

Model Before Making

Read how a model can show and improve a proposed tool.

3.1.e.ii “developing and using models develop a model (e.g., diagram or simple physical prototype) to illustrate a proposed object, tool, or process”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the three model parts in paragraph 2, and circle the sentence in paragraph 3 that tells how Mina changed her model.

Mina's Water Tool Model

- ① After a rainy recess, water stayed in a dip beside the school garden. Mina proposed a small gutter tool that could guide the water into a rain barrel. Before building the tool, she made a model from a cereal box, a paper tube, tape, and a cup. The model helped her show her idea to classmates.
- ② On her model, Mina cut a long channel in the box. She placed the paper tube at one end and the cup at the other end. She added arrows on the channel to show that water would move from the tube through the channel and into the cup. These parts let people see both the tool and its process.
- ③ Next, Mina poured a little water into the tube. Some water spilled where the tube met the channel. She changed her model by taping a folded paper flap over that space. When she tested it again, less water spilled. Mina's model did not make a real gutter, but it showed a proposed tool, showed how it would work, and helped her improve the idea.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What problem was Mina's proposed gutter tool meant to solve?

2 How did the paper tube, channel, and cup help Mina show how her proposed tool would work?

3 Why did Mina add arrows to her model?

4 What did Mina change after her test, and what showed that the change helped?

3 YOUR TURN _____ Your own words

Choose a small classroom problem that a tool could solve. Draw your model in three panels: show labeled parts in panel 1, use arrows to show how it works in panel 2, and show one change after a pretend test in panel 3. Write one sentence telling why you made the change.

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PART 1 • READ AND MARK

Underline the three model parts in paragraph 2, and circle the sentence in paragraph 3 that tells how Mina changed her model. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What problem was Mina's proposed gutter tool meant to solve?	It was meant to guide water from the dip beside the garden into a rain barrel.
2	How did the paper tube, channel, and cup help Mina show how her proposed tool would work?	They showed water moving from the tube, through the channel, and into the cup.
3	Why did Mina add arrows to her model?	The arrows showed the direction the water would move.
4	What did Mina change after her test, and what showed that the change helped?	She taped a folded paper flap over the space where the tube met the channel. Less water spilled when she tested the model again.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: A paper holder has a wide base, a back wall, and two labeled clips. Panel 2: Arrows show a sheet of paper moving into the clips against the back wall. Panel 3: A taped side flap is added after paper slips out. Sentence: I added the side flap because my test showed that a sheet could slide out.

Accept answers that match the passage for Parts 1 and 2. For Your Turn, accept any sensible model of a proposed classroom tool that includes labeled parts, arrows showing a process, and a revision connected to a test.