



Play me a tune...



What you need:

MULTIPLE GLASS BOTTLES OF IDENTICAL SIZE (MASON JARS WORK GREAT)
METAL SPOON
WATER



What to do:

FILL ONE OF THE BOTTLES WITH WATER AND PLACE A TINY AMOUNT IN A SECOND BOTTLE.
GENTLY TAP THE SIDES OF BOTH BOTTLES WITH THE BACK OF THE SPOON AND LISTEN TO THE DIFFERENT SOUNDS THAT ARE PRODUCED.
FILL A THIRD BOTTLE HALFWAY WITH WATER AND TAP ALL THREE WITH THE SPOON. THE HALF-FULL BOTTLE SHOULD PRODUCE A SOUND IN BETWEEN THE OTHER TWO.
REPEAT THIS PROCESS WITH MORE BOTTLES AND DIFFERENT AMOUNTS OF WATER.
SEE IF YOU CAN PLAY A SIMPLE MELODY WITH YOUR "INSTRUMENT" USING [HTTPS://VIRTUALPIANO.NET/](https://virtualpiano.net/)

What's going on?

SOUND WAVES ARE CREATED WHEN YOU TAP THE BOTTLE SIMILARLY TO HOW WATER WAVES ARE CREATED WHEN YOU TOUCH ITS SURFACE. THE BOTTLE VIBRATES WHEN IT IS STRUCK AND THIS MOTION CAUSES THE AIR TOUCHING THE INSIDE OF THE BOTTLE TO VIBRATE AS WELL. THESE VIBRATIONS WITHIN THE AIR ARE SOUND WAVES AND THE LENGTH OF THESE WAVES ARE DEPENDENT ON THE SPEED OF THE VIBRATIONS. WITH LESS WATER IN THE BOTTLE, THE GLASS IS ALLOWED TO VIBRATE FASTER WHICH PRODUCES SHORTER SOUND WAVES. WE IDENTIFY THESE SHORTER SOUND WAVES AS A SOUND WITH A HIGHER PITCH OR A HIGHER NOTE ON AN INSTRUMENT.