

AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Rate of Photosynthesis Answers

Name:

M M E

Mathsmadeeasy.co.uk

Total Marks: /20

Q1: Give 3 limiting factors of photosynthesis.

A= 1 mark for each point

- Light
- Warmth/ Temperature
- Carbon Dioxide / CO₂

(3 marks)

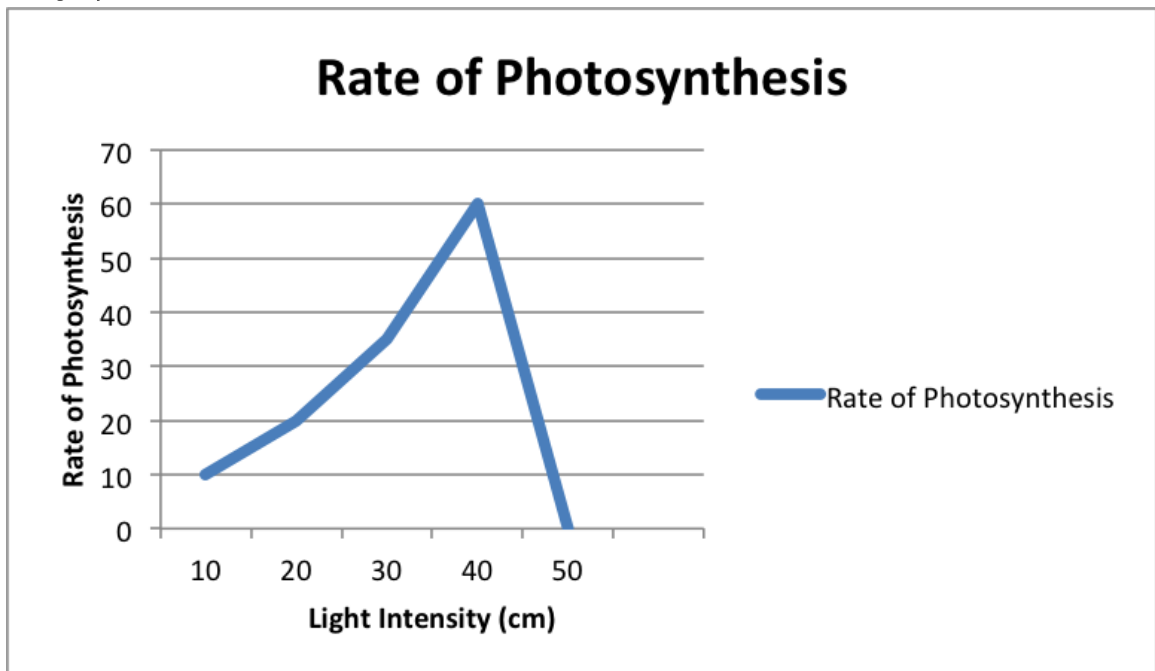
Q2: Discuss how light intensity affects the rate of photosynthesis.

A= 1 mark for each point

- Light = Photosynthesis
- Little / No light – No photosynthesis
- Brighter the light – faster the rate of photosynthesis

(3 marks)

Q3: The graph below shows a plants rate of photosynthesis. Discuss the results shown in the graph.



A= Accept any 3 of the following:

- Optimum temperature – 40°C
- Limiting at low and high temperatures
- Kills plants at 50°C
- 10°C Limited growth – e.g. winter

(3 marks)

Q4: Why does a plant not photosynthesise at night despite higher carbon dioxide levels at night?

A= No light

(1 mark)

Q5: Explain how farmers can overcome carbon dioxide as a limiting factor.

A= 1 mark for each of the following:

- Use a greenhouse
- Can increase levels of carbon dioxide artificially

(2 marks)

Q6: Explain which limiting factors slow a plant's growth.

A= 1 mark each point:

- Light
- Temperature

(2 marks)

Q7: Explain why variegated leafed plants grow more slowly.

A= 1 mark for each point:

- Less chlorophyll
- Less photosynthesis

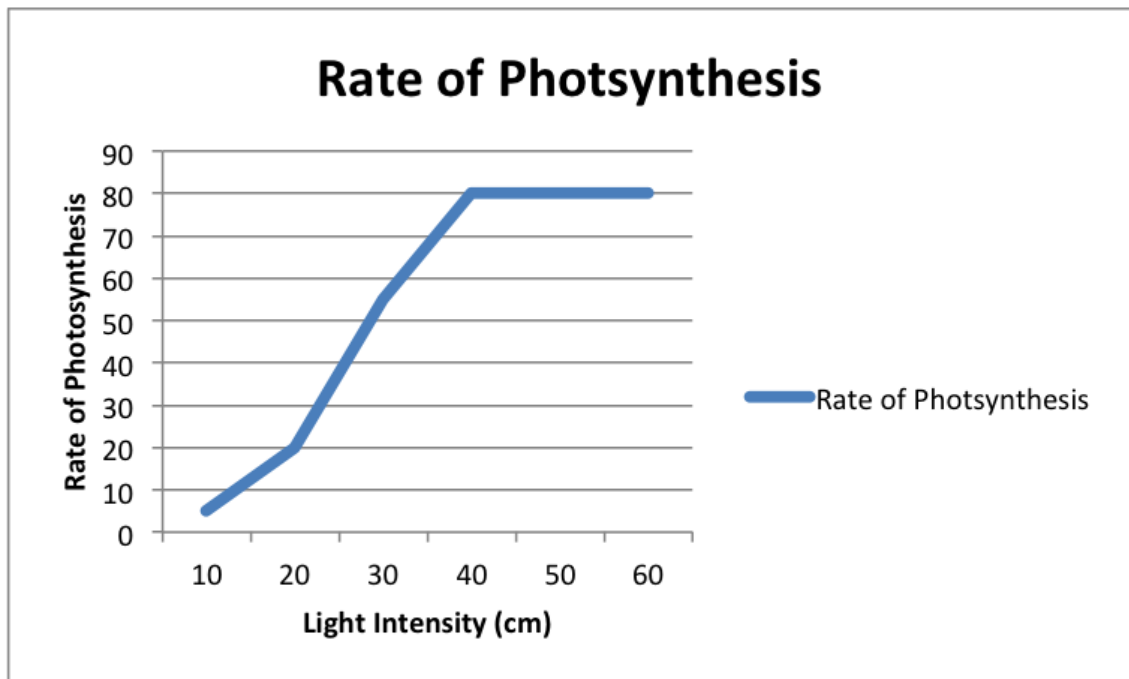
(2 marks)

Q8: i) An experiment has been designed to measure the rate of photosynthesis and light intensity. The results show after a few increases the rate of photosynthesis did not change. Explain why.

A= Light is no longer a limiting factor

(1 mark)

ii) The results from the experiment are shown below. Plot a line graph to show these results.



A= 1 mark labels

1 Correct axis

1 Correct line plotted

(3 marks)