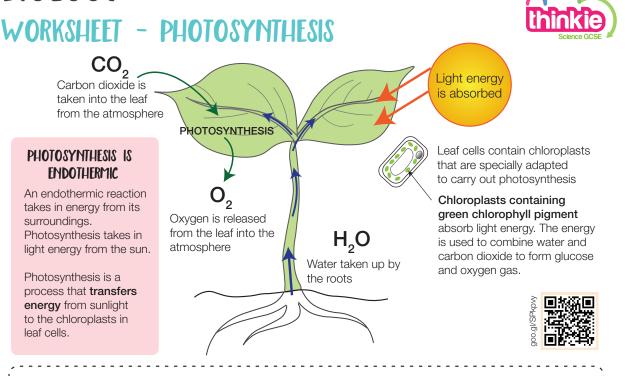
## BIOLOGY





Carbon dioxide + Water

6 CO<sub>2</sub> + 6 H<sub>2</sub>O

1) Palisade cells can be found in certain parts of leaves. These cells are specially adapted to carry out photosynthesis. Explain this by referring to their position within the leaf and the structures found within the cells. (3 marks)

Glucose + Oxygen symbol equation

 $C_6H_{12}O_6 + 6O_2$ 

is not required

- 2) Photosynthesis captures / transfers the energy of sunlight into green plants. Energy is being taken into chemical reactions within the leaf cells. What is the name given to the type of reaction that takes in energy? (1 mark)
- 3) What is a chloroplast? They are often seen gathered towards the end of the leaf cell nearest the leaf surface, why? (2 marks)
- 4) In terms of chemical bonds, why is glucose so high in stored energy? (2 marks)
- 5) Explain how the chemical reactions of photosynthesis and respiration are reliant on one another in terms of gas exchange. You must also refer to glucose being used as a product and reactant within the reactions (5 marks)
- 6) Give a full break down of the numbers of atoms in the products of photosynthesis. How should this compare to the atoms seen in the reactants? e.g. Carbon (C) = \_\_\_\_\_ (4 marks)
- 7) Based on the diagram and equation, describe a factor which may commonly limit the rate of photosynthesis when farmers grow crops in greenhouses. How do they try to overcome this problem?