# Build Your Own Price Index

Price a basket of goods across two years, calculate inflation yourself, and see what it does to a dollar.

Name: _____ Date: _____

**OBJECTIVE**

Calculate a price index and an inflation rate from a basket of goods, measure the loss of purchasing power, estimate how fast prices double, and identify who is helped or hurt when inflation runs higher than expected.

## 1. Price the basket

*The Consumer Price Index works like this: pick a "basket" of things a typical household buys, price the same basket every month, and compare. Multiply quantity by price to fill in each cost, then total both years.*

| Item | Qty / month | Price Yr 1 | Cost Yr 1 | Price Yr 2 | Cost Yr 2 |
|---|---|---|---|---|---|
| Gallon of milk | 4 | $3.50 | _____ | $3.85 | _____ |
| Loaf of bread | 4 | $2.50 | _____ | $2.75 | _____ |
| Gallon of gas | 40 | $3.00 | _____ | $3.30 | _____ |
| Movie ticket | 2 | $12.00 | _____ | $12.60 | _____ |
| Phone plan | 1 | $50.00 | _____ | $48.00 | _____ |
| Haircut | 1 | $32.00 | _____ | $33.40 | _____ |
| Basket total | | | _____ | | _____ |

a) Price index for Year 2 = (Year 2 basket ÷ Year 1 basket) × 100 = _____

b) Inflation rate from Year 1 to Year 2 = price index − 100 = _____ %

c) Milk, bread, and gas all rose by the same percent. Which one added the most dollars to the basket total, and why?

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d) The phone plan got cheaper. Does one falling price mean there was no inflation? Explain.

## 2. What a dollar buys now

*Purchasing power is how much a dollar can actually buy. When prices rise, each dollar buys less.*

a) Using your price index, $100 in Year 2 buys what $_____ bought in Year 1. (Hint: $100 ÷ 1.06 if the index is 106.)

b) The Rule of 70: years for prices to double ≈ 70 ÷ the annual inflation rate.

| Annual inflation rate | Years for prices to double (about) |
|---|---|
| 2% (the Federal Reserve's long-run target) | _____ |
| 3% | _____ |
| 7% | _____ |

## 3. Who wins, who loses?

*Inflation turns out much higher than anyone expected. For each person, write helped, hurt, or about even, and give a one-line reason.*

| Situation | Helped / hurt / even, and why |
|---|---|
| A retiree living on a fixed pension that never increases | |
| A homeowner paying a 30-year fixed-rate mortgage | |
| A saver keeping $8,000 in checking that earns 0.1% | |
| A worker whose raises are tied to the CPI each year | |
| A bank that made many fixed-rate loans last year | |

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**TRACK IT**

The Bureau of Labor Statistics posts each new CPI release at bls.gov/cpi. Find the most recent 12-month inflation rate for "all items," then find one category (food, energy, or shelter) that rose faster than the overall number. How does your basket above compare?

**DISCUSS**

If gas prices jump, people drive less or switch to cheaper options, but a fixed basket still counts the same 40 gallons. Does that make a fixed-basket index overstate or understate how much more it actually costs to live? Why might economists care?

**STANDARD NOTE**

SSEMA1 asks students to describe how the Consumer Price Index measures changes in the price level. The core worksheet has students look up the CPI; this one has them construct a small index themselves, then trace what inflation does to purchasing power and to borrowers vs. lenders.