Shade Lab

Build a shade structure and test how it affects warming.

K-PS3-2 "Design and build a structure that will reduce the warming effect of sunlight on an area. (SEP: 6; DCI: PS3.B, ETS1.B; CCC: Cause/Effect) Alignment may include K-2-ETS1-2"

NAME _____ DATE _____

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

1 MAKE A PLAN

a

SHADE	SAME	SUN

b

CLIP	PAPER	PENCIL

2 BUILD AND TEST

SUN	
SHADE	

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HOW TO RUN THIS PAGE

Use this sheet on a sunny day where sunlight reaches a desk or floor. Read the prompts aloud, then observe each child build and test a shade structure. Record any help you give separately.

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 "Think about a spot in sunlight and a spot under a roof. Listen to each question and circle one answer."

ROW	SAY	STUDENTS CIRCLE
a	Which spot is more likely to get warmer, the spot in full sunlight or the spot under a roof that blocks sunlight?	**SUN**
b	Which one could cover a spot as big as your hand to block sunlight?	**PAPER**

PART 2 · BUILD AND TEST

SAY "Use paper and books to plan and build a roof over one sunny spot as big as your hand. Leave a nearby spot uncovered. After ten minutes, feel both spots with your hands, then write W for warmer and C for cooler in the SUN and SHADE boxes, or write S in both if they feel the same. If light gets under your roof, change your roof and test again."

- Box 1 (beside SUN): **W if the uncovered spot feels warmer; S if both spots feel the same.**
- Box 2 (beside SHADE): **C if the shaded spot feels cooler; S if both spots feel the same.**

WHAT TO ACCEPT

The planning answers are SUN and PAPER. Accept marks that match the child's touch test, including S in both boxes if no difference is felt. Observe whether the child builds a roof that blocks sunlight and changes it if light gets through.