

In-Class Activity for Teaching the Production Possibilities Frontier in Principles Classrooms

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Main Idea

This easy to prepare activity is an effective way to introduce the Production Possibilities Frontier Model and related concepts such as scarcity, opportunity costs, productive efficiency, comparative advantage, technological change, and gains from specialization and trade.

The Basics of the Activity

Students are put into two groups so that people sitting next to each other are in different groups. Then there are two 30-second rounds of simulated production. The goal is to produce as much output as possible before time expires.

In round one, everyone produces cars by writing the word “car” repeatedly on their own paper. In this round, group one writes with their right hand, and group two writes with their left. In round two, everyone produces bicycles by writing the word “bicycle” repeatedly. In this round, group one writes with their left hand, and group two writes with their right.

Once production is complete, students draw their Production Possibilities Frontiers. Next, one student from each group are paired together to form economies with bowed out PPFs. Finally, technological change can be introduced by repeating round two’s simulated production of bicycles, but this time students write “bike” instead of “bicycle.”

Topics for discussion and some classroom discussion questions are shown below for each stage of the activity.

How do I Prepare for this Activity?

To complete the activity, students only need a writing utensil and something to write on (paper and pen, tablet and stylus, etc.). No other materials are necessary.

You may find it useful to create some slides in advance that include some general instructions and/or discussion questions.

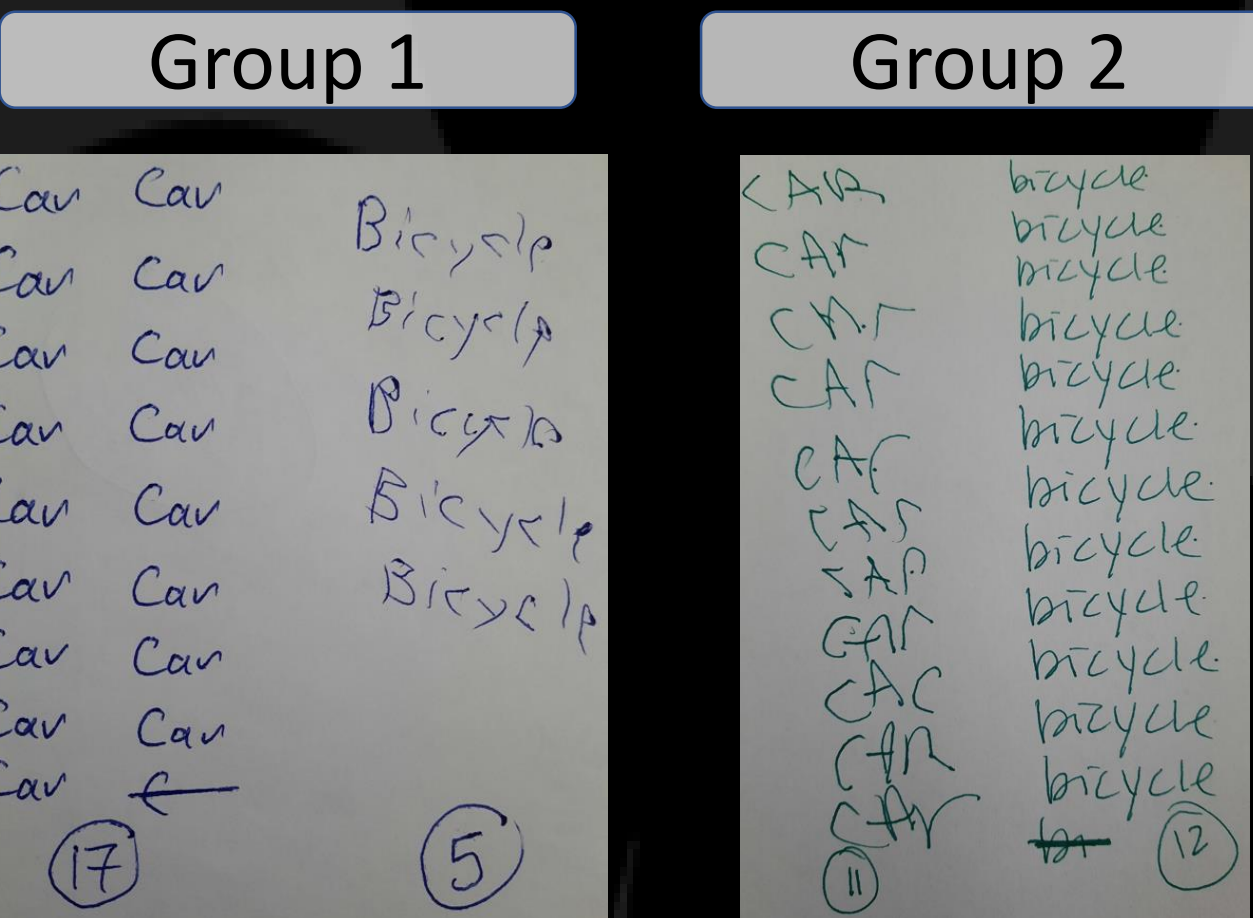
How Long Does this Activity Take?

Plan on 10 - 15 minutes to explain instructions, form groups, complete simulated production, and have students complete their PPF graphs.

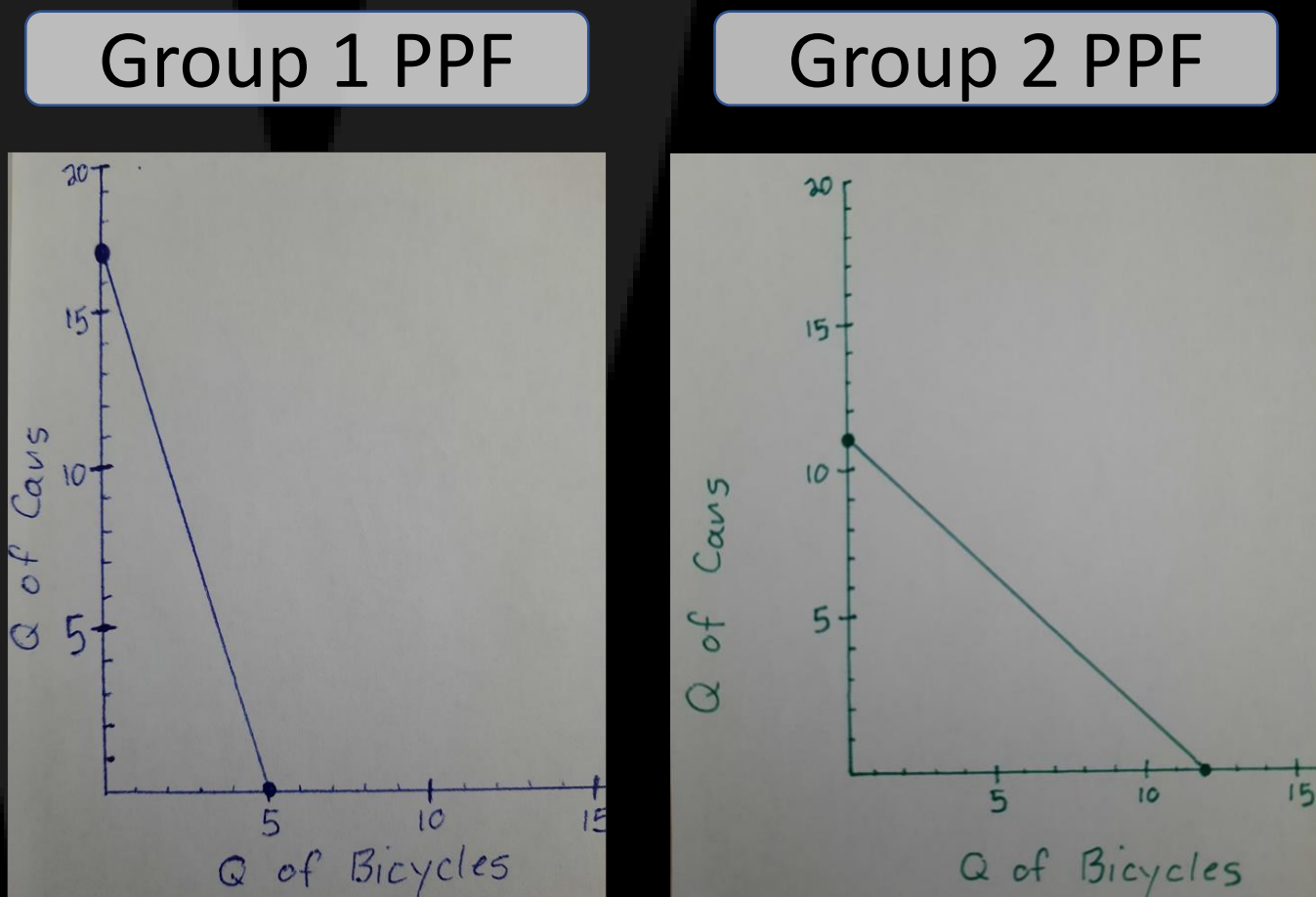
Afterward, the extent to which these data are used to supplement classroom discussion is at the instructor’s discretion. The author routinely uses this activity as the basis of a 90-minute class.

Activity Steps

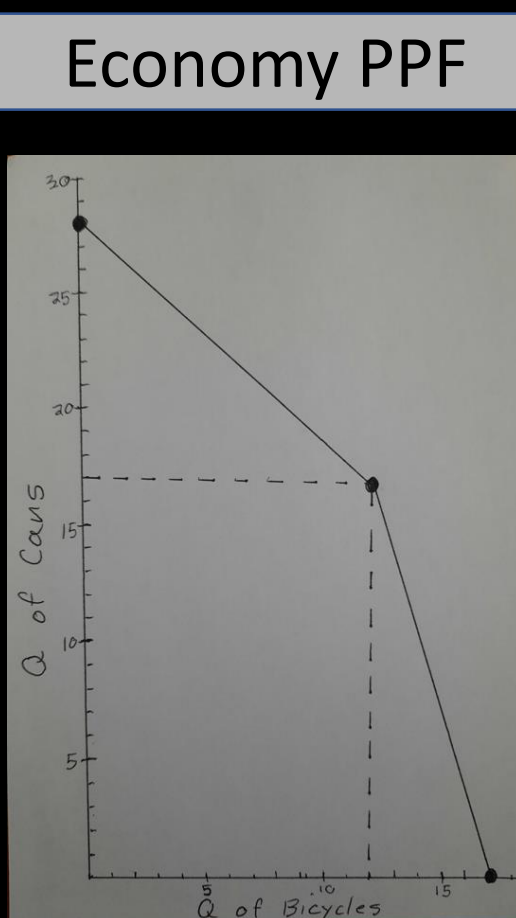
Step 1: Production



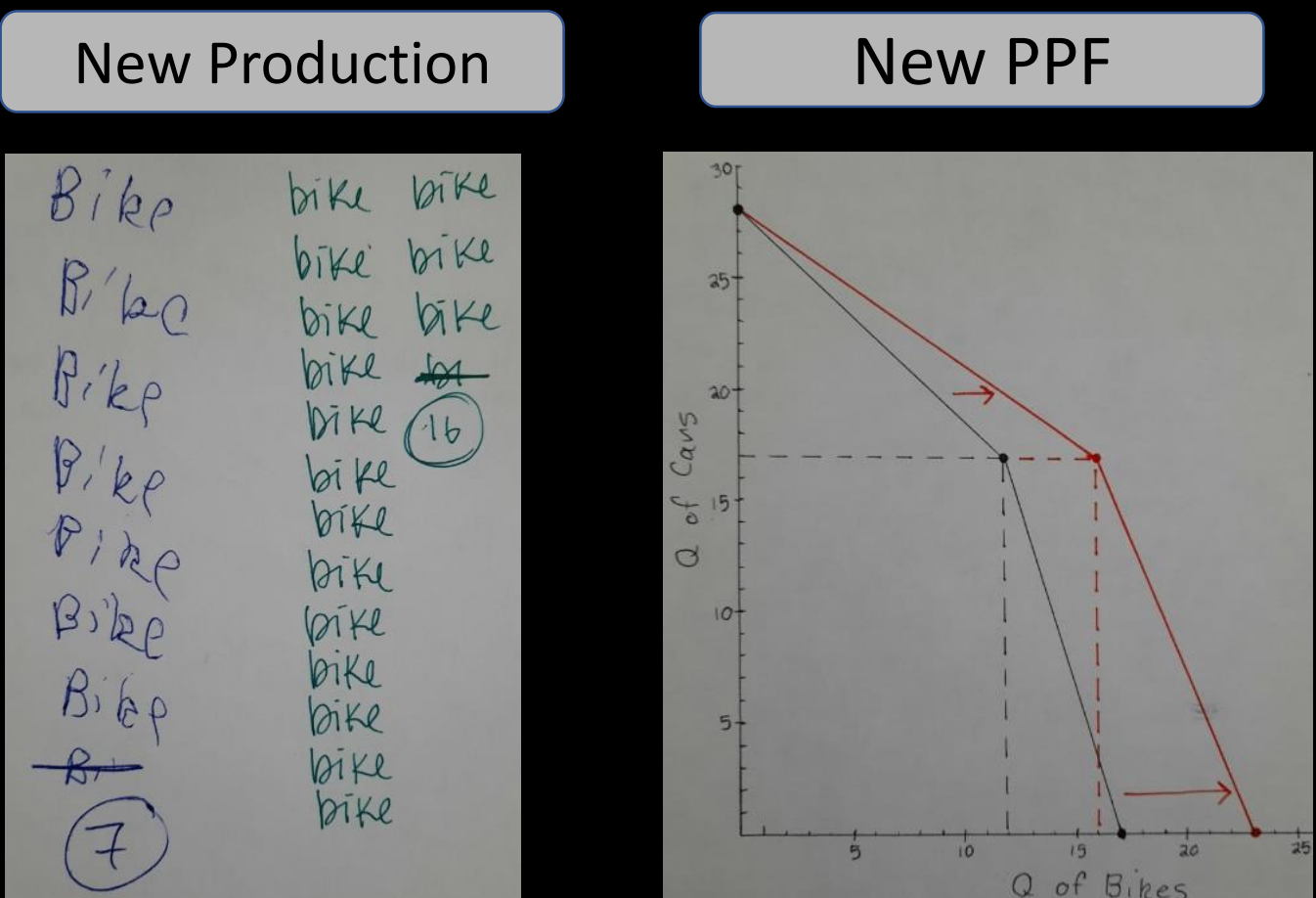
Step 2: Draw PPF



Step 3: Draw Economy's PPF w/Partner



Step 4: Technological Change



Topics for Discussion

- Scarcity
- Allocating Scarce Labor
- Absolute Advantage

- Attainable vs Unattainable
- Productive Efficiency
- Constant Opportunity Costs
- Comparative Advantage

- Increasing Opportunity Costs
- Gains from Specialization and Trade

- Technological Change
- Economic Growth

Class Discussion Questions

- Why couldn't you produce more cars?
- How many cars and bicycles could you have produced if you had allocated 15 seconds of labor to each?

- How can we determine the average opportunity cost of a bicycle or of a car?
- If you and your partner from the other group wanted to produce a bicycle, but were currently only producing cars, who should produce the first bicycle? Why?

- Why is your economy's PPF bowed outward?
- If you and your partner used to spend 15 seconds producing each good, but now you specialize, what are your gains from specialization and trade?

- How has this improvement in bicycle production changed the average opportunity cost of a bicycle?
- How has it changed the average opportunity cost of a car?

Looking for Other PPF Classroom Activities?

[1] Neral, J., & Ray, M. (1995). Teaching tools experiential learning in the undergraduate classroom: two exercises. *Economic Inquiry*, 33(1), 170–174.

[2] Wagner, J. (2018). Paper Fans and Paper Planes: A classroom PPF example. *Starting Point: Teaching and Learning Economics*. Retrieved Apr 30, 2022, from <https://serc.carleton.edu/econ/experiments/examples/198717.html>

[3] Harb, Nasri, (2005). Building a Smooth Production Possibilities Frontier: A Classroom Experiment (. Available at SSRN: <https://ssrn.com/abstract=694181> or <http://dx.doi.org/10.2139/ssrn.694181>

