Bridge Builders Lab

Plan and test two paper bridge designs with paper clips.

K.1.B "use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems;"

NAME _____ DATE _____

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

1 PLAN IT

a	BOOK	CLIP	PAPER
b	CHANGE	SAME	WIDER
c	1	2	3

2 TEST IT

FLAT	
FOLD	
BEST	

ANSWER KEY

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HOW TO RUN THIS PAGE

Students make choices about a simple test plan, then test two paper bridge designs and record what they observe. This activity uses planning, testing, and evidence-based design choices.

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

PART 1 · PLAN IT

SAY "We need to build a paper bridge between two books that can hold paper clips. Listen to each question, then circle your plan."

ROW	SAY	STUDENTS CIRCLE
a	Our bridge will go across two books. Which material will make the bridge? Circle book, clip, or paper.	**PAPER**
b	When we compare a flat paper bridge and a folded paper bridge, should the space between the books stay the same or change? Circle change, same, or wider.	**SAME**
c	To find out how many clips a bridge can hold, how many clips should we add each turn? Circle 1, 2, or 3.	**1**

PART 2 · TEST IT

SAY "Place two books four fingers apart. Test a flat sheet of paper across the books, adding one paper clip at a time in the middle, up to three clips, then write how many clips it held before it fell. Fold a new sheet of paper in half lengthwise, test it the same way, write how many clips it held, then write 1 for the better flat bridge or 2 for the better folded bridge."

- Box 1 (beside FLAT): **number of clips held, 0-3**
- Box 2 (beside FOLD): **number of clips held, 0-3**
- Box 3 (beside BEST): **1 for flat or 2 for folded, based on results**

WHAT TO ACCEPT

Plan circles are PAPER, SAME, and 1. Accept observed numerals from 0 to 3 in the test boxes, recording 3 if a bridge holds all three clips. For BEST, accept 1 or 2 according to the recorded results, and accept either choice if the results tie.