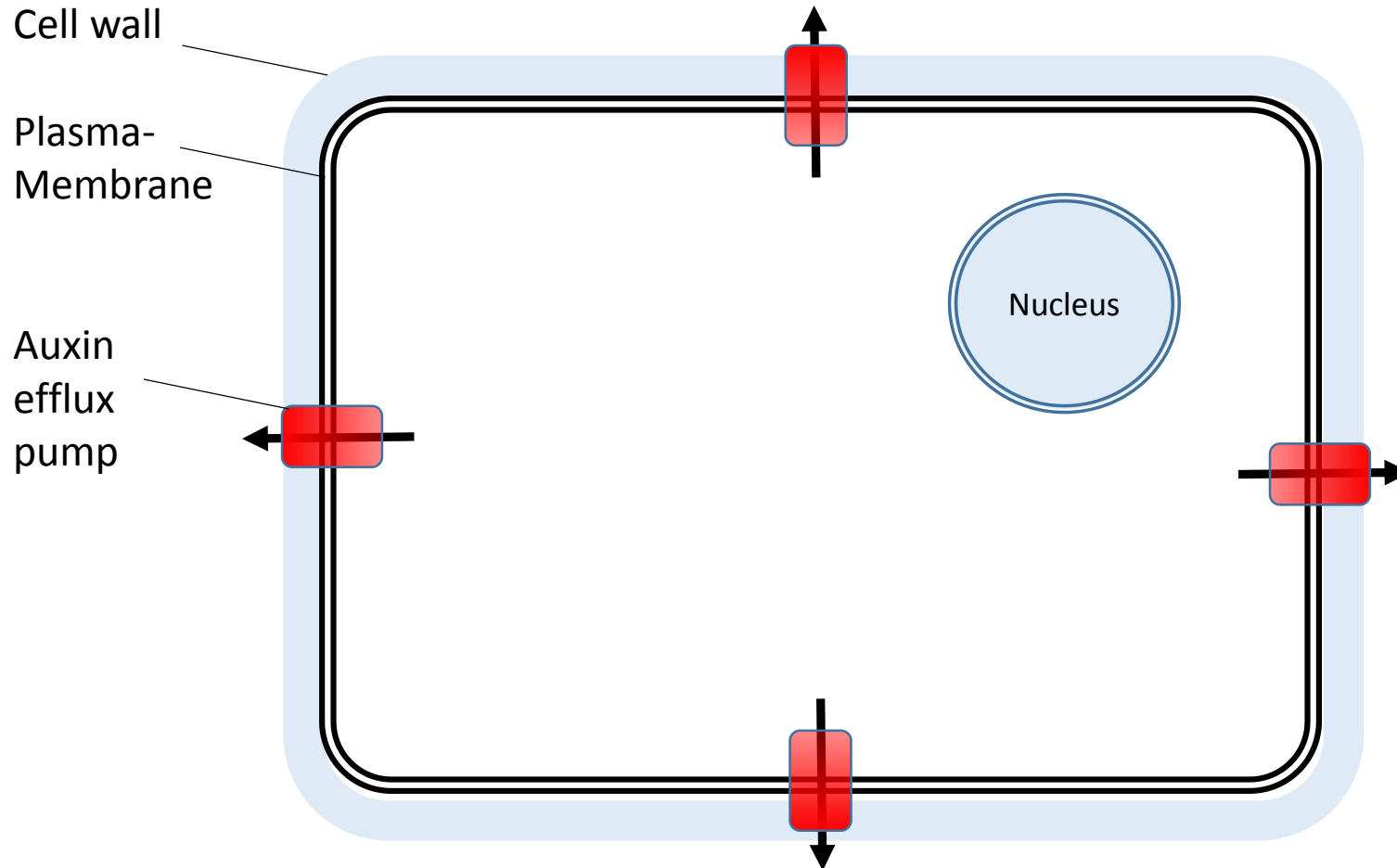


Phototropism

Plant response to light

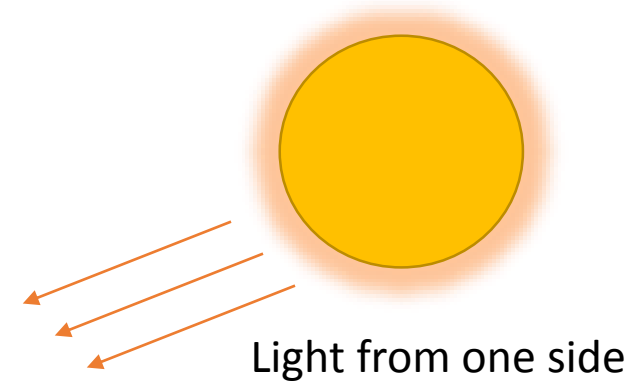
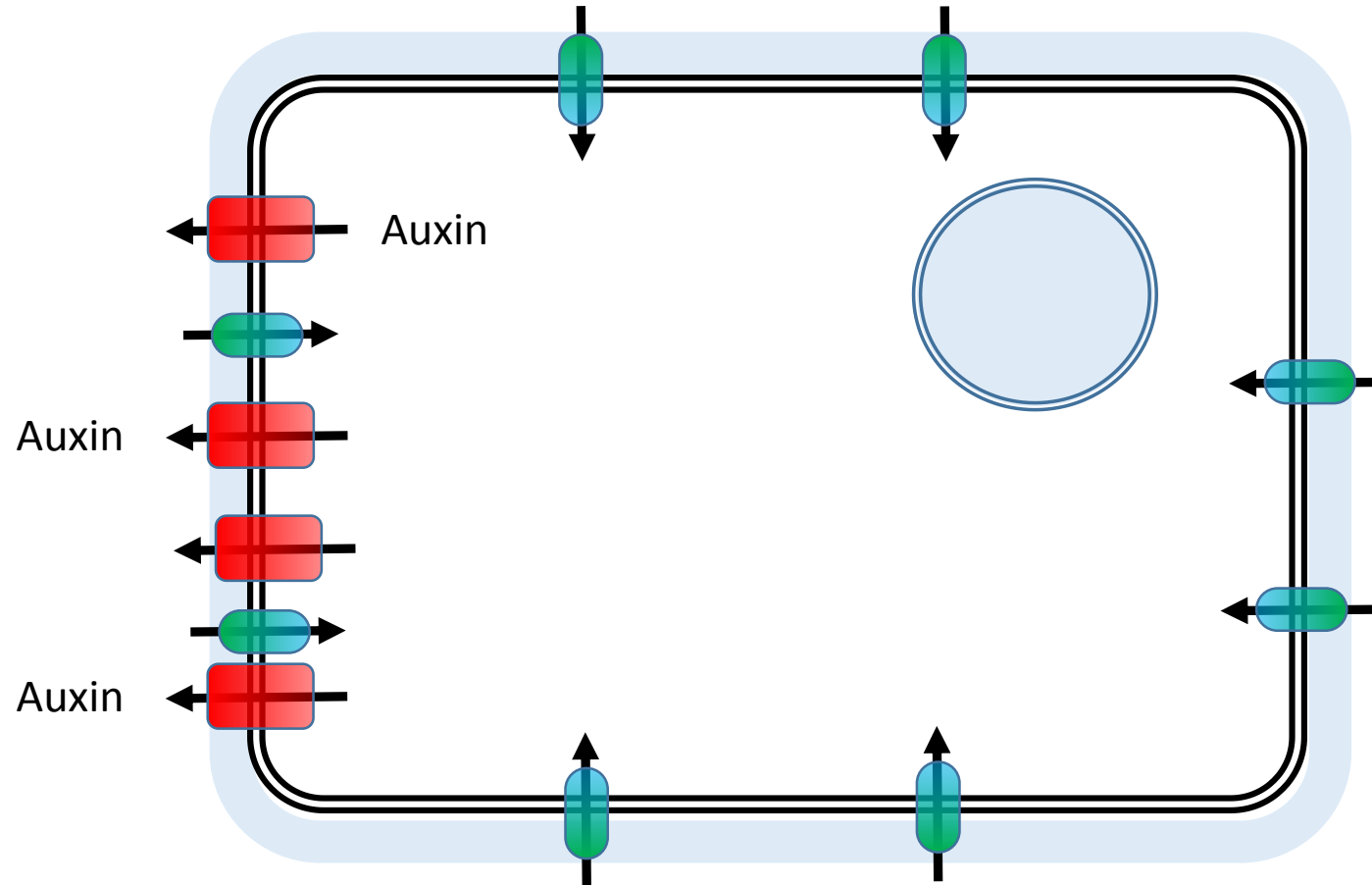
Cell membranes of the shoots contain protein pumps



Auxin cannot diffuse through the plasma membrane.

It is moved through the membrane by active transport by a trans-membrane protein called an Auxin efflux pump

Auxin Efflux Pumps



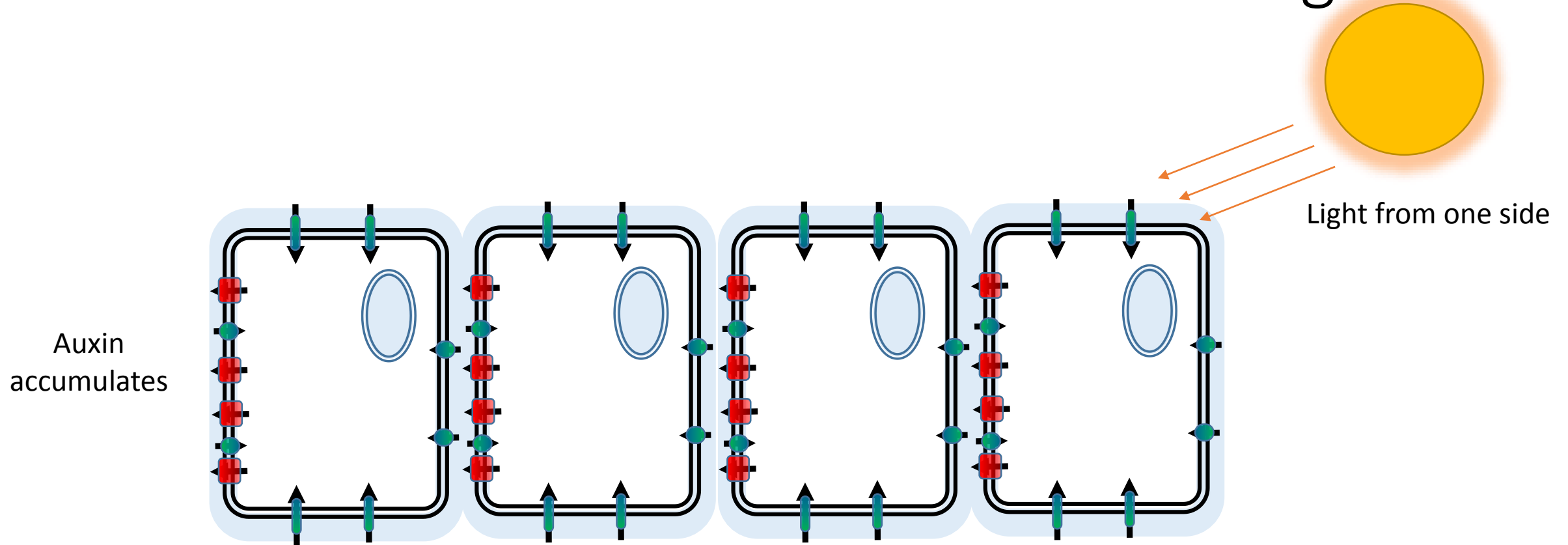
The direction of light is detected at the **tip** of the shoot.

Auxin moves from the tip down.

Auxin efflux pumps are inserted into the plasma membrane of shoot cells on the shady side.

Auxin is pumped **out** of these auxin efflux pumps.

All cells in the shoot have the same arrangement

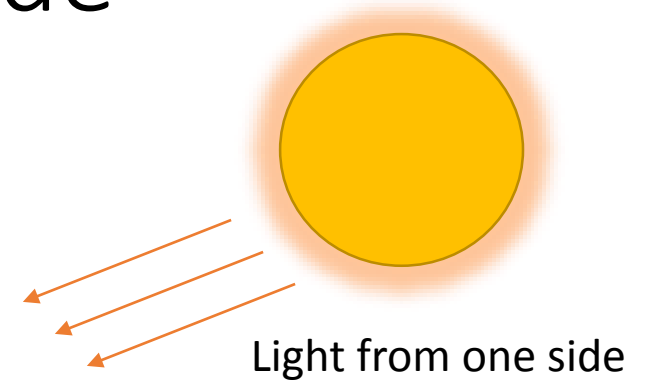


Auxin is transported across the shoot and builds up on the shady side of the shoot



Cells elongate more on the shady side

The accumulation of auxin in the cells on the shady side causes cells to elongate more and the shoot to bend toward the light.



Longer cells
on the
shady side

