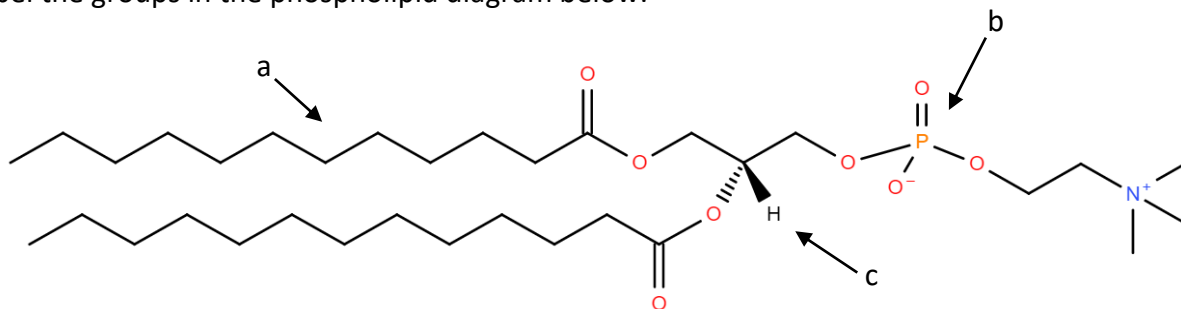


BIOLOGY
 Worksheet

LW7 - PHOSPHOLIPID WORKSHEET
Q1)
a) Which of these statements about phospholipids is incorrect?

- A Phospholipids are a class of lipid
- B They regulate what can come in/ leave the cell
- C Phospholipids have 3 fatty acid chains
- D They form the main structure of cell membranes

[1 mark]
b) What is the main property of the phospholipid 'head'?
[1 mark]
c) Label the groups in the phospholipid diagram below:


Phospholipid diagram from Lipid Maps - <https://www.lipidmaps.org/data/LMSDRecord.php?LMID=LMGP01010001>

[3 marks]
Q2) Fatty acids can be either saturated or unsaturated.
a) What is meant by the terms saturated and unsaturated?
b) Draw a fatty acid (including 'R' group)
[2 marks]
c) What does the 'R group' represent in a fatty acid?
[1 mark]
Q3)
[1 mark]
a) Explain why glycerol is soluble in water.
[2 marks]

b) Which of these statements about glycerol is incorrect?

- A Glycerol contains 3 hydroxyl groups
- B It is generally hydrophobic
- C Glycerol is an organic molecule
- D Is soluble in aqueous solutions

[1 mark]

Q4) Phospholipids are described as being both hydrophobic and hydrophilic.

a) What is meant by the terms hydrophobic and hydrophilic?

[2 marks]

b) Draw and label the hydrophobic and hydrophilic regions of a phospholipid.



[2 marks]

c) Explain why the 'tails' of phospholipids face inwards in the phospholipid bilayer?

[2 marks]

Q5) Phospholipids are essential in cell membranes as they form the phospholipid bilayer.

a) Describe how phospholipids can form the phospholipid bilayer.

[2 marks]

b) Which of the following statements is correct?

- A Phospholipids are amphipathic molecules
- B Phospholipid 'heads' face inwards in a phospholipid bilayer
- C Phospholipids make the cell membrane more rigid
- D The phosphate group in phospholipids is positively charged

[1 mark]

c) Explain why the phospholipid bilayer is important in cell membranes

[4 marks]

[TOTAL 25 MARKS]