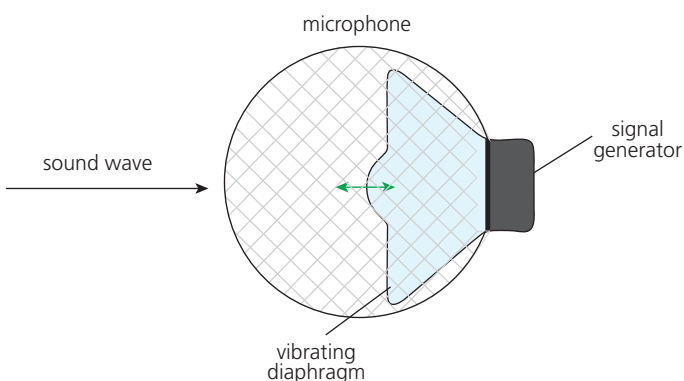


## P5.3 Microphones and ultrasound

	Question	Answer
1	Speakers and microphones contain a diaphragm. What is a diaphragm?	An elastic membrane that can vibrate
2	How does a microphone work?	The particles in the air oscillate due to the sound colliding with a diaphragm in the microphone, causing it to vibrate
3	How does a speaker work?	The speaker makes the diaphragm vibrate; this collides with particles in the air, making them oscillate, forming a sound
4	What is ultrasound?	Sound with a frequency above that of human hearing (above 20 kHz)
5	How can we use ultrasound to find the distance to an object?	Emit ultrasound and time how long it takes to hit the object, reflect back and be detected; use the known value for the speed of the wave and the equation for speed to find the distance

### ▼ How a microphone turns a sound wave into an electrical signal



### ▼ How a speaker generates a sound wave

