Sound Across Space

Students build, test, and improve a paper sound device.

P.1.6B.2 "Create a device that uses light and/or sound to communicate over a distance (e.g., signal lamp with a flashlight). Use an engineering design process to define the problem, design, construct, evaluate, and improve the device.*"

NAME _____ DATE _____

Teacher: this page is run aloud. The script and answers are on the guide page.

1 MAKE A PLAN

a | see | hear | touch

b | roll | rip | fold

2 TRY AND CHANGE

TEST1

CHANGE

TEST2

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HOW TO RUN THIS PAGE

Give each student a blank sheet of paper and place a listening partner at the door. Read the prompts aloud as students choose a plan, build a sound device, test it, and record what happens after a change.

Students never read directions on this sheet. Read each part's script aloud, then each prompt, giving think time before students mark.

PART 1 · MAKE A PLAN

SAY "Your partner is at the door, and you are at your desk. Listen to each question and circle one word in each row."

ROW	SAY	STUDENTS CIRCLE
a	The words are see, hear, and touch. What must your partner do with your sound message?	**hear**
b	The words are roll, rip, and fold. How can you shape a sheet of paper into a tube for your voice?	**roll**

PART 2 · TRY AND CHANGE

SAY "Roll a blank sheet of paper into a narrow tube, speak into one end, and say 'go' to your partner at the door. If your partner says 'go' back, write Y in the first box; if not, write N. Make the end pointing at your partner wider and write W in the middle box, then try again from the same spot and write Y or N in the last box."

- Box 1 (beside TEST1): **Y if the partner repeats 'go' correctly; otherwise N.**
- Box 2 (beside CHANGE): **W, recording that the student widened one end of the paper device.**
- Box 3 (beside TEST2): **Y if the partner repeats 'go' correctly after the change; otherwise N.**

WHAT TO ACCEPT

The circle answers are hear and roll. Accept either Y or N for each test when it matches what the partner repeated; observe that the student builds, changes, and retests the paper device.