

TeachMe

STUDY NOTES

C3.1 PLANT SYSTEM INTEGRATION (HL)



Plant System Integration (HL)

Plants have no nervous system or muscle tissue. As immobile (sessile) organisms, plants live where their seeds take root. Therefore, processes are mainly controlled by hormones:

PLANT HORMONES

Hormones produced by plants are called phytohormones.

CYTOKININ

Increases rate of **cell division**.

Produced in root and is transported by the xylem to the shoot (part above the soil).

★ AUXIN (more details below)

Causes **plant cell elongation**.

Produced in the shoot and transported by phloem.

★ ETHYLENE (more details page 2)

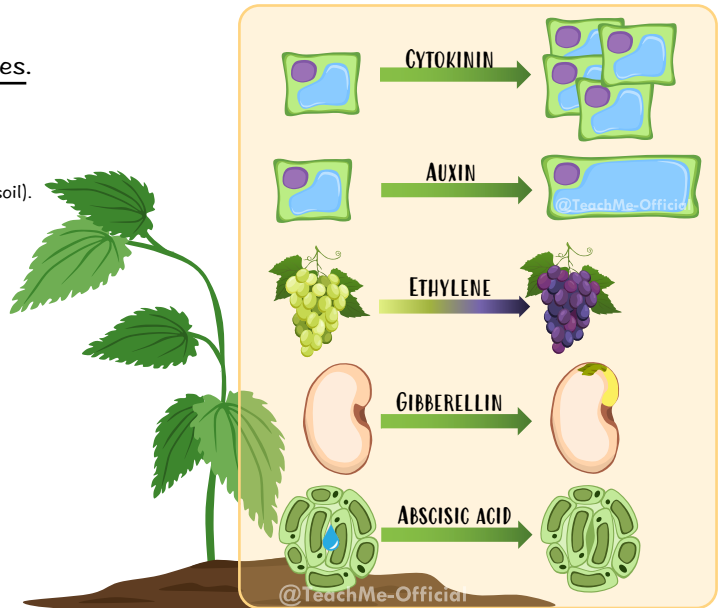
Promotes the **ripening of fruit**.

GIBBERELLIN

Controls stem elongation, seed germination, & flowering.

ABSCISIC ACID

Triggers stoma closure when leaf cells are short of water (to prevent evaporation).



AUXIN PURPOSE, PRODUCTION & TRANSPORT

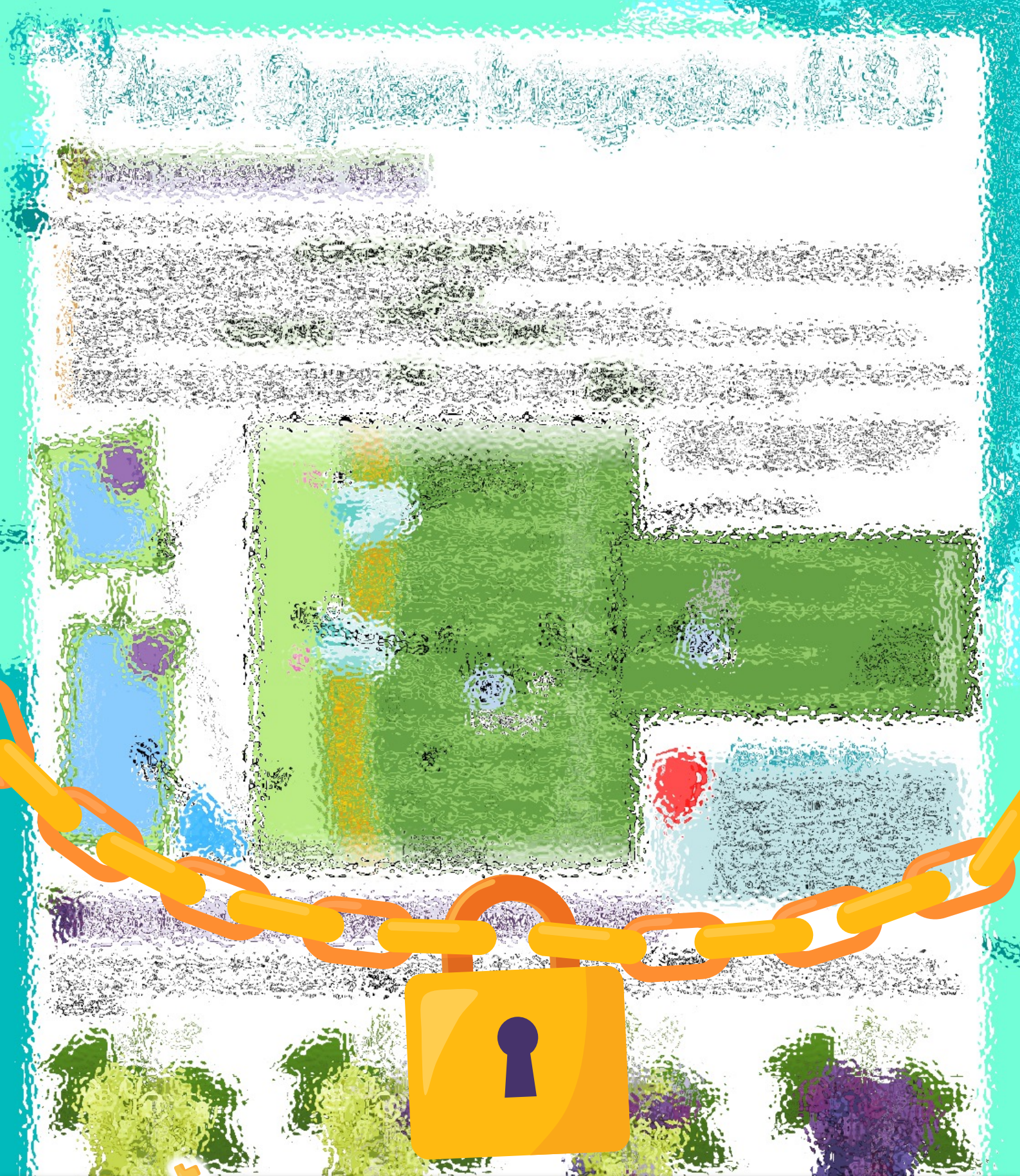
PURPOSE:

Auxin stimulates plant cell **ELONGATION** on the shaded side of the shoot (the part of the plant above the ground), promoting bending towards the light source.

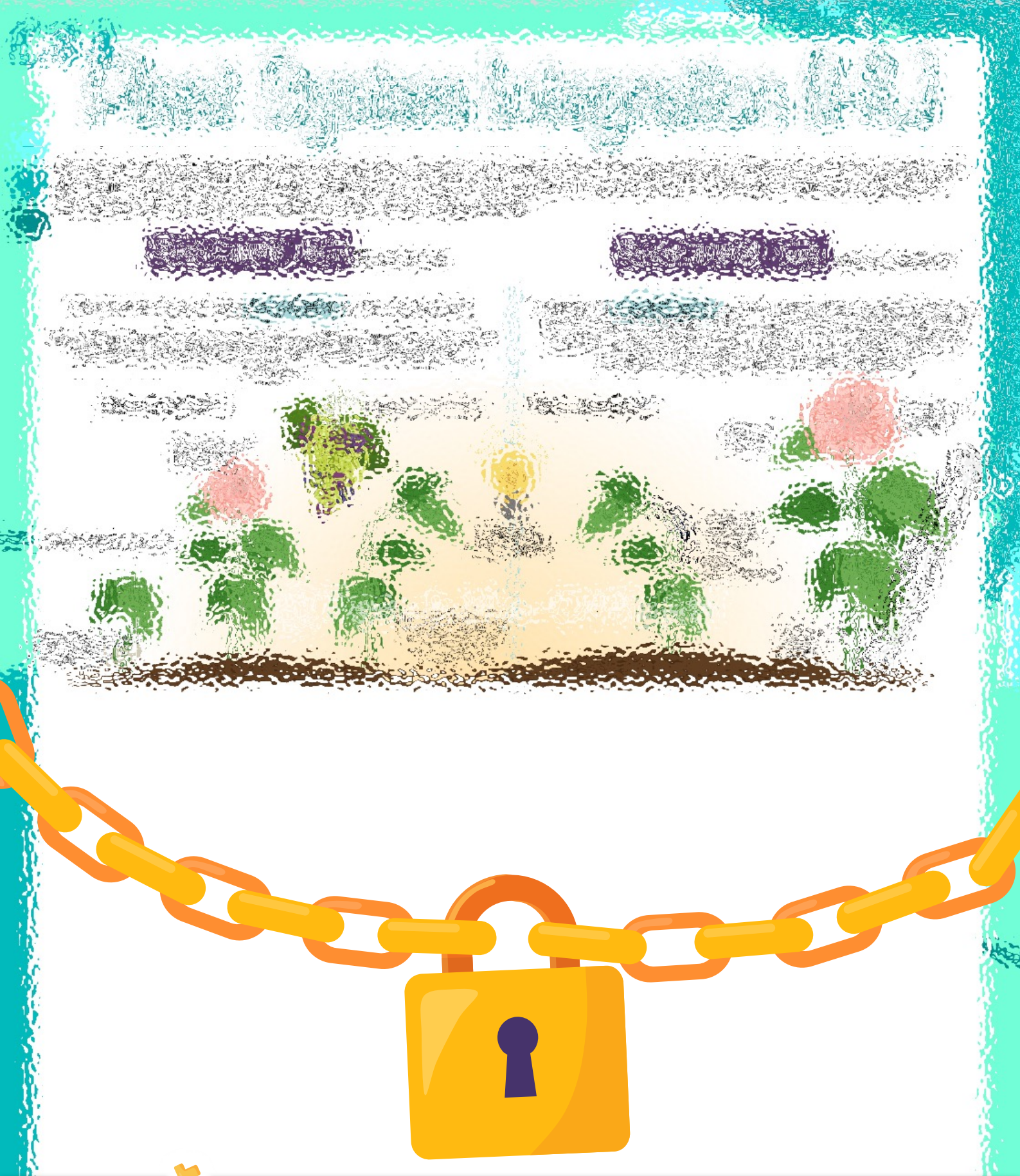
*pink cells represent the apical meristem here
Auxin



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