

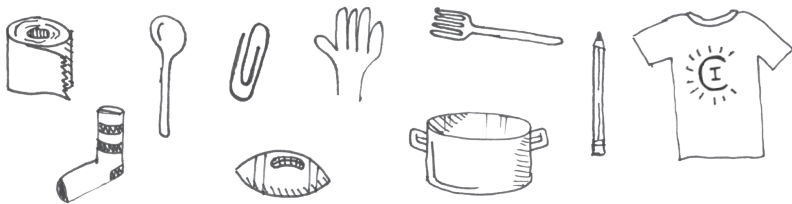
JIM WEST INVENTED THE ELECTRET MICROPHONE

National Inventors Hall of Fame® Inductee Jim West is an expert in acoustics – the branch of physics that studies the science of sound and how it travels. He and his coworker, Gerhard Sessler, invented the **electret microphone**.

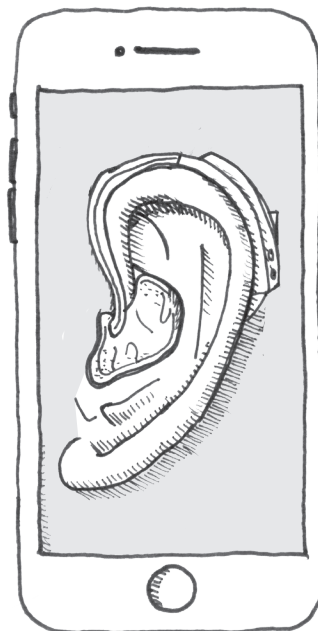
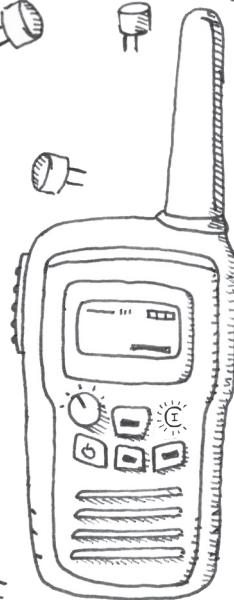
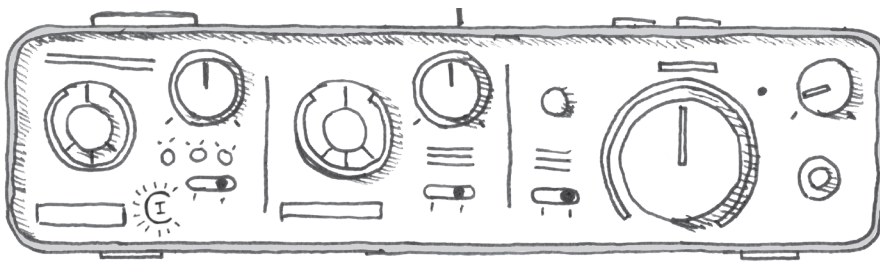
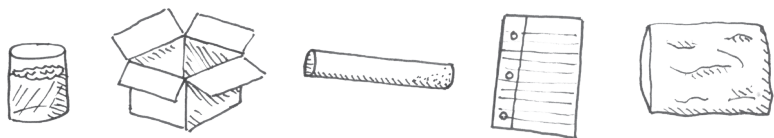
His microphone is tiny, lightweight and inexpensive. Ninety percent of today's microphones are electret microphones. They are used in everyday items like phones, tablets and hearing aids. In fact, almost everything on this page has an electret microphone in it!

MAKE SOME NOISE!

Visit each room in your home. What objects do you see that could make noise? How could you combine them to make interesting sounds?



Experiment with materials in your house to amplify or quiet the sounds you make. How can you make them louder or softer?



SOLVE THE CODE!


_ _ _ _
 : : O > O D

_ _ _ _
 : D O O D +

KEY:

A	B	C	D	E	F	G	H	I
O	⊙	⊗	⊕	⊖	⊗	⊕	⊖	⊗
J	K	L	M	N	O	P	Q	R
⊖	⊕	⊗	⊕	⊖	+	/	⊖	⊕
S	T	U	V	W	X	Y	Z	
•	⊕	×	⊕	⊕	⊕	⊕	⊕	

Sound waves bounce all around a room! Did you know that our ears funnel sound, squeezing it into a small space to make it louder?

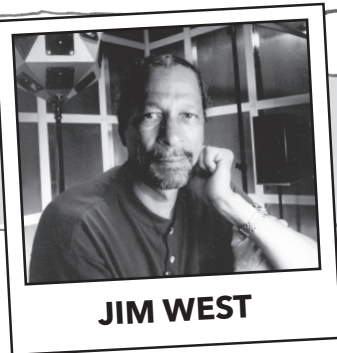
Electret microphones look like this. → 
 Circle all the electret microphones you can see on the page! How many can you find?
 (answer on reverse side)



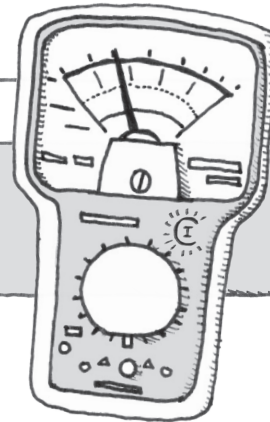
Camp Invention®

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Design a brand new invention that uses an electret microphone!



JIM WEST



Jim West's passion for the science of sound comes through loud and clear!

As Jim is out and about in his daily life, it is not uncommon to see him using an app on his phone to measure the levels of sound in a room. For Jim, the world is a symphony, and he invites us all to tune in and be instruments of innovation.



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