

SET UP:

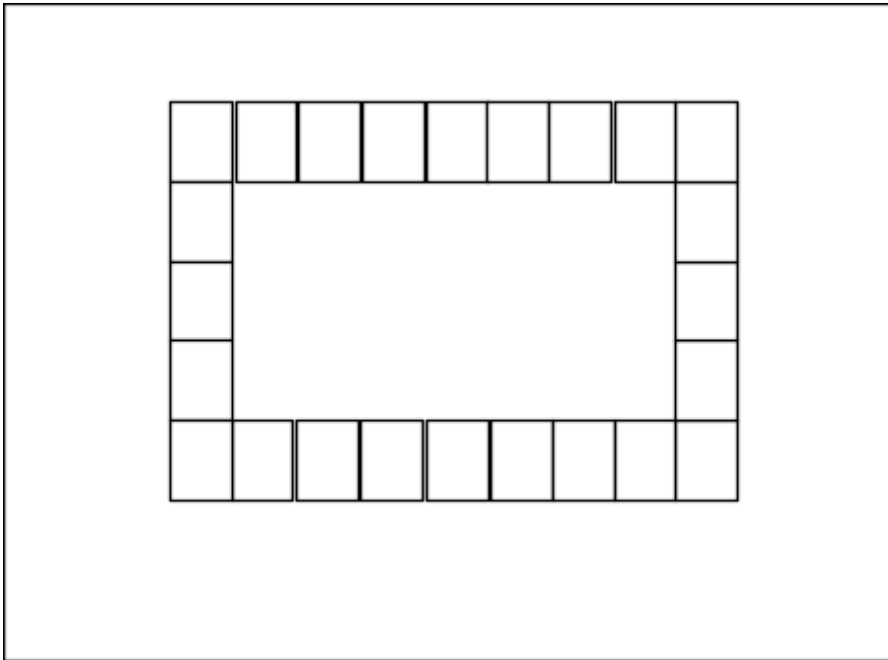
The classroom space represents a chloroplast.

The desks are arranged into a large, open square.

The desks represent the thylakoid membrane inside the chloroplast.

The space inside the desks is the lumen of the thylakoid.

The space outside the desks is the stroma.



Students are given their role cards. There are 29 active roles, other students watch.

After each time through the role play, students switch cards and act out a different role.

29 student roles:

Sun (2 students)

Water (6 students)

Photosystem II (3 students, huddled together)

ETC (3 students, linked arm to arm)

Protons (4 students)

ATP Synthase (1 student)

ATP (2 students)

Photosystem I (3 students, huddled)

ETC (3 students, linked arm to arm)

NAPDH oxidase (1 student)

NADP+ (1 student)