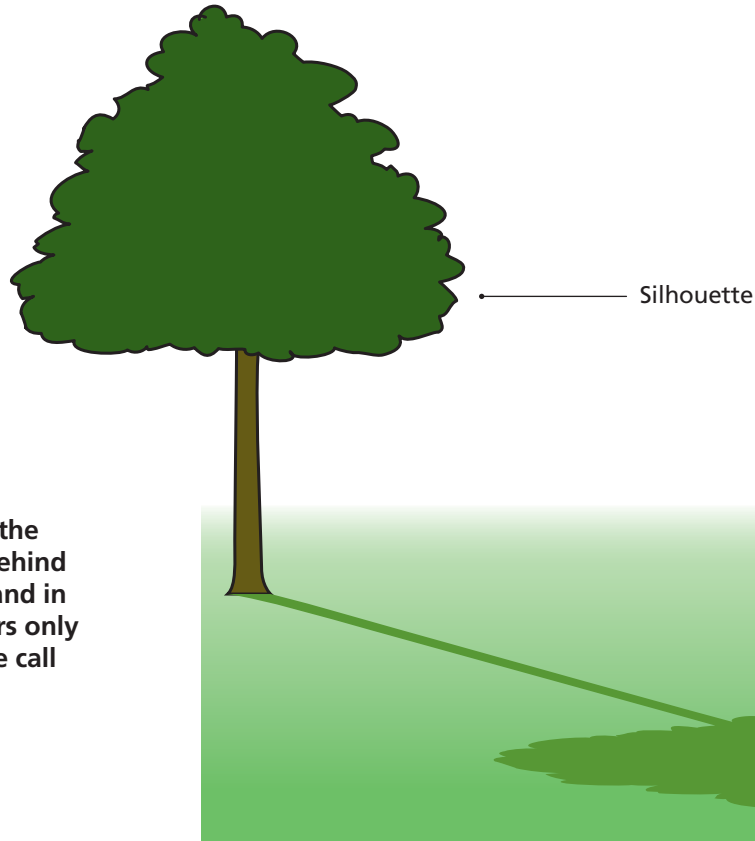
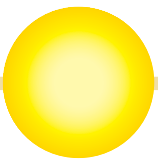
If you first stand with your back to the tree and look at the ground, you will see a dark shape on the ground. This is the tree's **SHADOW**.



▲ (Picture 1) Places in direct sunlight and places in shadow. The sharp edge between the two shows that light travels in straight lines.

If you now turn around and face the tree, you will see the dark shape of the tree against the bright sky. This is called the tree's **SILHOUETTE**.

Both the shadow and the silhouette give you a dark, flat view of the tree.



► (Picture 2) When the sunlight is directly behind the tree, and you stand in its shadow, it appears only as a dark outline. We call this a silhouette.

## Where to look for shadows

Shadows are all around us. There are lots of shadows when the Sun is shining brightly. Walk along a city street and you will often see one side of the street in sunlight while the other side is in shadow (Picture 3).

► (Picture 3) When you walk along a street in sunlight, you can see a clear line between the places in sunlight (left) and the places in shadow (right).

### Summary

- Places light cannot reach are in shadow.
- There are a lot of shadows when the Sun is shining brightly.

