

# Elasticity – How Much Are You Willing to Pay?

**SUBMITTED BY:** Michael Ryan Moore, University of Pennsylvania, GSE

**SUBJECT(S):** Economics

**GRADE LEVEL(S):** 9, 10, 11, 12

## ≡ OVERVIEW:

In this lesson, we look at the concept of price elasticity by introducing students to complementary and substitute goods. Using the article “McCormick’s Alan D. Wilson on Pricing, Innovation and the ‘Romance of Spice,’” students will generate lists of products with multiple substitutes and products with no substitute. Based on these examples, students will think about how the presence of substitute goods affects supply and demand decisions. Finally, building on student work, the teacher will introduce the terms inelastic and elastic to describe different types of supply and demand curves.

## ≡ NBEA STANDARD(S):

- Economics, I. Allocation of Resources
- Economics, IV. Markets and Prices

**Objectives/Purposes:** The purpose of this lesson is for students to understand the concept of *price elasticity*.

- Students will be able to define *complementary* and *substitute goods*.
- Students will be able to explain how *substitute goods* influence supply and demand.
- Students will graphically describe *elastic* and *inelastic* demand curves.

## Knowledge@Wharton Article: “McCormick’s Alan D. Wilson on Pricing, Innovation and the ‘Romance of Spice’”

### Other Resources/Materials:

For Teachers:

- Internet Access (Outside of the Classroom)
- Printer/Copier
- Butcher Paper
- Markers

### Activity:

The lesson is divided into four parts: (1) Introduction, (2) Guided Reading, (3) Exploration Activity, and finally (4) Closing

#### 1. Introduction (1-5 mins)

If your students have not been following this unit, skip to “Guided Reading,” before proceeding through this lesson plan.

Assuming your students have read through the article “[McCormick’s Alan D. Wilson on Pricing, Innovation and the ‘Romance of Spice,’](#)” ask students if they have heard of the terms “complementary good,” and “substitute good.” Have students give their best guess at definitions for either term.

With the students’ help, provide concrete definitions of both terms. Explain to students that *complementary goods* and *substitute goods* always refer to a relationship between two or more items. Two products are *complementary goods* when they go hand-in-hand, when demand for one creates demand for another — for example, hot dogs and hot dog buns, socks and shoes.

On the other hand, two products are *substitutes* when they are interchangeable, when one product can easily replace the other — for example, McCormick brand spices and store-brand spices, or even more plainly, different brands of apparel (Nike shorts vs. Adidas shorts).

#### 2. Guided Reading (5-10 mins)

**(NOTE: if you have been following the lessons in this unit, please skip this section.)**

Students should read through the article “[McCormick’s Alan D. Wilson on Pricing, Innovation and the ‘Romance of Spice’](#).” Encourage students to look at the article from two perspectives: (1) the supply-side perspective of McCormick, and (2) the demand-side perspective of the grocery shopper.

### 3. Exploration Activity (10-20 mins)

Once students have an idea of *complements* and *substitutes*, break the class into small groups. Give each group a large piece of paper. During this activity, groups will compete in 3 activities. The team with the most points after three rounds “wins” this competition:

Part 1: Ask each group to think of as many *complementary* pairs as possible (e.g. hot dogs and hot dog buns = one pair). Give each group 2-3 minutes. Have the teams share their answers. Each unique pair — a pair *not* listed by any other team — counts as one point. Each unique, *perfect complement* (a product that *can only be used* with its pair) counts for two points.

Part 2: Ask each group to think of as many *substitute* pairs as possible. Again, give groups 2-3 minutes. Each unique pair counts for one point.

Part 3: Finally, ask each group to list as many products as they can with *no substitutes*. Give groups 2-3 minutes to work. Once time is up, each group will read its list out loud. If the other teams can provide a substitute for an item on the list, then the team gets no points for that item. For example, if Team 1 suggests “sports cars,” as a product with no substitute, Teams 2 and 3 can try to prove Team 1 wrong by listing *substitute goods* for sports cars. If the opposing teams can provide substitutes, the team gets no points for that item. If the opposing teams cannot provide substitutes, the team earns one point for that item.

Tally up the points from all three rounds and declare your winner!

### 4. Closing (10-15 mins)

Use students’ examples from the game to introduce the concept of *price elasticity*. For this lesson, we will stick with *elastic* and *inelastic* demand curves.

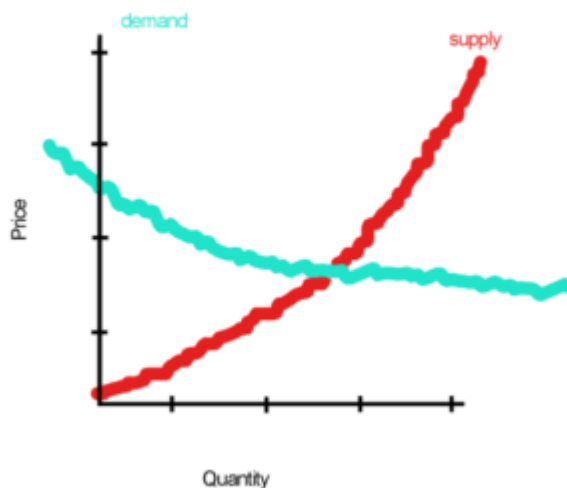
First, ask students to pick a product with lots of substitutes—preferably a product that most of your groups listed during the game. Once again, remind students of the *laws of supply and demand*, while drawing a conventional supply and demand curve for the product on the board (figure 1.)

**Figure 1**



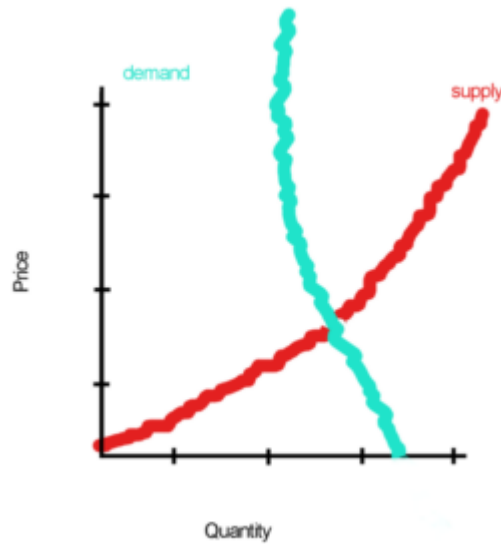
Next, ask students if they think this graph looks right. How much of this product would you really buy if the price increased? Remember, when the price goes up, you can still purchase any number of substitutes. For example, if the price of Coca-cola jumped to \$1.50 a bottle, but the price of Pepsi stayed at \$1.25, how much Coca-cola would you demand? What if the price dropped by \$.25? Redraw the curve to show an *elastic* demand curve. When the price goes up a little, the quantity demanded falls dramatically (figure 2.)

**Figure 2**



Finally, ask students to think of a product with no substitutes. Again, pick an example from the earlier game. Ask students how this supply and demand curve will look. How much will demand change when the price increases? When the price decreases? (Note: “water” is always a good product to use for this example.) Redraw the original graph to show an *inelastic* demand curve. The total quantity demanded does not change, regardless of whether the price goes up or down. (figure 3.)

**Figure 3**



**What Worked and What I Would Do Differently:**

I found that students tried to make the game as competitive as possible. While the game was undoubtedly helpful, I would encourage teachers to firmly establish their role as referee. Students were quick to try and shut down the opposing team’s responses in order to improve their standing in the game.

Also, when talking about elasticity, spend a decent amount of time looking at the slope of the curves. Before even introducing the topics, students can start to see what elasticity and inelasticity look like.

☺