

(Photosynthesis (equation, limiting factors, uses of glucose))

Q1.(2018)

either:

less (sugars for) respiration

(so) less energy released

or

less amino acids made (1)

(so) less protein produced **or**
less protein synthesis (1)

or

less cellulose made (1)

(so) weaker cell walls (1)

Q2.(2018)

(aphids) can fly to another plant
or part of the plant

to get (more) food

Q3.a)(2020)

before arrow

carbon dioxide **and** water

after arrow

glucose

Q3.b)(2020)

light

(light) is captured / trapped /
absorbed by chlorophyll /
chloroplasts

Q4.a)(2020)

enzyme(s) lose the shape of the
active site

Q4.b)(2020)

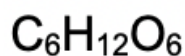
y-axis labelled '(rate of)
photosynthesis in cm³/hour'

suitable scale on y-axis

all points plotted to within $\pm \frac{1}{2}$
small square

correct curved line of best fit

Q5.(2021)



Q6.a)(2022)

any **two** from:

- temperature
- size of tomato plants **or** size /
number of leaves
- light
- (volume of) water
- (amount / type of) fertiliser /
minerals / ions / nutrients
(given to plants)
- time before rate readings are
taken

Q6.b)(2022)

from 0.02% to 0.04%

Q6.c)(2022)

repeat each reading three times
and calculate a mean

Q6.d)(2022)

(the rate of photosynthesis)
increases

(because) carbon dioxide is
needed for photosynthesis

Q6.e)(2022)

any **two** from:

- it would not increase the rate
(of photosynthesis)
- it would not increase the
growth of tomatoes
- it would cost more

Q7.(2022)

oxygen

glucose

Q8.a)(2023)

(lhs)

carbon dioxide

water

(rhs)

glucose

Bioenergetics

<http://www.pcfgstudy.com>

Q8.b)(2023)

(used in aerobic) respiration

to release / transfer energy