



# DIY Speakers...



## What you need:

TWO PAPER OR PLASTIC CUPS  
PAPER TOWEL ROLL  
SCISSORS  
MARKER  
TAPE (OPTIONAL)

**TURN IT  
UP!!!**

## What to do:

USE THE MARKER TO TRACE THE OUTLINE OF THE END OF THE PAPER TOWEL ROLL ON THE SIDES OF BOTH CUPS.

CUT OUT THESE CIRCLES ON THE CUPS. CUT A SINGLE SLIT DOWN THE CENTER OF THE CARDBOARD TUBE THAT IS NEARLY EQUAL IN LENGTH TO THE BOTTOM OF YOUR PHONE.

SLIDE BOTH ENDS OF THE TUBE INTO THE OPENINGS OF THE CUPS. THEY SHOULD FIT SNUGGLY. IF THEY DON'T, TAPE ANY OPENINGS THAT MAY EXIST. MAKE CERTAIN THAT THE SLIT ON THE TUBE IS FACING UPWARDS WHILE THE CUPS ARE RESTING ON THEIR SIDES.

INSERT THE BOTTOM OF YOUR PHONE INTO THE SINGLE SLIT AND TURN ON SOME MUSIC. IT SHOULD BE AMPLIFIED BY THE CUPS!

## What's going on?

SOUND TRAVELS IN WAVES AND IN ALL DIRECTIONS FROM ITS SOURCE. THINK ABOUT THE WAVES THAT EXIST WITHIN YOUR BATHTUB IF YOU DROPPED YOUR SOAP INTO THE WATER. THE WAVES WOULD SPREAD OUT IN ALL DIRECTIONS, RIGHT? YOUR SPEAKER SYSTEM CHANNELS THESE WAVES IN A SINGLE DIRECTION - THROUGH THE OPENINGS OF THE CUPS. THIS MEANS MORE WAVES ARE MOVING IN THE SAME DIRECTION AND, THEREFORE, SOUND CONSIDERABLY LOUDER - MUCH LIKE A SET OF REAL SPEAKERS!