

- 24** Diagram 1 shows a ripple tank experiment in which plane waves are diffracted through a narrow slit in a metal sheet.

Diagram 2 shows the same tank with a slit of greater width.

In each case, the pattern of the waves incident on the slit and the emergent pattern are shown.

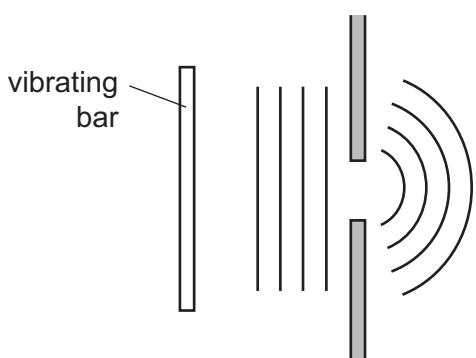


diagram 1

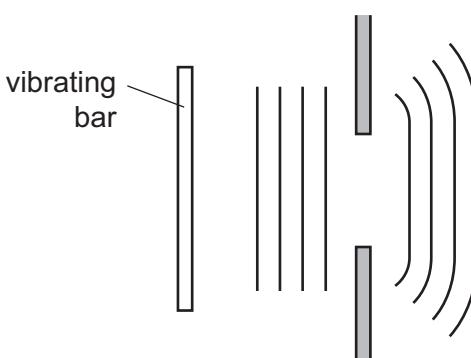


diagram 2

Which action would cause the waves in diagram 1 to be diffracted less and so produce an emergent pattern closer to that shown in diagram 2?

- A** increasing the frequency of vibration of the bar
- B** increasing the speed of the waves by making the water in the tank deeper
- C** reducing the amplitude of vibration of the bar
- D** reducing the length of the vibrating bar

### Space for working