Light

Exercise 76:

Solution 1(a):

Natural sources of light	Artificial sources of light
Sun, Moon, Glow worm, Star	Torch, Tube light, Candle, Electric bulb, Lantern

Exercise 77:

Solution 1(a):
The light on the spot comes from the rays reflected by the mirror.

Solution 1(b):
No, the mirror cannot be called the source of light.

Solution 1(c):
When LED torchlight is incident on a wall, a bright round spot of light is formed on the wall. Note that the beam of light is not seen between the wall and the torch.

Exercise 78:

Solution 1(a):
The candle flame will be visible in case (I). Light travels in a straight line. Since the tube is straight in case (I), light coming from the candle flame travels through it in a straight line and the candle flame is visible. In case (II) the light gets obstructed by the bend in the tube and hence the flame is not seen.

Exercise 79:

Solution 1(a):

Transparent objects	Opaque objects	Translucent objects
Window glass, Spectacles glass, Water	Chair, Table, Book	Frosted glass used for bathroom windows, Butter paper, Thin cloth, Plastic container

Exercise 80:

Solution 1(a):
If the plastic is folded repeatedly, the spot formed on the wall appears faint. The more the plastic is folded, the more the spot appears fainter and finally disappears.

Exercise 82:

Solution 1(a):
For a solar eclipse to occur the Sun, the Moon and the Earth should be in a straight line. But, the planes of orbit of the Earth and Moon are tilted with respect to each other. As a result, the three bodies are not in a straight line on each no Moon day. Hence, a solar eclipse does not occur on a 'No Moon day'.

Solution 1(b):
A solar eclipse occurs when the Sun, the Moon and the Earth are in a straight line and the shadow of the Moon falls on the Earth. The Sun is comparatively much further away from the Earth as compared to the Moon. The Moon being closer to the Earth forms a shadow on certain regions on the Earth's surface. The Sun is invisible for the people in those regions of the Earth where the Moon's shadow falls. The Sun seems to be entirely covered by the Moon for the people in this region.

Exercise 83:

Solution 1(a):
The Earth revolves around the Sun and the Moon revolves around the Earth in their particular orbits. During their respective revolutions, the Earth comes in between the Sun and the Moon, and the three are in a straight line. Due, to this the Earth casts its shadow on the Moon and a lunar eclipse occurs. When observed from the Earth, the region of the Moon under the shadow of the Earth appears dark. Lunar eclipse occurs on a full Moon day.

Solution 1:

Transparent objects	Opaque objects	Translucent objects
Glass	Wall	Tracing paper
Thermometer	Bag	Tissue paper
Beaker	Book	Plastic bottle

Solution 2:

Tube lights, electric bulbs, candles, lanterns, oil lamps and torches are some examples of artificial sources of light used in houses.