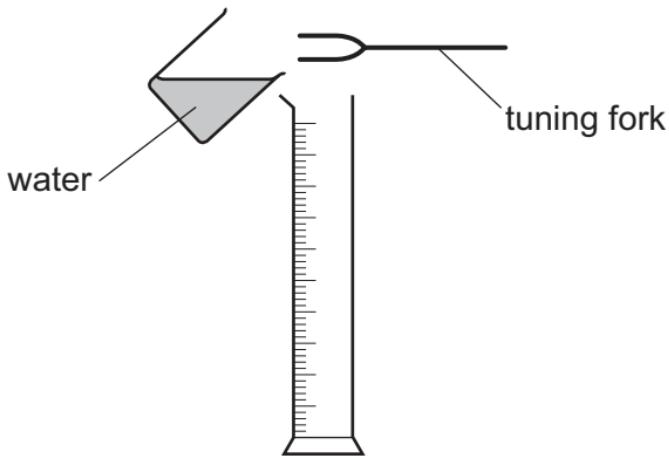


**24** A vibrating tuning fork is held over a measuring cylinder, as shown.



Water is then gradually poured into the measuring cylinder. A much louder sound is first heard when the water level is 2.9 cm above the base of the measuring cylinder. A second much louder sound is heard when the water level reaches a height of 67.3 cm above the base.

The speed of sound in air is  $330 \text{ m s}^{-1}$ .

What is the frequency of the tuning fork?

**A** 128 Hz

**B** 256 Hz

**C** 512 Hz

**D** 1024 Hz

**25** A water wave in a ripple tank is diffracted as it passes through a gap in a barrier.