# Failing Food Truck Entry Hook

Teacher Guide - 10 Minutes

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## The Story (3-4 minutes)

**Tell This Story (Use Key Terms in Bold)**

"I know someone who started a food truck selling gourmet grilled cheese. They were so excited! But after three months, they were losing money and had to quit. Want to know what went wrong?"

*[Pause for responses]*

"Here's what happened: They set their **price** at \$15 per sandwich because it was fancy. But at that price, **demand** was low – only 20 people bought per day. Their **revenue** was \$15 $\times$ 20 = \$300 daily.

But here's the problem: Their **fixed costs** were \$200 per day – that's truck rental, permits, insurance. These stay the same no matter what. Their **variable costs** were \$5 per sandwich – that's ingredients, napkins, containers. So total **cost** was \$200 + (20 $\times$ \$5) = \$300.

Their **profit**? Revenue minus cost: \$300 - \$300 = \$0. They hit **break-even** every day but never made money!

They tried dropping the price to \$8. Now 100 people bought! But wait... Revenue: \$8 $\times$ 100 = \$800. Cost: \$200 + (100 $\times$ \$5) = \$700. Profit: only \$100.

The owner wondered: *'What price would maximize my profit?'*

That's exactly what we're going to figure out mathematically!"

## The Driving Question (1 minute)

**Write on Board:**

"How can we use math to find the price that maximizes profit?"

### Write on Board (3-4 minutes)

**Quick Discussion Questions**

Write these on the board and collect student responses:

1. **Why didn't the $15 price work?**
   - Possible answers: "Too expensive" / "Not enough customers" / "Low demand"
2. **Why wasn't $8 much better?**
   - Possible answers: "Too cheap" / "High costs ate the profit" / "More work, little gain"
3. **What happens to demand when price goes up?**
   - Possible answers: "Goes down" / "Fewer people buy" / "Inverse relationship"
4. **What price might work better?**
   - Possible answers: "$10-12" / "Somewhere in the middle" / "Need to test"

### Key Terms to Emphasize (Write on Board)

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- **Revenue** = Price × Quantity
- **Fixed Cost** = Same every day
- **Variable Cost** = Per item cost
- **Total Cost** = Fixed + Variable
- **Profit** = Revenue - Cost
- **Demand** = How many buy
- **Break-Even** = Profit = 0
- **Price** = What we charge

### Transition to Worksheet (1 minute)

**Say:** "This is our mission for the next few days – finding that perfect price mathematically. Let's start by making sure we all understand these business terms. Take out your worksheet..."

**Distribute:** Day 1 Launch Worksheet

**Time:** 5-7 minutes for worksheet completion

### Quick Teacher Notes

- Keep the story conversational and energetic
- Use actual numbers to make it concrete

- Don't explain the quadratic connection yet – that comes Day 2
- If students ask "Why not just try different prices?" say "Great question! We'll see how math can find the answer faster than trial and error"
- The story sets up the need for optimization without using that word yet