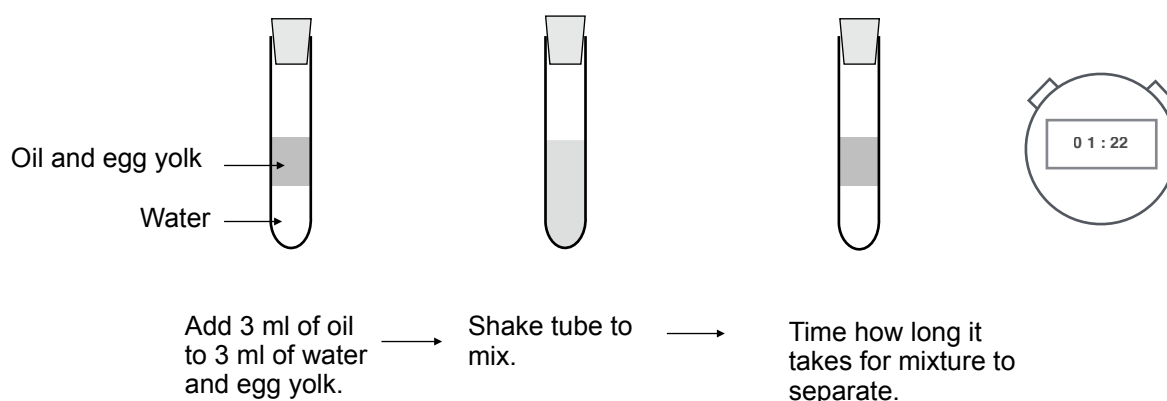


- 1 The diagram shows three test tubes being used to carry out an experiment into the action of egg yolk as an emulsifier.



- 1 (a) The experiment was carried out as shown above and repeated with different numbers of drops of egg yolk added. The table below shows the results.

Number of drops of egg yolk	Time taken for mixture to separate (sec)			Mean time
	1st repeat	2nd repeat	3rd repeat	
0	90	94	92	92
1	150	185	175	170
2	305	345	325	325
3	600	650	625	625

- 1 (a) (i) Give one source of error that could make the results of the experiment inaccurate.

[1 mark]

.....

.....

- 1 (a) (ii) Describe the effect of the number of drops of egg yolk on the mean time taken to separate.

[2 marks]

.....

.....

.....

.....

This question continues on the next page

1 (a) (iii) Mayonnaise is an emulsion made by mixing oil, vinegar and egg yolk.

How is the mayonnaise different to oil and water?

[3 marks]

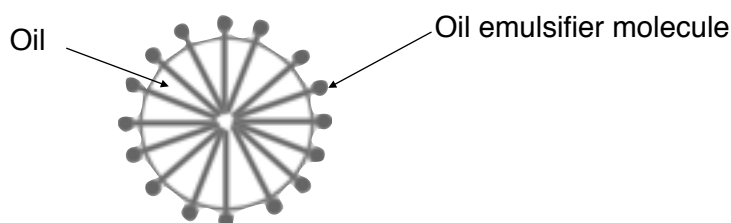
.....

.....

.....

.....

1 (b) Vinegar is mostly water. The diagram shows a simple model of how a stable mixture of oil and vinegar is produced by the addition of an emulsifier.



Use this simple model to explain how the molecules in the egg yolk are able to produce a stable mixture of oil and vinegar.

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

(Total 9 marks)

End