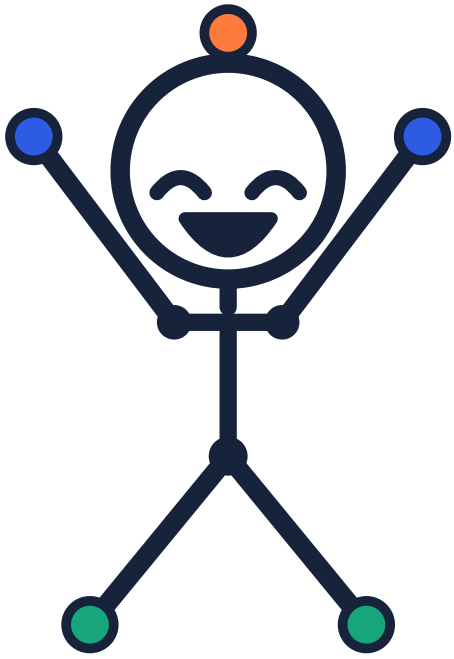
Young Innovators
FOR CHANGE
innovateyouth.org

A FULL-YEAR ENTERPRISE PROGRAM · GRADE 6

The Market Year

36 weekly assignments. A rival with a price, a position you have to choose, and a share you have to earn.



This book belongs to

My partners	Our business
Our category	Who else has it
Teacher	School year

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START HERE HOW THIS BOOK WORKS

You are not the only one selling this.

Two pages a week, front and back. About thirty-five minutes.

The shape of a week

Page 1 teaches one idea and gives you something to do with it. **Page 2** is practice, two questions to talk over, and a harder challenge. No computer needed.

Weeks 1 to 12 are the tools, on other people's markets. Weeks 13 to 24 you pick a position and price against a rival who has your category. Weeks 25 to 36 you sell twice, with a week between where everybody sees everybody's numbers.

The boxes on the page

IN CLASS	The Grade 6 standard your class is most likely on that week. This book sits beside your math lesson, not against it.
MONEY WARM-UP	Two minutes of arithmetic. Ratios and percents this year, because that is how two sellers get compared.
WORDS TO KEEP	One or two words pinned down properly. Adults use these loosely; you will not have to.
MARKET FILE	The one thing you build all year: every decision about a rival, written down before you know whether it worked.
FROM YOUR FILE	Which earlier pages this week needs. Week 33 is impossible without weeks 19, 20 and 23.
TALK ABOUT IT	Two questions to talk over with a classmate, your teacher or someone at home. Five minutes, and the part that makes the week stick.
STUCK? TRY THIS	A way in when the page stops making sense.
CHALLENGE ZONE	Harder, and usually open. For whoever finishes early.

About the two rounds, and the week between them

Weeks 29 and 34 are real selling. In week 33 every team sees every other team's prices and sales from round one, and decides what to do about them: match, go under, hold, or change what they are selling, all at the same time.

Changing one thing on your own is the simple case. This year everybody moves at once, and week 35 is about the honest problem that creates. The two rounds do not need two separate days: two halves of one market with a break between works.

The money is play money, in a closed classroom economy. The class bank lends every team the same startup fund, they buy materials from a class supply table, sell and make their own change, then repay the fund. What is left is profit.

Selling food? Follow the school's food and allergy rules, and see week 28.

WEEK	TITLE	STRAND	WHAT IT SITS BESIDE IN CLASS
TRIMESTER 1 · WEEKS 1–12 · READ THE MARKET			
1	**Two Numbers, One Ratio**	Ratio & Rate	Ratios and ratio language (6.RP.1)
2	**Price Per One**	Ratio & Rate	Unit rates (6.RP.2)
3	**Out of a Hundred**	Ratio & Rate	Percent as a rate per hundred (6.RP.3c)
4	**Markup Is Not Margin**	Money	Percent of a quantity (6.RP.3c)
5	**When the Answer Is Below Zero**	Money	Positive and negative numbers (6.NS.5)
6	**What Else Could They Buy?**	The Market	Ratios and ratio language (6.RP.1)
7	**Same Thing, Different Price**	The Market	Unit pricing and ratio reasoning (6.RP.3b)
8	**The Middle of the Numbers**	Data	Median, mean and outliers (6.SP.5c)
9	**How Spread Out?**	Data	Range and spread (6.SP.5c)
10	**Revenue Is a Formula**	Rules	Evaluating a formula (6.EE.2c)
11	**Change the Price, Change the Line**	Rules	Dependent and independent variables (6.EE.9)
12	**The Market Detective**	Review	Review and reasoning
TRIMESTER 2 · WEEKS 13–24 · TAKE A POSITION			
13	**Your Team and Your Market**	Building	Ratios and ratio language (6.RP.1)
14	**Three Ways to Be Chosen**	Building	Statistical questions (6.SP.1)
15	**Pick Your Position**	Building	Writing expressions (6.EE.6)
16	**Not Everyone Wants the Same Thing**	Building	Statistical questions (6.SP.1)
17	**Build It to Match**	Building	Operations with decimals (6.NS.3)
18	**Ask Their Customers**	Building	Statistical questions (6.SP.1)

WEEK	TITLE	STRAND	WHAT IT SITS BESIDE IN CLASS
19	**Your Cost, With a Rival in View**	Money	Operations with decimals (6.NS.3)
20	**Pricing Against Somebody Else**	Money	Ratio and percent reasoning (6.RP.3)
21	**What a Discount Really Costs**	Money	Percent of a quantity (6.RP.3c)
22	**Bundles**	Money	Operations with decimals (6.NS.3)
23	**The Share You Are Going For**	Ratio & Rate	Ratio and percent reasoning (6.RP.3)
24	**The Strategy Page**	Review	Review and reasoning
TRIMESTER 3 · WEEKS 25–36 · SELL IN A CROWD			
25	**Say What Makes You Different**	Selling	Writing expressions (6.EE.6)
26	**A Sign That Answers the Question**	Selling	Rate reasoning, constant speed (6.RP.3b)
27	**The Price List People Compare**	Selling	Unit pricing (6.RP.3b)
28	**Setting Up Near a Rival**	Running It	Operations with decimals (6.NS.3)
29	**Round One**	Running It	Operations with decimals (6.NS.3)
30	**Who Sold What**	Data	Reporting the number of observations (6.SP.5a)
31	**Your Share of the Market**	Ratio & Rate	Percent as a rate per hundred (6.RP.3c)
32	**Profit, and It Might Be Negative**	Money	Positive and negative numbers (6.NS.5)
33	**They Changed Their Price**	The Market	Percent of a quantity (6.RP.3c)
34	**Round Two**	Running It	Percent of a quantity (6.RP.3c)
35	**Did the Move Work?**	Review	Percent as a rate per hundred (6.RP.3c)
36	**Your Market Story**	Review	Review and reasoning

Two Numbers, One Ratio

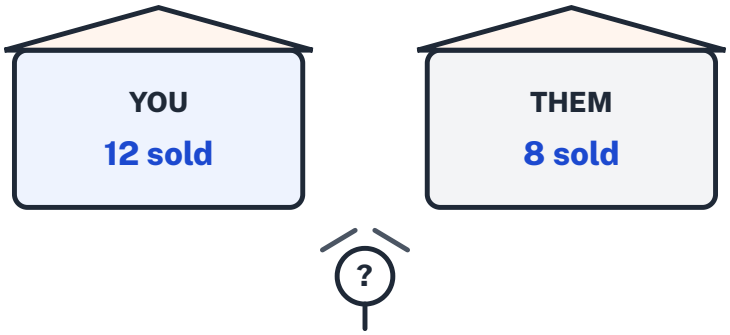
A total tells you how you did. A ratio tells you how you did against somebody.

IN CLASS THIS WEEK
Ratios and ratio language (6.RP.1)

MONEY WARM-UP · 2 MINUTES
You sold 12. The team next to you sold 8. Write that as a ratio, simplest form. _____

WORDS TO KEEP

ratio	Two numbers compared. Three of ours sold for every two of theirs.
for every	The words that turn two counts into a ratio.



Twelve is a number. Twelve to eight is a comparison.

Both stands had a good day. Only one of them can say it sold **three for every two** the other one did.

12 to 8 simplifies to 3 to 2, the same way a fraction does, because it is the same arithmetic. The ratio survives a bigger market: if you sell 60 and they sell 40 next time, it is still 3 to 2, and you have learned that the busier day helped both of you equally.

Where a ratio beats a total

A total says how you did. A ratio says how you did **against** somebody, and that is the only version that survives a quiet day. On a rainy Tuesday when everybody sells half as much, your total collapses and your ratio does not move.

That is the number to write in your file every week. It tells you whether something you did worked, separately from whether the market was busy.

Write each one as a ratio, simplest form

	What happened	Ratio	Simplest
a	You 12, them 8	12 to 8	
b	You 15, them 25		
c	You 9, them 9		
d	You 30, them 12		
e	You 7, them 21		

One of these says the two stands did exactly as well as each other. Which one, and how does the ratio show it?

▶ ADD TO YOUR MARKET FILE

Your teacher will give you a folder for your Market File. Its first line: the ratio of your sales to the busiest other team, every week you sell.

💬 TALK ABOUT IT

A ratio of 3 to 2 does not tell you whether either stand made money. What would you need to know as well?

Find two numbers in this room that are in a ratio of 2 to 1.



STUCK? TRY THIS

Simplify a ratio the same way you simplify a fraction: divide both numbers by whatever goes into both of them.

★ CHALLENGE ZONE

Your ratio against them was 3 to 2 on Monday and 3 to 2 on Friday, but on Friday you sold twice as many. What changed, and what did not?

Price Per One

Their pack is bigger than yours. Until you divide, you cannot say who is cheaper.

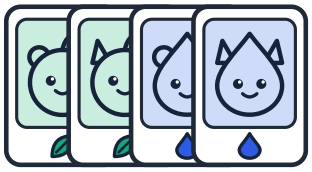
IN CLASS THIS WEEK
Unit rates (6.RP.2)

MONEY WARM-UP · 2 MINUTES
A pack of 6 critter cards for $2.70. What is that per card? _____

WORDS TO KEEP

unit rate	The price of exactly one, so different pack sizes can be compared.
per	For each one. The word that does the dividing.

YOU



4 for $2.00

THEM



6 for $2.70

The only fair comparison is one

Two packs of critter cards. 4 for $2.00 is **50 cents a card**. 6 for $2.70 is **45 cents a card**. The bigger number on the tag is the cheaper deal.

This is a common trick in retail, and it is legal: different pack sizes make comparison work, and plenty of people will not do the work. You are going to do it every time, on their prices and on yours.

Why sellers pick odd pack sizes

4, 6, 10, 12. A seller who wants comparison to be hard avoids packs of 5 and 10 side by side, because then the comparison is trivial and the cheaper one wins.

You will be choosing your own pack size later this year. Choosing one that makes comparison hard is legal, and it works exactly once on people who come back next week.

Work out the unit price, then say who is cheaper

	You	Them	You, each	Them, each	Cheaper
a	4 for $2.00	6 for $2.70	$0.50		
b	5 for $4.00	3 for $2.55			
c	10 for $6.00	8 for $4.40			
d	3 for $1.80	12 for $7.20			

In one row the two are the same price each. Which one?

💬 TALK ABOUT IT

A customer at a stand has about four seconds. Whose job is it to make the comparison easy, yours or theirs?

Find two package sizes of the same thing on a grocery flyer, or use the table above, and work out both unit prices.



STUCK? TRY THIS

Divide the price by how many are in the pack. Keep both decimal places, even when the second one is a zero.

★ CHALLENGE ZONE

Your rival sells 6 cards for $2.70. You want to be cheaper per card but you can only sell in packs of 4. What is the most you can charge?

Out of a Hundred

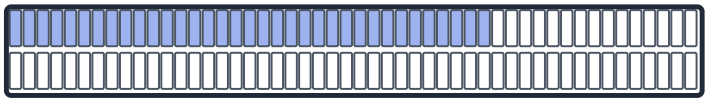
Sixty cents of margin sounds fine. Sixty cents on a four dollar price is a different story.

IN CLASS THIS WEEK
Percent as a rate per hundred (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
A pack of critter cards: price $4.00, cost $2.60. What is the margin in dollars? _____

WORDS TO KEEP

percent Out of a hundred. A share written so any two shares can be compared.



35 percent, shaded

100 boxes. One box is one percent.

A percent is a share you can compare

Margin of $1.40 on a $4.00 price is **35 percent**. $1.40 ÷ $4.00 = 0.35, and 0.35 is 35 out of every 100.

Dollars cannot be compared across products. A $1.40 margin is excellent on a $4 item and terrible on a $40 one. The percent is the number that lets you put two different products side by side, which is the whole reason this year starts here.

Percent lets you compare two different products

A stand selling $1 items and a stand selling $10 items cannot compare their margins in dollars. In percent they can, because percent has divided out the size of the thing.

Every number in this book that compares two different sellers ends up as a percent or a ratio for the same reason.

Margin in dollars, then as a percent

	Price	Cost	Margin $	Margin %
a	$4.00	$2.60	$1.40	35%
b	$2.00	$1.50		
c	$5.00	$2.00		
d	$1.20	$0.90		
e	$8.00	$5.00		

Two rows have the same margin percent as each other. Which two, and what does that tell you?

▶ ADD TO YOUR MARKET FILE

Add a page headed Margin Percent, with the formula and one worked example you chose yourself.

💬 TALK ABOUT IT

Which would you rather have: 50 percent margin on a $1 item, or 20 percent on a $10 one? Say what else you would need to know.

A store says it makes 30 percent. Thirty percent of what?



STUCK? TRY THIS

Margin percent is margin divided by price. Divide, then move the decimal point two places right.

★ CHALLENGE ZONE

You need a 40 percent margin and your cost is $3.00. What price? It is not $4.20, and working out why is the point.

WEEK 4 MONEY

Markup Is Not Margin

The same dollar, measured against two different things, and plenty of adults mix them up.

IN CLASS THIS WEEK
Percent of a quantity (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
Cost $2.00, price $3.00. How many dollars did you add? _____

WORDS TO KEEP

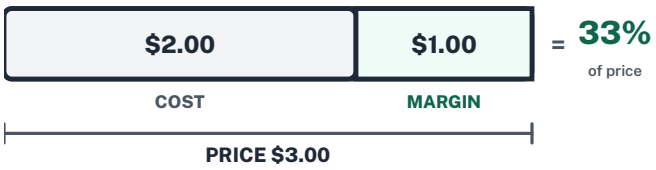
markup	What you add to your cost. Measured against the cost.
margin	What you keep from the price. Measured against the price.

One dollar, two percentages

A pack of critter cards costs $2.00 to make and sells for $3.00. You added $1.00.

Markup measures that dollar against the **cost**: $1.00 ÷ $2.00 = **50 percent markup**.
Margin measures the same dollar against the **price**: $1.00 ÷ $3.00 = **33 percent margin**.

Same dollar. Same sale. Two numbers, and a seller who wants to sound generous will quote the bigger one. Neither is a lie. Knowing which one somebody means is the difference between agreeing to a deal and understanding it.



Which one is somebody quoting you?

A seller who wants a number to sound big can pick the bigger one, and whenever there is a profit, markup is the bigger one.

The question to ask is four words long: **percent of what?** If the answer is *of the cost*, it is markup. If it is *of the price*, it is margin.

Fill both columns for each one

	Cost	Price	Added	Markup %	Margin %
a	$2.00	$3.00	$1.00	50%	33%
b	$4.00	$5.00			
c	$1.50	$3.00			
d	$6.00	$7.50			

In row c the markup is 100 percent. What is the margin? It is not 100 percent, and it never can be. Say why.

TALK ABOUT IT

Margin can never reach 100 percent. Markup can go past it. What does that tell you about which one each number is measured against?

Somebody offers you a product at 60 percent off. Off what?



STUCK? TRY THIS

Write the dollar you added first. Then ask yourself: divided by the cost, or divided by the price?

★ CHALLENGE ZONE

A supplier says they work on 25 percent. If they buy at $8.00, what do they charge? Give both answers, and say which one you would ask them to confirm.

WEEK 5 MONEY

When the Answer Is Below Zero

Profit can be below zero. This week you write it with its sign.

IN CLASS THIS WEEK
Positive and negative numbers (6.NS.5)

MONEY WARM-UP · 2 MINUTES
You took $14 and spent $20. What is the profit? Write it with its sign. _____

WORDS TO KEEP

loss	Profit below zero. A negative number, and a real result.
negative	Less than zero. On a number line it is left of zero.



Minus six dollars is an answer

$14 in, $20 out. The profit is **−$6.00**. Not zero, not nothing, not a blank. Six dollars in the wrong direction.

A loss is a number with a sign on it, and it behaves like one. Two losses add. A loss and a bigger profit make a smaller profit. A business that cannot write down a negative result cannot add up a year.

Plenty of real businesses lose money at the start. A loss you wrote down, and know the size of, is one you can do something about.

What a loss actually tells you

A loss of $6 is not a verdict. It is a distance. If your margin is $1.50, then $6 is four more sales, and that is a sentence you can do something about.

Teams that will not write the negative number down cannot work out the four. That is the only real cost of pretending.

Work out each one, with its sign

	Took in	Paid out	Profit
a	$14.00	$20.00	−$6.00
b	$32.00	$25.50	
c	$18.00	$18.00	
d	$9.25	$16.00	
e	$40.00	$47.80	

Add all five profits together. Was the whole set of five days up or down, and by how much?

▶ ADD TO YOUR MARKET FILE

Start a page headed Results, with a row per selling day and a signed number in the last column. Leave room for 20 rows.

💬 TALK ABOUT IT

Is a loss a failure? Say what a first loss tells you that a first profit would not.

Which is worse, one loss of $20 or four losses of $5? Say why they might not be the same.



STUCK? TRY THIS

Take in, minus paid out. If paid out is bigger, the answer is below zero and the minus sign is part of it.

★ CHALLENGE ZONE

Four days: −$6, +$11, −$2, +$4. What is the total? On which day did you first get back above zero for the whole week?

What Else Could They Buy?

Your competition is not only the stand next to you. It is everything else they could do with the money.

IN CLASS THIS WEEK
Ratios and ratio language (6.RP.1)

MONEY WARM-UP · 2 MINUTES
20 people walked past your stand and 8 of them bought. Write buyers to non-buyers as a ratio, simplest form. _____

WORDS TO KEEP

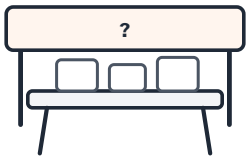
substitute What they would buy instead of yours, including nothing at all.

The option everybody forgets

Four stands means five choices. The fifth is **keep the money**, and it never runs out of stock.

A **substitute** is anything a customer would buy instead. Some are obvious: their bracelet against your bracelet. Some are not: a snack against a bracelet, because both cost three dollars and both are a treat. And walking away is always on the list.

Asking who else is selling gives you a list of stands. This is a list of everything competing for the same three dollars, which is longer and more useful.



The substitute you cannot see

Every customer at your market arrived with a fixed amount of money and no obligation to spend it. Keeping it is free, takes no effort, and is always available.

You cannot beat it on price. You beat it by being worth a decision, which is what the rest of this year is about.

List the substitutes

You are selling friendship bracelets at $3.00 at a school market.

Substitute	How close is it?	Why they might pick it
Another team's bracelets	very close	cheaper, or a color you do not have

One of your five must be **buying nothing**. Write what would make a customer choose that.

TALK ABOUT IT

Which is more dangerous to you: a stand selling exactly what you sell, or a customer who decides to keep their money? Say why.

What could you do about the ones who keep their money? Is it the same thing you would do about a rival?



STUCK? TRY THIS

Start with money, not with products. Ask what else these three dollars could become, then work back to who is selling it.

★ CHALLENGE ZONE

Name a substitute for your idea that is not for sale at all, and say how you would compete with it.

WEEK 7 THE MARKET

Same Thing, Different Price

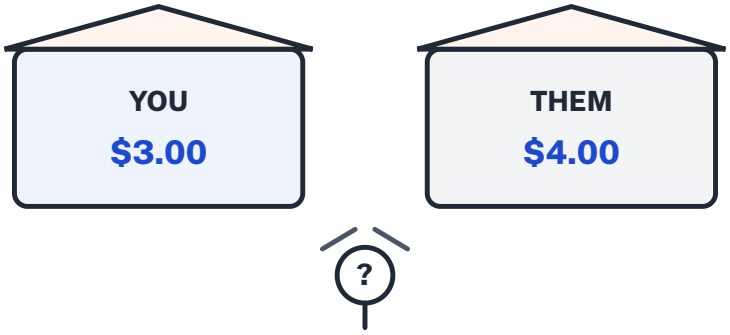
Two stands, nearly the same product, and a dollar between them. Somebody has a reason.

IN CLASS THIS WEEK
Unit pricing and ratio reasoning (6.RP.3b)

MONEY WARM-UP · 2 MINUTES
Their price is $4.00. Yours is $3.00. What fraction of their price is yours? _____

WORDS TO KEEP

price difference The gap between two prices for nearly the same thing.



A price is an argument

Two stands sell packs of critter cards that look nearly the same, a dollar apart. The cheaper one is not automatically winning. It is making a different argument.

Charging less says: mine is the sensible choice. Charging more says: mine is worth the difference, and here is why. Both work. What does not work is charging more with no reason, because a customer with two prices in front of them will ask for one and you will not have it.

Your job this week is to find a real reason for every price gap you can see, and to notice when you cannot find one.

A price gap with no reason behind it

If you are more expensive and cannot say why in one sentence, the customer will supply their own reason, and it will not be a flattering one.

Finding out in week 7, on somebody else's stand, is free. Finding out in week 29 on your own costs you the session.

Give each gap a reason

	Yours	Theirs	Gap	A reason for the gap
a	$3.00	$4.00	$1.00	theirs has a rare card in every pack
b	$2.00	$2.50		
c	$5.00	$4.00		
d	$1.50	$3.00		

In one row you are the expensive one. Write the reason a customer should pay it. If you cannot, that is worth knowing now.

TALK ABOUT IT

Can two sellers of the same thing both be right about their price?

What would make you raise your price rather than lower it?



STUCK? TRY THIS

Write the gap in dollars first, then ask what a customer would have to believe to pay it.

★ CHALLENGE ZONE

Their price is double yours and they are outselling you. Name three things that could explain it.

WEEK 8 DATA

The Middle of the Numbers

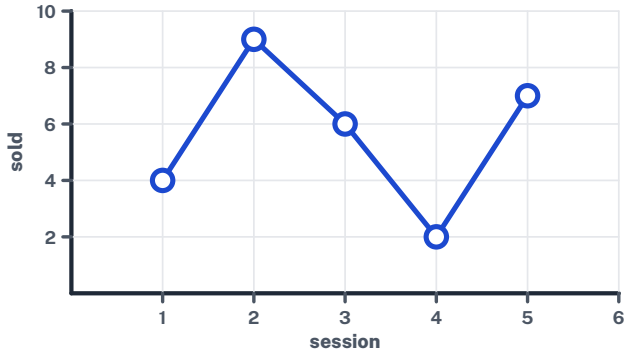
One enormous day can make a bad week look fine. The average will not tell you.

IN CLASS THIS WEEK
Median, mean and outliers (6.SP.5c)

MONEY WARM-UP · 2 MINUTES
Line these up and find the middle: 4, 9, 6, 2, 7. _____

WORDS TO KEEP

median	The middle number when you line them all up.
outlier	The one wild number. It pulls the mean a long way and the median hardly at all.



Two middles, and they disagree on purpose

Sales: 4, 9, 6, 2, 7. The **mean** is 5.6. The **median**, the middle when they are lined up, is **6**.

Now change the 9 to a 40, because one class came through at once. The mean jumps to 11.8 and the median does not move at all. The mean is describing a day you will never have again. The median is describing the days you actually get.

Neither is wrong. Use the mean when you want the total shared out, and the median when you want to know what a normal day looks like.

Mean and median for each set

	Sales	Mean	Median
a	4, 9, 6, 2, 7	5.6	6
b	3, 3, 4, 5, 20		
c	8, 8, 8, 8, 8		
d	1, 2, 2, 3, 40		

In two of these the mean is much bigger than the median. What do those two sets have in common?

TALK ABOUT IT

A team says its average day is 12 sales. What would you ask before you believed them?

Which number would you put on a poster, and which would you use to decide how much to make?



STUCK? TRY THIS

Median: write them in order, smallest to biggest, then take the one in the middle. With five numbers it is the third one.

★ CHALLENGE ZONE

Five days, and the mean is 10. Four of the days were 2, 3, 4 and 5. What was the fifth? Is the median a better description of this week?

WEEK 9 DATA

How Spread Out?

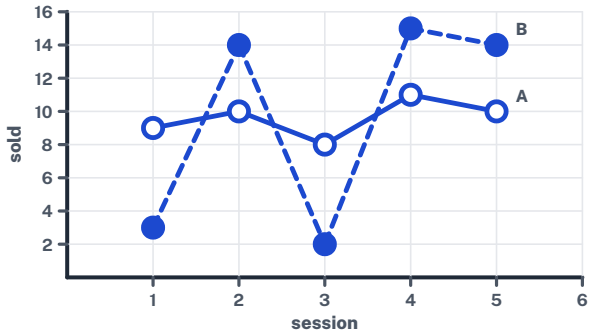
Two markets with the same total. One is steady, one is chaos, and you would stock them differently.

IN CLASS THIS WEEK
Range and spread (6.SP.5c)

MONEY WARM-UP · 2 MINUTES
Biggest 14, smallest 3. What is the range? _____

WORDS TO KEEP

range Biggest minus smallest. What a total cannot tell you.



The same total, two different weeks

Week A: 9, 10, 8, 11, 10. Week B: 3, 14, 2, 15, 14. Both total **48**.

Week A has a range of 3. Week B has a range of 13. If you are deciding how many to bring, week A tells you to bring about ten and week B tells you that you will either sell out or go home with most of it.

A total hides this completely. So does an average. The spread is the number that tells you how much to trust the other two.

Spread is a stocking decision

A steady market lets you bring close to what you expect to sell. A wild one means bringing the average is the one choice guaranteed to be wrong: you will either sell out early or carry most of it home.

Neither is free. Selling out looks like success and is a customer you turned away.

Total, range, and what you would stock

Week	Sales	Total	Range	Bring how many?
A	9, 10, 8, 11, 10	48	3	
B	3, 14, 2, 15, 14			
C	6, 7, 6, 6, 7			
D	0, 0, 16, 16, 0			

Week D has exactly the same total as week C, and you would run it completely differently. Say how.

▶ ADD TO YOUR MARKET FILE

Add a page headed Spread. Note your own range as soon as you have two sessions to compare, in week 34.

💬 TALK ABOUT IT

Would you rather have a steady week or a wild one with the same total? Say what the answer depends on.

What could make a market spread out like week D?



STUCK? TRY THIS

Range is the biggest minus the smallest. Nothing else.

★ CHALLENGE ZONE

Two teams both averaged 8 sales a session. One has a range of 2 and one has a range of 15. Which one would you rather be, and what would you ask them?

WEEK 10 RULES

Revenue Is a Formula

You have been adding sales up one at a time. This week it gets a letter and stops being addition.

IN CLASS THIS WEEK
Evaluating a formula (6.EE.2c)

MONEY WARM-UP · 2 MINUTES
Price $3, and 14 sold. What is the revenue? _____

WORDS TO KEEP

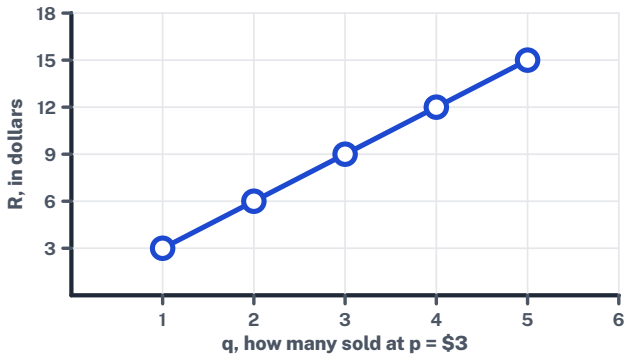
revenue	Price times how many sold. Not profit, and not yours to keep.
variable	A letter standing for a number that can change.

R = p × q

Revenue is price times quantity. Write it once, with letters, and you never have to write it again: **R = p × q**.

p is the price you charge. q is how many you sell. R is what goes in the cash box, and it is not yours to keep, because cost has not come out yet. Up to now revenue was something you added up. This year it is a rule you can put numbers into.

A formula is worth having the moment you want to ask a *what if* question, and every strategy question is a what if. At p = $3, every extra one sold adds $3 to R, which is why the graph below is a straight line.



Put the numbers in

	p	q	R = p x q
a	$3.00	14	$42.00
b	$2.50	20	
c	$4.00	9	
d	$1.75	40	
e	$5.00	0	

Row e has a price and no sales. Write what R is, and then write what your **profit** would be if your fixed costs were $12.

▶ ADD TO YOUR MARKET FILE

Add a page headed Formulas. R = p x q goes on it this week. Add each new formula to it as you meet one.

💬 TALK ABOUT IT

Revenue went up and profit went down. Give one way that can happen.

Which of p and q do you control? Which one do you only influence?



STUCK? TRY THIS

Substitute means swap the letter for the number. Write the formula out with the numbers in it before you work it out.

★ CHALLENGE ZONE

Write a formula for profit using p, q, the cost of making one (c) and your fixed costs (f). Check it on row a with c = $1.20 and f = $12.

WEEK 11 RULES

Change the Price, Change the Line

Price is the one number you choose. Everything else is the market answering back.

IN CLASS THIS WEEK
Dependent and independent variables (6.EE.9)

MONEY WARM-UP · 2 MINUTES
At $1 you sell 24. At $5 you sell 6. Which way is the line going? _____

WORDS TO KEEP

independent	The one you choose. Here it is the price.
dependent	The one that answers back. Here it is how many sell.



You choose the across. They choose the up.

Price is the **independent** variable: you pick it. How many sell is the **dependent** one: it answers.

A price ladder is usually a table. This is the same information with axes under it, and the axes show you something the table cannot: the shape. Almost always it slopes down. Charge more, sell fewer. What matters is how steeply.

A steep line means a small price rise costs you a lot of sales. A shallow one means you have room to move. Which one you are on decides whether undercutting a rival is clever or expensive.

Read the line, then use it

Price	How many sell	Revenue
$1.00	24	
$2.00	18	
$3.00	13	
$4.00	9	
$5.00	6	

Fill in the revenue at every price. The best revenue is **not** at the highest price and it is **not** at the lowest. Circle the row where it peaks.

💬 TALK ABOUT IT

Revenue is highest in the middle. Say in your own words why both ends lose.

Would the best price for revenue also be the best price for profit? What else would you have to know?



STUCK? TRY THIS

Work out revenue row by row: price times how many sell. Then look down the column for the biggest one.

★ CHALLENGE ZONE

Your cost to make one is $1.50. Add a profit column to the table and find the price that makes the most profit. Is it the same row as the most revenue?

WEEK 12 REVIEW

The Market Detective

Eleven weeks of tools, one market, and nobody telling you which tool to use.

IN CLASS THIS WEEK
Review and reasoning

MONEY WARM-UP · 2 MINUTES
Two stands, 18 and 12 sold. Ratio in simplest form? _____

The Saturday market, four stands

All four sell packs of critter cards they drew themselves. Here is everything you can see.

Stand	Price	Pack	Packs sold	Cost per card
Ana	$2.00	1 card	18	$0.80
Ben	$3.60	2 cards	12	$0.80
Cass	$1.50	1 card	24	$1.60
Dev	$5.00	3 cards	9	$0.90

Which tool for which question

Six questions, six weeks. If a question compares two sellers, it wants a ratio or a percent. If it compares two pack sizes, it wants a unit price. If it asks whether a number is normal, it wants a median or a range.

Write the week number beside each of your answers. A right answer with no method behind it will not survive week 24, when the numbers are yours.

Answer with the right tool. Say which one you used.

1. Cheapest per card? Show the unit prices.
2. Ana's margin, in dollars and as a percent.
3. Who took the most money? It is not who sold the most packs.
4. Cass's profit, with its sign. Is it above or below zero?
5. Ana to Cass, as a ratio of cards sold, simplest form.
6. The four revenues: what is the range?

▶ ADD TO YOUR MARKET FILE

File your six answers. Week 24 asks you to do this again on your own market, and this page is the model.

💬 TALK ABOUT IT

One stand is losing money and does not obviously look like it. Which, and what would you tell them?

Which single number here would you most want that the table does not show?



STUCK? TRY THIS

Every question here is one of the eleven weeks. If you are stuck, work out which week it came from and go back to that page.

★ CHALLENGE ZONE

Dev wants to sell more cards without dropping the price per card. Using only what is in the table, write one thing to try and the number that would tell you whether it worked.

WEEK 13 BUILDING

Your Team and Your Market

Roles, a profit split, and one fact that shapes the rest of the year: you are not the only one selling this.

IN CLASS THIS WEEK
Ratios and ratio language (6.RP.1)

MONEY WARM-UP · 2 MINUTES
Three partners split $60 in the ratio 2:2:1. What does each get? _____

WORDS TO KEEP

category The kind of thing you are selling. Somebody else has it too.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Nothing from earlier weeks. This week starts your team's own pages.

Your category is assigned, and it is shared

Your teacher gives every team a category. At least one other team has yours.

That is deliberate and it is the whole point of this year. If you could pick anything, you would never need to think about anyone else. Here a customer standing in front of your stand has somewhere else to go, and every decision you make from here has to survive that.

One category on the list is **InnovaCritter cards**: a set of cards the team draws itself, starting from these ten or from critters of its own. It is shared like every other category.



Write down who else has your category. You will be comparing yourself to them in weeks 18, 20, 31 and 33.

	Name	Job	Share of profit
1			
2			
3			

Split the profit before you have any

Deciding this now costs nothing. Deciding it after market day, with money on the table, costs a friendship.

Profit	Ratio 2:2:1	Ratio 1:1:1	Ratio 3:2:1
$60	$24 / $24 / $12		
$45			
$30			

Circle the ratio your team chose and have all three sign it.

▶ ADD TO YOUR MARKET FILE

File the signed split and the name of every team sharing your category. This is the first of your team's own pages in the Market File.

💬 TALK ABOUT IT

An equal split is not always the fair one. Name a case where it is not, and a case where anything else would cause trouble.

Who else has your category? What do you already know about them?



STUCK? TRY THIS

To split in the ratio 2:2:1, add the parts first: 2 + 2 + 1 = 5. Divide the money by 5, then give each partner their number of parts.

★ CHALLENGE ZONE

Your team splits 2:2:1 and the third partner does most of the selling on the day. Should the split change? Write the rule you would have agreed in advance to handle it.

WEEK 14 BUILDING

Three Ways to Be Chosen

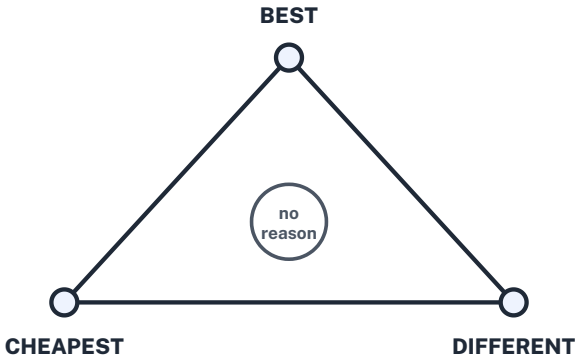
Cheapest, best, or different. Picking none of them is an easy mistake to make.

IN CLASS THIS WEEK
Statistical questions (6.SP.1)

MONEY WARM-UP · 2 MINUTES
Name a store you would call the cheapest. Name one you would call the best. _____

WORDS TO KEEP

position The one reason a customer picks you. Choosing it rules the others out.



Three corners, and a middle nobody wants

Cheapest. They pick you because it costs less. You need low costs and you will not make much on each one.

Best. They pick you because it is nicer. You can charge more, and it had better actually be nicer.

Different. They pick you because nobody else has it. Hardest to copy, and the hardest to invent.

In the middle of the triangle is a stand that is a bit cheap, a bit nice, and a bit unusual. Nobody's first choice. That is where a team can end up by accident, because every corner means giving something up and giving something up feels like losing.

Put real sellers at the corners

Seller	Corner	What they gave up to be there
A supermarket store brand	cheapest	nobody thinks it is special

Now find one that is in the middle, and say what happens to it when a real cheapest and a real best turn up.

Ask five people which corner one of your sellers is in. You expect different answers, so it is a **statistical question**, and how much the answers vary tells you how clear the seller's position is.

▶ ADD TO YOUR MARKET FILE

File the three corners table. Week 16 needs it.

💬 TALK ABOUT IT

Can a stand be cheapest and best at the same time? For how long?

Which corner does the other team with your category look like they are heading for?



STUCK? TRY THIS

For each seller, finish this sentence: people choose them because ___. If the answer has an *and* in it, they may be in the middle.

★ CHALLENGE ZONE

Pick a corner you would NOT choose for your team, and write the strongest case for it anyway. Then say why you still would not.

Critter cards? A rare card takes longer to draw well. Is it your corner (best, or different), or only a cost? Say which, and what it does to your price.

WEEK 15 BUILDING

Pick Your Position

Choose one corner, write it down, and say out loud what you are giving up.

IN CLASS THIS WEEK
Writing expressions (6.EE.6)

MONEY WARM-UP · 2 MINUTES
If your cost is c and you want to be cheapest, what has to be true about c? _____

Written down, or it is not a decision

A position you did not write down is a preference, and a preference changes every time somebody says something.

Our position is	Because	Which means we will NOT

Every team signs it. It is allowed to change later, but only in writing, and week 33 is where that happens.

What choosing costs you

A position is only a position if something is excluded by it. Cheapest means you have given up charging more for being nicer. Best means you have given up the customer who only cares about price. Different means you have given up the customer who wanted the normal one.

If your statement excludes nothing, you are in the middle of the triangle and you have not chosen yet.

What your corner commits you to

If you chose	Your price will be	Your cost must be	Your risk is
Cheapest	below theirs	lower than theirs	you make little on each
Best			
Different			

Write the one sentence you would say to a customer who asks why they should buy yours. It has to work in about four seconds.

_____

▶ ADD TO YOUR MARKET FILE

File the signed position statement and the four-second sentence.

💬 TALK ABOUT IT

What is the hardest thing about the corner you chose?

If the other team picks the same corner as you, what happens? Do you both have to move?



STUCK? TRY THIS

Say the corner first, then the sentence. If the sentence needs the corner explained, it is not the sentence yet.

★ CHALLENGE ZONE

Write the sentence the OTHER team would say. If it is the same as yours, one of you is going to have to change something.

WEEK 16 BUILDING

Not Everyone Wants the Same Thing

The crowd is not one customer. It is three or four, standing next to each other.

IN CLASS THIS WEEK
Statistical questions (6.SP.1)

MONEY WARM-UP · 2 MINUTES
How many people are in your class? How many want exactly the same lunch? _____

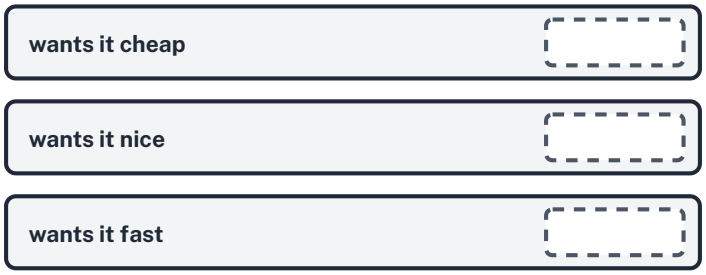
WORDS TO KEEP

segment One group inside the crowd, split by what they want.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 14, the three corners
- Week 15, the position you chose

The same crowd, three different wants



A question that splits the crowd

“Do you like bracelets?” does not split anybody. “Would you rather have one that costs less or one that lasts longer?” splits them into two groups you can actually sell to.

That is what a **statistical question** is: one you expect different answers to. A question everybody answers the same way tells you nothing, which is why a survey like that is useless.

Your position from last week aims at one segment. It is fine, and normal, for the other segments to be somebody else's customers.

Split your crowd

Write a question that would split your class into groups, then ask ten people and count.

Group	How many of 10	Would they buy yours?

Which group is your position aimed at? How many out of ten is that?

▶ ADD TO YOUR MARKET FILE

File the split, with the segment you are aiming at and how many of ten it is. Weeks 17 and 23 need both.

💬 TALK ABOUT IT

Is it better to be the first choice of a few people or the second choice of everybody?

Which group do you think the other team is aiming at?



STUCK? TRY THIS

Test your question by predicting the answer. If you can predict everybody's, it is the wrong question.

★ CHALLENGE ZONE

Your position aims at 3 out of 10 people. There are 120 people at the market. How many customers is that, and what does it say about how many to make?

WEEK 17 BUILDING

Build It to Match

A rough version, made fast, that someone outside your team could look at and name your corner.

IN CLASS THIS WEEK
Operations with decimals (6.NS.3)

MONEY WARM-UP · 2 MINUTES
Materials for one: $0.65 plus $0.40 plus $0.15. Total? _____

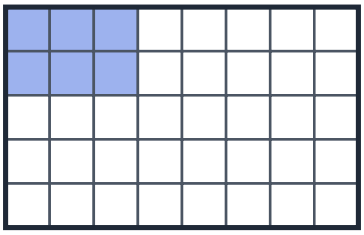
◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 15, your position
- Week 16, the segment you are aiming at

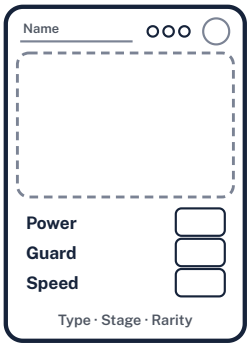
The test is whether it shows

Make one, rough, this week. Then hand it to somebody who has not heard your explanation and ask them one question: **what is this trying to be?**

If you chose cheapest and they say it looks expensive, the prototype does not match the position. If you chose best and they say it looks quick, same problem. This is cheaper to find out now than in week 29.



One sheet of material. The shaded part makes one.



Critter cards? Your rough one is one card, drawn on one of these.

Rough on purpose

The point of a rough one is to find out what is hard to make before you have promised anybody anything. A team that makes a beautiful first one can discover in week 28 that it takes forty minutes each.

Time yourself making it. That number decides how many you can bring, and it is an easy number to guess wrong.

Cost it while it is rough

Material	Cost for one	Where it came from

Add a line for waste: some pieces come out wrong at first, so allow ten percent extra. Try it on the warm-up first: $1.20 plus ten percent is what? Then add ten percent to your own total and write the new number.

Making food? Wash hands first, follow your school's food and allergy rules, and write down every ingredient now. Your sign will need the list.

▶ ADD TO YOUR MARKET FILE

File the material list with the waste line included. Week 19 needs this number.

💬 TALK ABOUT IT

What did the person outside your team say it was trying to be? Was it your corner?

What was harder to make than you expected?



STUCK? TRY THIS

Add the materials first, then take ten percent of that total and add it on for waste.

★ CHALLENGE ZONE

Make a second one, faster. Time both. If the second took half as long, what does that do to how many you can make in an hour?

WEEK 18 BUILDING

Ask Their Customers

The most useful people in the room are the ones who would pick somebody else.

IN CLASS THIS WEEK
Statistical questions (6.SP.1)

MONEY WARM-UP · 2 MINUTES
Out of 10 people asked, 4 said price. What fraction is that, as a percent? _____

WORDS TO KEEP

their customer Somebody who would pick the other team. Worth asking.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 15, your position
- Week 13, who else has your category

Ask the ones who did not choose you

A team that only asks its friends learns that its friends are kind.

Show your rough version and the other team's rough version to ten people outside both teams. Ask them one thing: **which would you pick, and why?** Then stop talking and write down what they say, in their words, not yours.

You are looking for a **signal**, which is something two or more people said. One person saying it is an opinion. Three people saying it is your week 20 pricing decision.

Why their customers and not yours

Your friends will tell you it is great. That is not information, it is kindness, and you cannot price against it.

Somebody who picks the other team's version has made the comparison you are guessing at. Whatever they say is the most useful sentence available to you this week, especially if it is unwelcome.

Ten answers, counted

What they said	How many said it	Percent
It costs less	4	40%

The percentages must add to 100. If they do not, somebody was counted twice or not at all.

▶ ADD TO YOUR MARKET FILE

File the counted answers, with the exact words people used for at least two of them.

💬 TALK ABOUT IT

What did you hear that you did not want to hear?

Is one person saying something enough to change your plan? Is three?



STUCK? TRY THIS

Percent from ten answers is easy: multiply by ten. Four out of ten is 40 percent.

★ CHALLENGE ZONE

Ask five more people, so you have fifteen. Do the percentages change? Which of your signals survived? (With fifteen, rounding can leave the total one off 100.)

WEEK 19 MONEY

Your Cost, With a Rival in View

Work out what yours costs. Then read their price backwards and guess what theirs does.

IN CLASS THIS WEEK
Operations with decimals (6.NS.3)

MONEY WARM-UP · 2 MINUTES
Materials $1.10, waste 10 percent. What does one really cost? _____

WORDS TO KEEP

implied cost What a rival's price suggests theirs might be. A guess with reasons.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 17, your material list with the waste line



Their price is evidence

They charge $4.00. Suppose they work on a 50 percent margin. Then their cost is around **$2.00**.

That is a guess, and you check it against their materials. A guess with a reason behind it is worth having. It tells you how much room they have. A rival whose cost is $2.00 can drop to $2.50 and survive. A rival whose cost is $3.60 cannot, and if you know that, undercutting them is a much better idea.

You cannot see their costs. You can see their price, and their materials, and roughly how long it took. That is enough for a number you can defend.

Yours exactly, theirs estimated

	Yours	Theirs
Materials for one		cannot see
Plus waste		cannot see
Cost of one		
Price		
Margin in dollars		
Margin percent		

For their cost, write your estimate **and** the reason. A number with no reason is not an estimate, it is a wish.

▶ ADD TO YOUR MARKET FILE

File both columns. Week 20 and week 33 both need the estimate of their cost, and week 33 needs you to have written it down early.

💬 TALK ABOUT IT

What could make their cost much lower than yours without them being cleverer?

If your cost is higher than theirs, which corner from week 14 is closed to you?



STUCK? TRY THIS

Waste first: take ten percent of your materials total and add it on. Then margin is price minus that.

★ CHALLENGE ZONE

Their price is $4.00 and you estimate their cost at $2.00. They drop to $3.00. What is their margin now, in dollars and as a percent? How long could they keep that up?

WEEK 20 MONEY

Pricing Against Somebody Else

Match, go under, or charge more. Three choices, and each one is arithmetic before it is an opinion.

IN CLASS THIS WEEK
Ratio and percent reasoning (6.RP.3)

MONEY WARM-UP · 2 MINUTES
Their price is $4.00. Ten percent under that is what? _____

WORDS TO KEEP

undercut Setting your price below theirs on purpose, and paying for it.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 19, both cost columns
- Week 15, your position

Choice	Your price	The question it raises
Theirs	$4.00	this is the number to beat or not
Match	$4.00	why would they pick you?
Under by 10%	$3.60	how many more must you sell?
Over by 25%	$5.00	what do you say to justify it?

Every choice has a number attached

Match at $4.00. Nobody chooses on price, so they choose on your corner. Only works if you actually have one.

Undercut at $3.60. Your margin drops. If your cost is $2.00, margin goes from $2.00 to $1.60, so you need **25 percent more sales** just to stand still.

Charge $5.00. Margin goes to $3.00, so you can sell a third fewer and be no worse off. But every customer will ask why, and the answer has to be visible from four feet away.

Work all three out

Price $4.00, cost $2.00, as on the front page. Then work the same three out with your own cost in your Market File.

Choice	Price	Margin $	Sales needed for $30 profit
Match			
Under by 10%			
Over by 25%			

Circle the row your team is choosing and write one sentence saying why. That sentence is what you say on market day.

▶ ADD TO YOUR MARKET FILE

File the circled row and your sentence. Weeks 21, 27 and 33 need the price you chose.

💬 TALK ABOUT IT

Undercutting is the easiest decision and often the worst. Say why.

What stops the other team simply matching whatever you do?



STUCK? TRY THIS

Sales needed is your target profit divided by your margin on one. Round up: you cannot sell most of an item.

★ CHALLENGE ZONE

You and the other team both start at $4.00, and both have a cost of $2.00. You take turns setting your price ten percent under the other team's, rounding to the nearest cent, two moves each, you first. Work out both margins after four moves. Who wins?

WEEK 21 MONEY

What a Discount Really Costs

Ten percent off the price is not ten percent off you. It is much more, and here is the arithmetic.

IN CLASS THIS WEEK
Percent of a quantity (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
Ten percent off $4.00 is what price? _____

WORDS TO KEEP

discount Money off. It comes out of your margin, never out of your cost.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 19, your cost for one
- Week 20, the price you chose

The share of your margin a 10 percent discount takes



100 boxes. One box is one percent.

The discount comes out of the margin, never out of the cost

Price $4.00, cost $2.00, margin $2.00. Take 10 percent off the price and the price is $3.60. Your cost has not moved. Your margin is now **$1.60**.

You gave away 40 cents. That is 10 percent of the price and **20 percent of your margin**.

To make the same money you now need 25 percent more sales. A sign saying 10 percent off has to bring in a quarter more customers before it has paid for itself, and some of them were going to buy anyway.

How much more must you sell?

Price $4.00, cost $2.00, as on the front page.

Discount	New price	New margin	Extra sales needed
10%	$3.60	$1.60	25% more
20%			
25%			
50%			

One of these discounts leaves you with no margin at all. Which, and what does that mean for the extra sales column?

▶ ADD TO YOUR MARKET FILE

File the discount table with your own cost in it. Week 33 is where somebody actually does this to you.

💬 TALK ABOUT IT

Why does every store advertise the percent off the price rather than the percent off their margin?

When is a discount worth it anyway? Name a real case.



STUCK? TRY THIS

New margin is the new price minus your cost. Divide the old margin by the new one, write it as a percent, and take away 100: $2.00 divided by $1.60 is 125 percent, so 25 percent more.

★ CHALLENGE ZONE

Your rival advertises 20 percent off. You keep your price and put up a sign saying something else. Write the sign, and say what number would tell you in week 35 whether it worked.

WEEK 22 MONEY

Bundles

Two for a price is a discount wearing a disguise. Work out what is under it.

IN CLASS THIS WEEK
Operations with decimals (6.NS.3)

MONEY WARM-UP · 2 MINUTES
One pack of critter cards is $1.50. Two packs for $2.50. What is each pack in the bundle? _____

WORDS TO KEEP

bundle Two or more together for one price. Cheaper per item, on purpose.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 19, your cost for one

One	Two together
$1.50	**2 for $2.50**

Per item, which is cheaper, and by how much?

Cheaper each, more each time

$1.50 a pack, or two packs for $2.50, which is **$1.25 a pack**. You gave up 25 cents a pack and got a customer who bought twice.

Whether that is good depends on one thing: your margin. If each pack costs you $0.50, then singly you make $1.00 and in a bundle you make $0.75 each, which is $1.50 on the pair. That is better than one sale and worse than two full-price ones.

Bundles work when they turn one sale into two. They give money away when the customer was going to buy two anyway.

Work out the bundle

	One	Bundle	Each in bundle	Margin on the deal
a	$1.50	2 for $2.50	$1.25	$1.50
b	$2.00	3 for $5.00		
c	$0.80	4 for $2.40		
d	$3.00	2 for $5.00		

Use a cost of $0.50 for a, $0.90 for b, $0.30 for c and $2.10 for d. One bundle makes less than a single sale does. Which one?

TALK ABOUT IT

A bundle brought in a customer who would have bought one anyway. What did it cost you?

Would a bundle suit your corner from week 14? Say why or why not.



STUCK? TRY THIS

Each in the bundle is the bundle price divided by how many. Margin on the deal is bundle price minus (cost times how many).

★ CHALLENGE ZONE

Design a bundle that makes MORE money than selling the items separately. It is possible, and it needs something in the bundle that costs you almost nothing.

WEEK 23 RATIO & RATE

The Share You Are Going For

How many buyers exist, and how many of them are you actually aiming at?

IN CLASS THIS WEEK
Ratio and percent reasoning (6.RP.3)

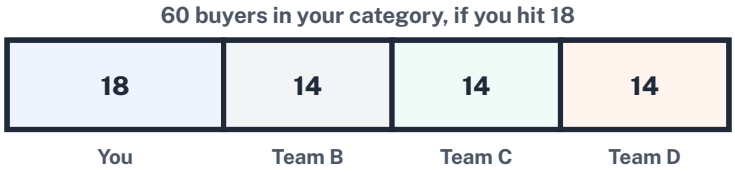
MONEY WARM-UP · 2 MINUTES
120 people, and you want a quarter of them. How many is that? _____

WORDS TO KEEP

market size	How many buyers there are in total, counted or estimated.
market share	Your slice of that total, as a ratio or a percent.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 16, the share of ten your position aims at
- Week 13, how many teams have your category



Two numbers, and it is easy to guess only one

Market size is how many buyers there are. Count the class, the grade, whoever is coming to the market.

Market share is your slice of that, as a ratio or a percent.

120 people at the market. Maybe half want something in your category at all, so 60 real buyers. Your category has four teams in it. An even share would be 15. Your position aims at 3 in 10 people, so about 18.

Now you have a number to make against, instead of making as many as you can and hoping.

Size, then share, then how many to make

	Working	Number
People at the market		
Who might buy in your category		
Teams in your category		
An even share would be		
Share you are aiming at		
So make this many		

An even share is a ruler, not a target. Aiming above it means you think your corner beats theirs. Say so in one sentence, or lower the number.

▶ ADD TO YOUR MARKET FILE

File the six rows. Week 31 compares your real share against this, and it only means something if the target was written down first.

💬 TALK ABOUT IT

Is it better to aim high and run out, or aim low and go home with stock? What does the answer depend on?

What would make your real share come out below the even share?



STUCK? TRY THIS

An even share is the buyers divided by the number of teams in your category. Work that out before you decide what you are aiming at.

★ CHALLENGE ZONE

You aim at 18 and sell 11. Was the target wrong, or the plan? Write the one question you would ask to tell the difference.

WEEK 24 REVIEW

The Strategy Page

Everything decided so far, on one page, signed, before anybody sells anything.

IN CLASS THIS WEEK
Review and reasoning

MONEY WARM-UP · 2 MINUTES
Your price, your cost, your margin percent. Write all three. _____

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Every page so far. This week is the summary

One page someone outside your team could read

	Ours
What we sell	
Our category, and who else has it	
Our position (week 15)	
Our four-second sentence	
Our cost for one	
Our price, and why	
Our margin, dollars and percent	
Their price, and our estimate of their cost	
How many we are making	
The share we are aiming at	

Every row comes from a week you already did. If a row is empty, go back and find it rather than inventing it now.

Three risks, and what you would do

What could go wrong	How likely	What we would do
They undercut us	likely	hold, and point at our corner

One of your three risks must be something the other team does. Week 33 is when you find out whether the plan you wrote survives it.

▶ ADD TO YOUR MARKET FILE

This page is the center of the Market File. Week 35 compares it against what actually happened.

💬 TALK ABOUT IT

Which row on this page are you least sure about?

If a teacher read only this page, would they know why a customer picks you?



STUCK? TRY THIS

Work backwards from the Market File. Every row has a week number next to it in your file if you have been filing.

★ CHALLENGE ZONE

Write the other team's strategy page, as you think they would write it. Then say what you would do about it.

WEEK 25 SELLING

Say What Makes You Different

A first pitch explains what it is. This year they already know what it is. They want to know why yours.

IN CLASS THIS WEEK
Writing expressions (6.EE.6)

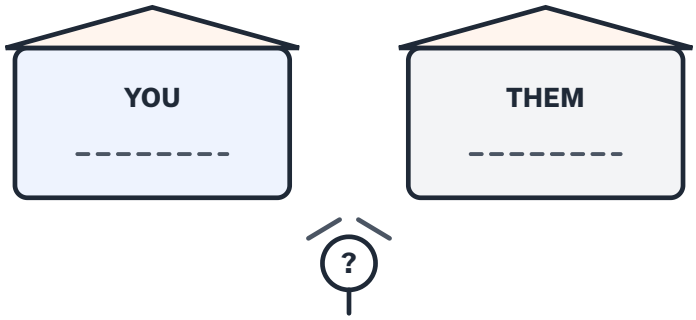
MONEY WARM-UP · 2 MINUTES
In four seconds, why yours and not theirs? Write it. _____

WORDS TO KEEP

difference The thing you can say about yours that they cannot say about theirs.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 15, your four-second sentence



The customer has already seen theirs

Your pitch is not an introduction any more. It is an answer to a question the customer is already asking.

A simple pitch says what it is and what it costs. This year's pitch says what it is, what it costs, and **the one thing about it that the stand over there cannot say**. That third part is your position from week 15, out loud.

It has to be true. A customer can walk eight feet and check.

Build it in three lines

Line	Yours
What it is, in five words	
What it costs	
The thing only you can say	

Now say all three out loud and time it. Over eight seconds is too long. Cut the first line before you cut the third.

Say you speak about 2 words a second. Write an expression for the seconds a pitch of w words takes. Is a 20-word pitch under eight seconds?

▶ ADD TO YOUR MARKET FILE

File the three lines and the time it took to say them.

💬 TALK ABOUT IT

Why is the third line the one to protect when you have to cut?

What would happen if you said something the other team could also say?



STUCK? TRY THIS

Write the third line first. It is the only one that is actually about you rather than about the product.

★ CHALLENGE ZONE

Write a pitch that would work even if the other team copied your third line tomorrow.

WEEK 26 SELLING

A Sign That Answers the Question

A price on a sign stops one question. The right sign stops the one that matters.

IN CLASS THIS WEEK
Rate reasoning, constant speed (6.RP.3b)

MONEY WARM-UP · 2 MINUTES
A customer walks past at 4 feet per second. Your sign can be read from 8 feet away. How many seconds does it get? _____

◂ YOU WILL NEED, FROM YOUR MARKET FILE
- Week 25, the three lines of your pitch

Two signs, two jobs

Every stand needs a price sign. Only a stand with a rival needs a **reason** sign.

The price sign answers what does it cost. The reason sign answers why this one, and it is the one that does the work when a customer is standing between two stands. Six words at most, readable from four feet, and true.

Do not write a sign about them. Write a sign about you. A sign that mentions the other team turns a decision into an argument, and customers leave arguments.



What a reason sign is not

It is not a slogan, and it is not about them. *Better than the other stand* is a claim a customer cannot check and will not believe.

Six words, about your thing, true, and readable from four feet. *Made this morning* beats *the best quality* every time, because one of them is a fact.

Draft both

Price sign. Numbers only, as large as the paper allows.

Reason sign. Six words or fewer. It must be something the other team could not honestly write.

💬 TALK ABOUT IT

Go four feet back and read your own signs. What did you have to lean in for?

Could the other team write your reason sign? If yes, write another.



STUCK? TRY THIS

Write ten reason signs fast and badly, then pick one. The first one is often not the shortest.

★ CHALLENGE ZONE

Design a price sign that makes an honest comparison easy for the customer, even where you are the more expensive one.

WEEK 27 SELLING

The Price List People Compare

Two price lists, side by side, and a customer doing arithmetic in their head.

IN CLASS THIS WEEK
Unit pricing (6.RP.3b)

MONEY WARM-UP · 2 MINUTES
Yours: 3 for $4.00. Theirs: $1.50 each. Who is cheaper? _____

WORDS TO KEEP

comparison What a customer does with two prices in front of them.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 20, your price
- Week 19, their price

Item	You	Them	Cheaper?
Pack of 3	3 for $4.00	$1.50 each	_____
Single	1 for $1.50	$1.50 each	_____

Make the comparison easy and honest

3 for $4.00 is $1.33 each. Their $1.50 each costs more. But a customer with four seconds sees $4.00 next to $1.50 and walks.

The fix is not to hide anything. It is to do the division for them, on the sign: **3 for $4.00, that is $1.33 each**. You have made the true comparison the easy one, which is the only kind of sign worth putting up.

The dishonest version is a pack size chosen so nobody can compare. It works once, on strangers, and at a school market the same customers come back.

Write your list so it can be checked

What you sell	Price	Which is, each	Theirs, each

If your each-price is higher than theirs on every row, do not delete the column. Your reason sign from last week is what covers it.

▶ ADD TO YOUR MARKET FILE

File the finished price list, with the each column filled in.

💬 TALK ABOUT IT

Is it ever fair to make a comparison hard? What does it cost you later?

Which is more persuasive: being cheaper, or being obviously easy to check?



STUCK? TRY THIS

Work out your own each-price for every row before you decide how to display anything.

★ CHALLENGE ZONE

Your each-price is 15 cents above theirs. Write the row of the price list so that a customer can see both facts and still choose you.

WEEK 28 RUNNING IT

Setting Up Near a Rival

Stock, starting change, and a new decision: where do you set up?

IN CLASS THIS WEEK
Operations with decimals (6.NS.3)

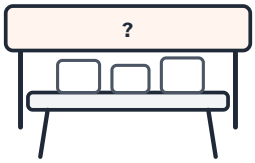
MONEY WARM-UP · 2 MINUTES
You bring 20 at a cost of $1.35 each. What is your stock worth? _____

WORDS TO KEEP

stock What you brought to sell, counted before you open.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 23, how many you decided to make
- Week 19, your cost for one



Next to them, or across the room?

Standing next to your rival makes the comparison easy. That is good if you win it and bad if you do not.

Next to them: every customer sees both, and your reason sign does the work. Choose this if your corner is real and visible.

Away from them: customers meet you first and may not compare at all. Choose this if you are the more expensive one and your reason takes longer than four seconds to explain.

Either is a real choice. Not choosing means you end up wherever you were standing when the teacher said go.

Count it before you open

	Number	Cost each	Value
Stock brought			
Starting change (from the class bank)			
Fixed costs already paid			

Write where you are standing and the one-sentence reason. Week 35 asks whether it was the right call.

Selling food? Follow your school's food and allergy rules. List every ingredient on your sign, and check with your teacher before anything is sold to eat.

▶ ADD TO YOUR MARKET FILE

File your opening count and your position on the floor, both written before the market opens.

💬 TALK ABOUT IT

What is the risk of standing next to the team with your category?

Would you make the same choice if you were the cheaper one?



STUCK? TRY THIS

Stock value is number times cost each, not number times price. Nothing is worth its price until somebody pays it.

★ CHALLENGE ZONE

You have $12 of starting change in coins. Your first customer buys one item at $3.50 with a $10 bill. Three more customers then do the same. How many of the four can you give change to? Work it through.

WEEK 29 RUNNING IT

Round One

Sell. Count as you go. The numbers you write today are the ones week 33 runs on.

IN CLASS THIS WEEK
Operations with decimals (6.NS.3)

MONEY WARM-UP · 2 MINUTES
Opening stock 20, closing stock 7. How many sold? _____

WORDS TO KEEP

round one The first selling session. There are two this year, on purpose.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 28, your opening count

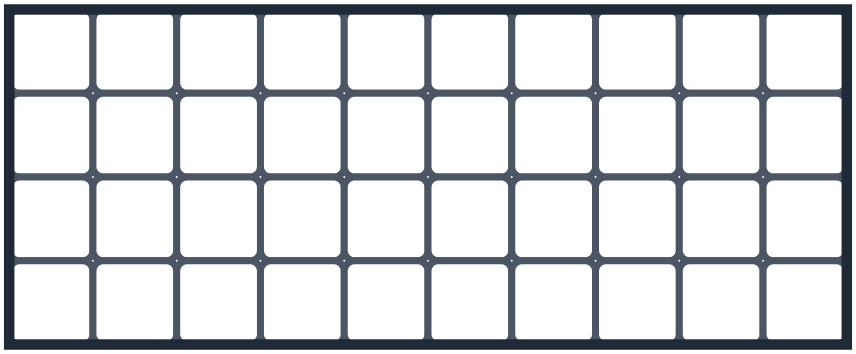
Count during, not after

Opening stock minus closing stock is how many you sold. It is the one number that cannot be argued with afterward.

Two other things are worth writing down while they are happening and impossible to reconstruct later: **how many people walked past without stopping**, and **what the other team's price was**. Their price can change during the session.

Your stock, one box each

Cross one off as each item goes. What is left is your closing stock.



The three numbers people forget

Recording what you sold is easy to remember. Recording how many people walked past, what the other team charged, and whether that price changed halfway through is easy to forget. Week 33 and week 35 need all three, none of them can be reconstructed afterward, so give somebody the job.

The record

	Number
Opening stock	
Closing stock	
So, sold	
Money in the box at the end	
Less the starting change	
So, revenue	
Their price at the start	
Their price at the end	
People who looked and walked	

Revenue should be about sold times price. If it is not, somebody gave a discount nobody wrote down. Find it now.

Selling food? Ingredient list on the sign, clean hands, and nobody eats anything until the teacher has checked for allergies. The same goes for round two.

▶ ADD TO YOUR MARKET FILE

File the whole record the same day. A number remembered on Monday is not a number.

💬 TALK ABOUT IT

What surprised you in the first ten minutes?

Did their price change? What did you do about it at the time?



STUCK? TRY THIS

Two people, two jobs: one sells, one counts. Swapping halfway means neither record is complete.

★ CHALLENGE ZONE

Revenue divided by sold gives your average price. Is it the price on your sign? If it is lower, where did the difference go?

WEEK 30 DATA

Who Sold What

Share needs a denominator, and somebody has to count everybody to get one.

IN CLASS THIS WEEK
Reporting the number of observations (6.SP.5a)

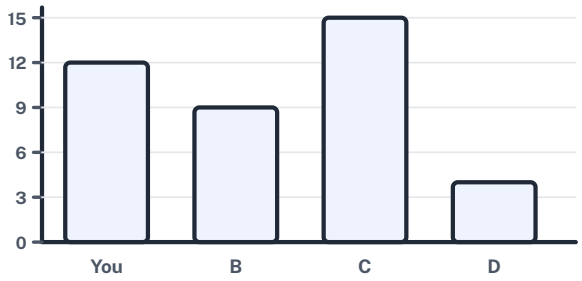
MONEY WARM-UP · 2 MINUTES
Four teams sold 12, 9, 15 and 4. What did the market sell altogether? _____

WORDS TO KEEP

denominator The whole. Share needs one, so somebody has to count everybody.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 29, your own sold and revenue



Your number means nothing on its own

You sold 12. Good or bad? Unanswerable until you know that the market sold 40.

Counting only your own products works when nobody else is selling what you sell. This year the class pools the counts, because a share is your number divided by everybody's and there is no way to get the bottom of that fraction alone.

Pool honestly. A team that inflates its count makes everyone else's share wrong, including its own next week.

The whole market, by team and by product

Team	Sold	Revenue	Price each
You			

Now draw the bar chart. Scale it so the tallest bar nearly fills the box, or the differences will not show.

One bar per team, same width, labeled

▶ ADD TO YOUR MARKET FILE

File the pooled table. Every share you calculate next week comes out of it.

💬 TALK ABOUT IT

Which team took the most money? Is it the one that sold the most items?

What would you need to know to say which team did best?



STUCK? TRY THIS

Total the Sold column first. That total is the denominator for every share in week 31.

★ CHALLENGE ZONE

One team sold half as many as you at twice the price. Compare the two of you on revenue, on units, and on margin. Do all three agree?

WEEK 31 RATIO & RATE

Your Share of the Market

The number you aimed at in week 23, next to the number you got.

IN CLASS THIS WEEK
Percent as a rate per hundred (6.RP.3c)

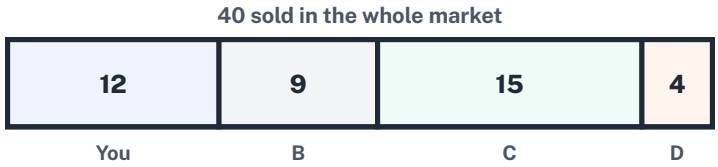
MONEY WARM-UP · 2 MINUTES
You sold 12 out of 40. What percent is that? _____

WORDS TO KEEP

share of sales Yours divided by everybody's, written as a fraction or a percent.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 30, the pooled market total
- Week 23, the share you aimed at



Three ways to say the same thing

12 out of 40. As a fraction that is 12/40, which simplifies to **3/10**. As a decimal, 0.3. As a percent, **30 percent**.

All three are the same number and each is useful somewhere. The percent is the one you can compare against another market, another day, or another team's claim.

An even share with four teams would be 25 percent. You are above it. Whether that is your corner working or just a good spot on the floor is exactly the question week 35 has to answer.

Everybody's share

Team	Sold	Fraction	Simplest	Percent
You	12	12/40	3/10	30%

The percents must add to 100. If they do not, check the denominator: everybody has to be dividing by the same total.

▶ ADD TO YOUR MARKET FILE

File the share table beside your week 23 target. Week 35 puts the two side by side.

💬 TALK ABOUT IT

You aimed at a share in week 23. Did you get it? Say what you would change about the target rather than about the plan.

Can a team have a small share and still have done well?



STUCK? TRY THIS

Percent is your number divided by the total, times 100. Do the division first and keep three decimal places: 9 out of 40 is 0.225, which is 22.5 percent.

★ CHALLENGE ZONE

Your share went up but your revenue went down. Give one way that can happen, using real numbers.

WEEK 32 MONEY

Profit, and It Might Be Negative

Week 5 said a loss is a number. This is the week you find out whether it is yours.

IN CLASS THIS WEEK
Positive and negative numbers (6.NS.5)

MONEY WARM-UP · 2 MINUTES
Revenue $34.00, all costs $41.50. Profit, with its sign? _____

WORDS TO KEEP

net	What is left after everything is taken off. It can be negative.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 29, your revenue
- Week 19, your cost for one



Everything off, then look at the sign

Revenue, minus what you spent on materials, minus what you spent before you sold anything. The answer has a sign and you write it.

A team can easily be close to zero after one session, because fixed costs are paid once and one session is not many sales. A team that is below zero after round one is normal, not failing, and the number tells them exactly how many more sales round two needs.

That is the useful part. A loss you have measured is a target. A loss you have not measured is a mood.

Your round one, in full

	Amount
Revenue	
Less variable cost (sold x cost each)	
Less fixed costs	
Profit, with its sign	
If negative: sales needed in round two to reach zero	

The last row is the size of your loss (the profit without its minus sign) divided by your margin on one, rounded up. It is the most useful number on this page.

▶ ADD TO YOUR MARKET FILE

File the five rows. This is the number week 35 compares against.

💬 TALK ABOUT IT

Is a loss after one session a reason to change the price? Say what else it could be a reason to change.

Two teams both lost money. One is worried and one is not. What could make the difference reasonable?



STUCK? TRY THIS

Fixed costs come off once, not once per session. If you paid for the sign before round one, it does not come off again in round two.

★ CHALLENGE ZONE

Your round one profit was −$7.50 and your margin is $1.25. How many must you sell in round two to end the year at zero? To end it at +$10?

They Changed Their Price

Everybody's numbers are on the board. You have one week to decide what to do about them.

IN CLASS THIS WEEK
Percent of a quantity (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
They were $4.00 and cut their price by 20 percent. What is their new price? _____

WORDS TO KEEP

response What you do about somebody else's move. Doing nothing is one.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 19, your estimate of their cost
- Week 20, your pricing choice
- Week 23, the share you aimed at

Your move	The number it turns on
☐ Match their price	What happens to your margin?
☐ Go under them	How many more must you sell?
☐ Hold your price	What do you say to a customer who asks?
☐ Change what you sell	What does the change cost you?

Four moves, and none of them is the right answer

The board has every team's round-one price, sales and share, in team order, not ranked. Read it, then choose one of the four and write the number it turns on. Your cost is the thing that decides, and only your team knows it.

Doing nothing is a move. If your corner is best or different, holding your price while somebody else cuts theirs is often the strongest thing you can do, and it is the hardest to hold your nerve on.

Whatever you choose, they are choosing too, at the same time, looking at your numbers. Nobody gets to move last.

The decision, with its arithmetic

	Ours
What they did	
Our move	
The number it turns on	
Our new margin	
Sales we now need to match round one	
What we expect them to do next	

Change exactly one thing. Two changes and week 35 cannot tell you which one did anything, and week 35 is already going to have that problem for other reasons.

▶ ADD TO YOUR MARKET FILE

File the decision page, signed, before round two. It is worthless if it is written afterward.

💬 TALK ABOUT IT

Undercutting them invites them to undercut you back. Where does that end?

Which move would you make if you knew their cost was higher than yours? Lower than yours?



STUCK? TRY THIS

Work out your new margin before you commit. If the move takes your margin below what covers your remaining costs, it is not a move, it is a decision to lose money.

★ CHALLENGE ZONE

Write the move you would make if you were the OTHER team, reading your numbers. Then say whether that changes your own decision.

Round Two

Same market, same stands, everybody having just moved. Count it exactly as you counted round one.

IN CLASS THIS WEEK
Percent of a quantity (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
Round one you sold 12. What is 25 percent of 12? So how many is 25 percent more? _____

◂ YOU WILL NEED, FROM YOUR MARKET FILE
- Week 29, the round one record

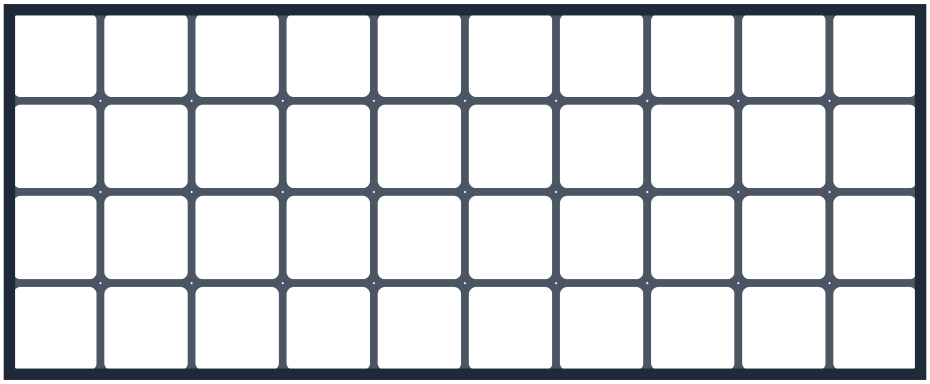
Measure it the same way or it does not compare

Same columns, same method, same person counting. A comparison between two rounds measured differently is not a comparison.

Write down the other teams' prices again, at the start and at the end. Round two is the session where prices move during the session, because everybody has just made a decision and some may change their minds.

Round two stock

Same grid, same method as round one. Cross one off as each item goes, and count what is left rather than trying to remember what went.



Same method, or no comparison

Round two has to be counted the same way as round one: same columns, same definition of a sale, ideally the same person counting.

If round one counted a giveaway as a sale and round two did not, the difference between the rounds is partly just the change in how you counted, and week 35 will read it as a result.

The record, again

	Round one	Round two
Opening stock		
Closing stock		
Sold		
Our price		
Revenue		
Their price at the start		
Their price at the end		
People who looked and walked		

Fill the round one column from your file, not from memory.

▶ ADD TO YOUR MARKET FILE

File both columns side by side. Week 35 is entirely about this table.

💬 TALK ABOUT IT

Did anybody change their price during the session? What happened next?

Was round two busier overall? How would you know?



STUCK? TRY THIS

25 percent of 12 is 12 × 25 ÷ 100, which is 3. Twenty-five percent more is the 12 plus that 3.

★ CHALLENGE ZONE

The whole market sold more in round two. Does that mean everybody's move worked? Say what else could explain it.

WEEK 35 REVIEW

Did the Move Work?

Your sales went up. So did theirs. So did everybody's. Now prove your move did anything.

IN CLASS THIS WEEK
Percent as a rate per hundred (6.RP.3c)

MONEY WARM-UP · 2 MINUTES
You went from 12 to 17. The market went from 40 to 58. Did your share go up or down? _____

WORDS TO KEEP

confounded Two things changed at once, so you cannot tell which one did it.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- Week 29 and week 34 records
- Week 31, your share
- Week 24, the strategy page

Round one: 40 sold, your share 30 percent



Round two: 58 sold, your share about 29 percent



The word for this is confounded

You sold 42 percent more. The whole market sold 45 percent more. Your move did not do that. The market did.

When you change one thing and nothing else moves, the difference can be yours. This year everybody moved at once, and when two things change together you cannot say which one caused what. That is what **confounded** means, and spotting it is worth more than any answer on this page.

The one comparison that still works is **share**. It divides out whatever happened to everybody. If your share went up while the market grew, your move did something. If your share fell while your sales rose, it did not.

Two rounds, side by side

	Round one	Round two	Change
Your sales			
Whole market sales			
Your share, percent			
Your price			
Your margin on one			
Your profit, with sign			

Then answer in one sentence: **did our move work?** The honest answers include *we cannot tell*, and if that is yours, say what you would have had to do differently to find out.

▶ ADD TO YOUR MARKET FILE

File the full comparison and your one-sentence answer, including if the answer is that you cannot tell.

💬 TALK ABOUT IT

Your sales rose and your share fell. What actually happened?

What would you have had to hold still to get a clean answer? Was that even possible in a market?



STUCK? TRY THIS

Do the share row first. It is the only row that is not confounded, and every honest conclusion on this page comes out of it.

★ CHALLENGE ZONE

Design a way to test a price change in a real market that gets closer to a clean answer. You cannot hold the others still, so what could you do instead?

WEEK 36 REVIEW

Your Market Story

A year in one page, written by somebody who now knows what a rival is.

IN CLASS THIS WEEK
Review and reasoning

MONEY WARM-UP · 2 MINUTES
In one sentence: why did customers pick you, or why did they not? _____

WORDS TO KEEP

track record What you did, written down at the time. Worth more than the memory.

◂ YOU WILL NEED, FROM YOUR MARKET FILE

- The whole file

Write it while the numbers are still in front of you

Most business questions ask whether you made a profit, and how much. This year asked why they chose you, which is the one question that has somebody else in the answer.

	Ours
What we sold, and to whom	
The corner we chose, and whether we held it	
Our price, and how we arrived at it	
What the other team did	
Our move in week 33, and what it did	
Our share, round one and round two	
Our profit for the year, with its sign	

The two hard questions

1. Name one thing the other team did better than you. Be specific: not *they were good*, but the decision and why it worked.

2. What would you do differently, and what number told you that?

▶ ADD TO YOUR MARKET FILE

The last page. File it at the front, because it is the one somebody reading your file should see first.

💬 TALK ABOUT IT

What did you learn this year that you could not have learned selling alone?

Would you rather have had no rival? Say honestly.



STUCK? TRY THIS

Every row is in your Market File with a week number on it. This page is a summary, not new work.

★ CHALLENGE ZONE

Write the page the other team would write about you. Then ask them one question to check it.

Young Innovators
FOR CHANGE
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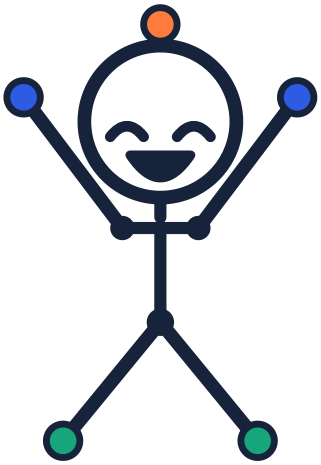
Grade 6 · The Market Year

Certificate of Completion

This is to certify that

_____

completed thirty-six weeks of enterprise work, practicing how to read a market with ratios and percents, choose and defend a position, price against a rival, sell in two rounds with one deliberate move in between, and work out honestly how much of what followed was theirs.



_____ _____

Teacher Date

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