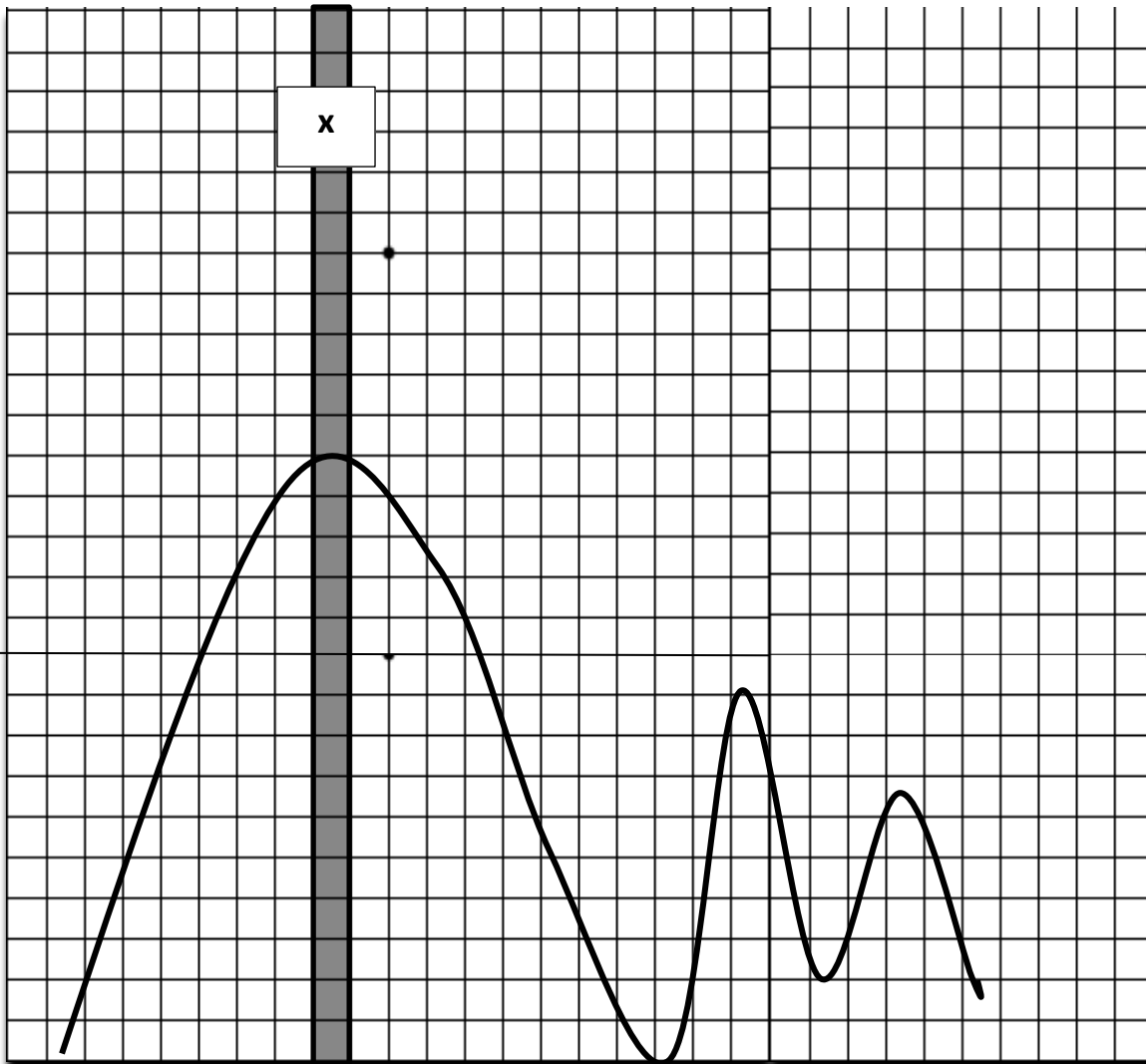


ADC: SAMPLING AN ANALOGUE SOUND AND CONVERTING TO DIGITAL

Sounds waves are analogue, however most electric devices and sound formats use a digital format, a collection of '0' and '1's. This exercise will show you the method of sampling used to convert an analogue sound into a digital form. For this example we will use a 4bit sample rate. Many devices use rates of up to 256bits,



4Bit Code Sample				
	8	4	2	1
15				
14				
13				
12				
11				
10	1	0	1	0
9				
8				
7				
6				
5				
4				
3				
2				
1				
0				

INSTRUCTIONS:

- 1) Complete the table on the left by adding the binary values for each number
- 2) Look at the graph, convert each point into a value between 1 and 15.
- 3) Discuss how you will do this
- 4) Now convert each value into a binary value. Write these in a line in the box below.
- 5) What would happen to the quality of the sound if the sample rate was 8bit?
- 6) What would happen to the quality of the sound if the 'wave' went above 15 to where the 'x' is placed?