45 A floating object moves up and down 15 times in 60 s because of ocean waves.

a. Calculate the period of the ocean waves. Show your calculations and include units in your answer.

b. Calculate the frequency of the ocean waves. Show your calculations and include units in your answer.

An additional wave property must be known in order to calculate the velocity of the ocean waves.

c. In your Student Answer Booklet, identify this additional wave property **and** draw a wave diagram showing how the property can be measured.

d. Describe what will happen to the object if the amplitude of the ocean waves increases and all other wave characteristics stay the same.