BUSINESS & FINANCE · KINDERGARTEN–GRADE 8 · QUICK REFERENCE

Business & Finance (K–8 · Money · Markets)

Grades K–8 | 3 pages

Work, scarcity and opportunity cost, specialization and trade, supply and demand, the story of money from barter to fiat, banks and inflation, the six stakeholders, labor and capital, honest rules, the entrepreneur, break-even and the pitch, double-entry bookkeeping and the three statements, saving, interest, investing and giving.

1 Work & trade | 2 Money | 3 Businesses & rules | 4 Entrepreneurship | 5 Accounting | 6 Saving & investing

1 WORK, TRADE & ECONOMIC THINKING

units 1 and 3 · why people trade

First ideas

- **Work is good:** God made us to work (Genesis 2:15); a **vocation** is a calling. **Goods** are things made, **services** are work done for others; a **producer** makes, a **consumer** uses.
- **Needs** (food, clothing, shelter) come before **wants**.
- **Scarcity:** there is never enough of everything, so every choice gives something up: the **opportunity cost** is the next-best thing you did not choose.
- **Marginal thinking:** decide one more at a time; a **sunk cost** is already spent and should not decide what you do next.
- **Incentives** move people; rules have **unintended consequences** (Plymouth's common field, 1623).

Specialization and trade

- **Division of labor:** Adam Smith's pin factory (1776): ten workers splitting the job made thousands of pins a day; alone, each made a handful. **Productivity** = output per worker per hour.
- **Comparative advantage:** each side should make what costs it *least* to give up, then trade; both gain even if one is better at everything.
- **Trade routes:** Phoenician ships, the Silk Road, the spice routes; **imports** come in, **exports** go out.

Comparative advantage WORKED

Ann: 10 pies or 20 shirts a day → 1 pie costs 2 shirts

Ben: 4 pies or 16 shirts → 1 pie costs 4 shirts

Ann makes pies, Ben shirts; trade at 3 shirts per pie: **both gain**

Markets and prices

- A **market** is buyers and sellers meeting. **Demand:** lower price, more wanted. **Supply:** higher price, more offered. Where they meet is the **market price**.
- A price too low makes a **shortage**; too high, a **surplus**. Prices are **signals** that tell people what is scarce.
- **Competition** among many sellers serves customers; a **monopoly** is one seller; a **cartel** agrees not to compete; **guilds** limited entry.
- **Structures:** perfect competition (wheat), monopolistic competition (restaurants), oligopoly (cars), monopoly; **monopsony** is one buyer. **Who decides?** market, command (planners: shortages) or mixed economy; public goods and spillovers are the hard cases.

2 THE STORY OF MONEY

unit 2 · from barter to banknotes

What money does

Job	Meaning
medium of exchange	everyone takes it, so no double coincidence of wants is needed
unit of account	prices are counted in it
store of value	it keeps its worth until you spend it

Good money is scarce, durable, divisible, portable and the same everywhere.

Milestones

When	What
before money	**barter**: trading goods for goods; Abraham weighed silver (Genesis 23)
about 600 B.C.	first **coins** in Lydia (electrum); King Croesus; a **mint** stamps them
1000s	China's **jiaozi**, the first paper money
1200s–1400s	the Florentine **florin**; the Medici bank; bills of exchange
1600s	goldsmiths' receipts become **banknotes**; fractional reserves
1800s–1933	the **gold standard**: paper redeemable in gold
1944–1971	Bretton Woods; Nixon closes the gold window: **fiat money**, legal tender by law

Banks

- A **deposit** is money left with the bank; the bank keeps **reserves** and lends the rest (**fractional-reserve banking**). Lending creates new deposits: the **money multiplier**.
- A **bank run** happens when everyone wants cash at once; **deposit insurance** (FDIC, 1933) calms it.
- **Interest** is the price of borrowing: the bank pays savers less and charges borrowers more.
- A **central bank** (the Fed, 1913) issues the currency and sets interest rates.

Inflation

More money chasing the same goods makes prices rise: **inflation**; **purchasing power** falls. **Debasement** (less silver in the coin) and printing money caused it; Weimar Germany (1923) and Zimbabwe show **hyperinflation**. **Gresham's law:** bad money drives out good.

U.S. coins and bills

Coin	Worth
penny	1¢
nickel	5¢
dime	10¢
quarter	25¢
half dollar	50¢
dollar	100¢ = $1
bills	$1, $5, $10, $20, $50, $100

Count coins from the largest down; make change by counting up from the price.

MEMORY TRICK **Money is a promise**

Coins carried gold or silver; banknotes were promises of gold; fiat money is a promise backed by law and trust. Honest money keeps its promise: "a false balance is abomination to the LORD" (Proverbs 11:1).

3 GREAT BUSINESSES & FAIR RULES

units 4–5 · stakeholders, labor and capital, honest markets

The six stakeholders

A great business serves its **six stakeholders**: the **financiers** who lend or invest, the **risk-takers** who start and own it, the **builders** who design and make the product, the **workers**, the **customers** and the **community** around it (suppliers, neighbors, the town).

Businesses the course studies

Business	Lesson
Medici Bank	branches, partnerships, bills of exchange; trust and risk
Wedgwood	marketing: royal endorsement, showrooms, catalogs, guarantees
Ford's Model T	mass production, the moving assembly line, the $5 day
Ford vs. General Motors	market segmentation, product lines, installment credit
Hershey	perseverance, a company town, a charitable trust
Fuggers of Augsburg	collateral, lending to kings, vertical integration
LEGO	core business, complexity cost, turnaround
McDonald's	the business model: value proposition, franchise, cost structure

Capital and labor need each other

- **Capital** (tools, buildings, money) makes **labor** (work) more productive; productivity raises **real wages** and the standard of living (the Industrial Revolution).
- A **wage** is agreed in a **contract**; fair pay honors the agreement (the workers in the vineyard, Matthew 20).
- **Child labor** ended by Factory Acts and compulsory schooling (Shaftesbury); **fire codes**, **workers' compensation** and food **labels** followed real tragedies (the Triangle fire, 1911; the Jungle, 1906).
- Robert Owen showed decent conditions and profit can go together.

MEMORY TRICK **Settled history**

The course teaches the labor-capital story as settled history: both are needed, honest rules protect both, and productivity is what lifts wages.

Keeping markets honest

- **Just weights and measures** (Leviticus 19:36); standard units; inspectors.
- **Property, promises, inventions:** deeds, contracts, patents and copyrights protect what is yours.
- **Antitrust** (Sherman Act, 1890; Standard Oil, 1911) breaks up trusts that crush competition; **natural monopolies** (water pipes) are regulated.
- After the 1929 crash: the **FDIC**, the **SEC**, disclosure and the prospectus.
- **When rules backfire:** price ceilings make shortages and black markets (Diocletian's edict, 301); rationing; government failure.

4 ENTREPRENEURSHIP & SALES

unit 6 · seeing a need and taking a risk

The entrepreneur

- Sees a **need**, takes a **risk** for a **reward**, and invests time and money (often with a **partner**).
- **Test the idea:** prototype → feedback → survey → test market → improve (**iteration**).
- **Business model:** who is the customer, what is the **value proposition**, how does money come in (**revenue stream**), what does it cost (**cost structure**).
- **Financing:** bootstrapping (your own money), **debt** (a loan, paid back with interest) or **equity** (selling a share; dilution).

Honest selling

Wanamaker's **fixed price tags** and **money-back guarantee** (1860s); no deceptive advertising; tell the truth about what you sell; a sign and a smile; **customer service** makes **repeat customers**. **Consultative selling** (Patterson): ask open questions, find the need, answer objections.

Break-even

Fixed costs do not change with sales (a booth fee); variable costs rise with each unit (cups, lemons).

$$\text{break-even units} = \frac{\text{fixed costs}}{\text{price} - \text{variable cost per unit}}$$

Lemonade stand WORKED

Booth $10 (fixed); each cup costs $0.25 to make; sells for $0.75

profit per cup = 0.75 − 0.25 = **$0.50**

break-even = 10 ÷ 0.50 = **20 cups**

sell 21+ to profit

sold 50: revenue $37.50 − costs $22.50 = **$15 profit**

MEMORY TRICK **Count the cost first**

"Which of you, intending to build a tower, sitteth not down first, and counteth the cost?" (Luke 14:28). Plan, cost it, then sell.

The pitch (Otis cut the rope, 1854)

Part	Say
hook	the problem, in one line
solution	what you make and why it is better
live test / proof	show it working
the numbers	price, cost, break-even, profit
the ask	what you need and what you offer in return

Run a real business (unit 9)

1. **Choose and plan:** a one-page plan, target customer, goal, permit, partnership agreement.
2. **Make it and cost it:** quality standard, cost sheet, cost per item, waste.
3. **Sell it honestly:** sales ledger, making change, receipts.
4. **Close the books:** profit, lessons learned, give the firstfruits.

5 BOOKKEEPING & ACCOUNTING

unit 7 · Pacioli, 1494

The accounting equation

What you **own** = what you **owe** + what is **yours**. **Net worth** = assets − liabilities.

Assets = Liabilities + Owner's Equity

Double entry

Every **transaction** is written twice, a **debit** and a **credit** of equal size, first in the **journal** (by date) then in the **ledger** (by account). Debits increase assets and expenses; credits increase liabilities, equity and revenue. The books must balance.

MEMORY TRICK **DEAD CLIC**

Debits increase **E**xpenses, **A**ssets, **D**rawings; **C**redits increase **L**iabilities, **I**ncome, **C**apital.

The three statements

Statement	Answers	Lines
Income statement	Did we make money this period?	revenue − expenses = **profit (net income)**; profit margin = profit ÷ revenue
Balance sheet	What do we own and owe today?	assets (cash, inventory, receivables) · liabilities (loans, payables) · owner's equity (retained earnings)
Cash flow statement	Where did the cash go?	operating, investing, financing

A simple month WORKED

Sold 50 cups: revenue $37.50

Supplies $12.50 + booth $10 = expenses $22.50

Profit = 37.50 − 22.50 = **$15.00**; margin 15 ÷ 37.50 = **40%**

Honest books

- **Audit:** an outsider checks the books (the Drapers' Guild syndics; Enron, 2001, showed why).
- **Internal controls:** receipts for everything, two people count the cash, **segregation of duties**.
- **Ratios:** current ratio = current assets ÷ current liabilities; debt-to-equity; net profit margin; return on equity.
- **Nonprofits and churches** use fund accounting and report restricted gifts (George Müller's orphan houses).
- A **credit report** (Tappan's Mercantile Agency, 1841) records whether you pay what you owe.

6 SAVING, INVESTING & GIVING

unit 8 · stewardship

The three jars

Give, save, spend: the tithe first (10%), then savings, then a **budget** for needs and wants. Joseph stored grain in the seven fat years (Genesis 41). Build an **emergency fund**; avoid **debt**; a **credit card** is a loan that charges interest every month it is not paid off.

Simple interest

$200 at 5% for 3 years: 200 × 0.05 × 3 = **$30**.

$$I = P \times r \times t$$

Compound interest

$200 at 5% for 3 years: 200 × 1.05^3 = **$231.53**. Interest earns interest.

$$A = P(1 + r)^t$$

MEMORY TRICK **Rule of 72**

Years to double ≈ 72 ÷ interest rate. At 6%, money doubles in about **12 years**; at 9%, in 8.

Ways to invest

Kind	What it is	Risk and reward
savings account	a deposit paid interest	very safe, low return
bond	a loan to a company or government; pays a **coupon**, returns principal at **maturity**; **yield**	safer; credit risk
stock (share)	a piece of a company; may pay a **dividend**	higher risk and reward
index fund	a basket of many stocks; low **expense ratio**	diversified
a business of your own	your time and money at work	highest risk, highest reward

Diversification: do not put all your eggs in one basket. The Buttonwood Agreement (1792) began the New York Stock Exchange. Buying on margin helped cause the 1929 crash.

Time value of money

A dollar today is worth more than a dollar next year because it can be invested. **Future value** = $P(1 + r)^t$; **present value** = $FV \div (1 + r)^t$. Manhattan's $24 (1626) at 7% would be worth more than the island today.

Insurance and risk

Many pay a small **premium** so the few who suffer a loss are paid; the **underwriter** prices the **expected loss**; you pay the **deductible** first. **Mutual** insurers are owned by the insured.

The parable of the talents

Matthew 25: the servants who put the master's money to work were praised; the one who buried it was not. **Stewardship:** everything is God's; we manage it. John Wesley's rule: **earn all you can, save all you can, give all you can.** Beware **lifestyle creep**.

Budget WORKED

Income $40 from the market day

Give 10% = $4 · Save 30% = $12 · Spend 60% = $24

Needs first (supplies for next time), then wants