Before the Storm

Trace choices on a production possibilities curve

E.1.5 "Use a production possibilities curve to explain the concepts of choice, scarcity, opportunity cost, trade offs, efficiency, productivity, and growth."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline why the workshop must choose what to make, circle the two examples of filters given up to make more radios, and number the passage's examples of inefficient production, an unattainable combination, and growth as 1, 2, and 3.

One Workshop, Two Needs

(1) A county workshop has one week to assemble emergency radios and water filters before storm season. Workers, tools, and time are limited, so the county cannot make every item residents might want. The table shows combinations the workshop can produce when it uses its resources fully. Plotted on a graph, these points form its production possibilities curve (PPC).

ONE WEEK OF FULL-CAPACITY PRODUCTION

Radio batches	Filter batches
0	12
2	10
4	6
6	0

(2) Radio batches go on the horizontal axis; filter batches go on the vertical axis. Each table row lies on the PPC. Moving from zero to two radio batches costs two filter batches. Moving from two to four costs four filters. Forgone filters are the opportunity cost of more radios; changing the output mix is a trade-off.

(3) Two radio batches and eight filter batches fall inside the PPC: more filters are possible with the same resources, so production is inefficient. Four radio batches and ten filter batches lie beyond the PPC and are unattainable this week. Better training could raise worker productivity, shifting the PPC outward. That expansion represents growth in the workshop's productive capacity.

2 ANSWER WITH EVIDENCE

Use the passage

1. Compare the opportunity costs of the first two increases of two radio batches. What does the comparison show about choices along this PPC?

2. If the workshop moves from four to six radio batches, how many filter batches does it give up? Why is that an opportunity cost?

3. Which off-curve combination in the passage is inefficient, and which is unattainable this week? Explain each choice.

4. Why might better training shift the PPC outward instead of moving production to another point on the current PPC?

3 YOUR TURN

Your own words

On the grid, label both axes and graph the four table combinations, connecting them to show the current PPC. Add and label one new point that training might make possible but is beyond the current PPC; write one sentence explaining how that point shows growth.



Before the Storm

PART 1 · READ AND MARK

Underline why the workshop must choose what to make, circle the two examples of filters given up to make more radios, and number the passage's examples of inefficient production, an unattainable combination, and growth as 1, 2, and 3. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Compare the opportunity costs of the first two increases of two radio batches. What does the comparison show about choices along this PPC?	**The first increase costs two filter batches; the second costs four. Each additional increase in radio production shown here requires giving up more filters.**
2	If the workshop moves from four to six radio batches, how many filter batches does it give up? Why is that an opportunity cost?	**It gives up six filter batches. Those filters are the output sacrificed to make more radios.**
3	Which off-curve combination in the passage is inefficient, and which is unattainable this week? Explain each choice.	**Two radio batches and eight filter batches are inefficient because the workshop could make more filters with its resources. Four radio batches and ten filter batches are unattainable with its current resources.**
4	Why might better training shift the PPC outward instead of moving production to another point on the current PPC?	**Training can raise productivity, allowing more output from the same resources. That increases productive capacity rather than changing only the current mix.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

The graph labels radio batches on the horizontal axis and filter batches on the vertical axis. It plots and connects (0, 12), (2, 10), (4, 6), and (6, 0), then labels (4, 8) as a new point. Training could raise productivity enough to make four radio batches and eight filter batches, showing growth beyond the current PPC.

Accept any clearly labeled new point beyond the current PPC if the sentence links its possible production to higher productivity and growth. The plotted PPC should pass through all four table combinations.