

This document contains pages from the publication *Mathematics & Economics: Connections for Life, Grades 3-5* from the National Council on Economic Education (NCEE).

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Content Standards: Mathematics

Number and Operations

- Understand numbers, ways of representing numbers, relationships among numbers and number systems.
- Develop understanding of fractions as parts of unit wholes, as parts of a collection, as locations on number lines and as divisions of whole numbers.
- Recognize and generate equivalent forms of commonly used fractions, decimals and percents.
- Develop fluency in adding, subtracting, multiplying and dividing whole numbers.
- Develop and use strategies to estimate computations involving fractions and decimals in situations relevant to students' experience.
- Develop and use strategies to estimate the results of whole-number computations and to judge the reasonableness of such results.

Algebra

- Use mathematical models to represent and understand quantitative relationships.

Geometry

- Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.
- Use visualization, spatial reasoning and geometric modeling to solve problems.

Measurement

- Understand measurable attributes of objects and the units, systems and processes of measurement.

Data Analysis and Probability

- Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.
- Collect data using observations, surveys and experiments.
- Represent data using tables and graphs such as line plots, bar graphs and line graphs.
- Select and use appropriate statistical methods to analyze data.
- Propose and justify conclusions and predictions that are based on data, and design studies to further investigate the conclusions or predictions.

Problem Solving

- Build new mathematical knowledge through problem solving.
- Solve problems that arise in mathematics and in other contexts.
- Apply and adapt a variety of appropriate strategies to solve problems.

Connections

- Recognize and apply mathematics in contexts outside of mathematics.

Representation

- Create and use representations to organize, record and communicate mathematical ideas.

A Correlation of the Lessons with the Mathematics Standards

Standards	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11	Lesson 12
Number and Operations												
• Understand numbers, ways of representing numbers, relationships ...	●											
• Develop understanding of fractions as parts of unit wholes, as parts ...		●								●		
• Recognize and generate equivalent forms of commonly used fractions, ...											●	●
• Compute fluently and make reasonable estimates.	●		●		●							
• Develop fluency in adding, subtracting, multiplying and dividing ...				●								
• Develop and use strategies to estimate computations involving fractions ...				●		●				●		
• Develop and use strategies to estimate the results of whole-number ...				●								
Algebra												
• Use mathematical models to represent and understand quantitative ...		●										
Geometry												
• Analyze characteristics and properties of two- and three-dimensional ...							●					
• Use visualization, spatial reasoning and geometric modeling to solve ...							●					
Measurement												
• Understand measurable attributes of objects and the units, systems ...			●						●			
Data Analysis and Probability												
• Formulate questions that can be addressed with data and collect, ...		●										
• Collect data using observations, surveys and experiments.								●				
• Represent data using tables and graphs such as line plots, bar graphs ...								●				
• Select and use appropriate statistical methods to analyze data.		●	●									
• Propose and justify conclusions and predictions that are based on data, ...								●				
Problem Solving												
• Build new mathematical knowledge through problem solving.											●	
• Solve problems that arise in mathematics and in other contexts.	●				●	●				●	●	●
• Apply and adapt a variety of appropriate strategies to solve problems.	●	●			●	●				●		
Connections												
• Recognize and apply mathematics in contexts outside of mathematics.	●	●	●	●	●	●	●	●	●	●	●	●
Representation												
• Create and use representations to organize, record and communicate ...									●			

Selected standards from *Principals & Standards for School Mathematics*

Content Standards: Economics

In the Voluntary National Content Standards in Economics, benchmarks for demand, entrepreneurs, profit and losses are at the eighth grade level. Many district elementary economics curricula introduce these concepts in lower grades, so we included them in these lessons.

Standard 1

- **Benchmark 1 for 4th grade:**

People make choices because they cannot have everything they want.

- **Benchmark 3 for 4th grade:**

Goods are objects that can satisfy people's wants.

- **Benchmark 4 for 4th grade:**

Services are actions that can satisfy people's wants.

- **Benchmark 5 for 4th grade:**

People's choices about what goods and services to buy and consume determine how resources will be used.

- **Benchmark 6 for 4th grade:**

Whenever a choice is made, something is given up.

- **Benchmark 7 for 4th grade:**

The opportunity cost of a choice is the value of the best alternative given up.

- **Benchmark 8 for 4th grade:**

People whose wants are satisfied by using goods and services are called consumers.

- **Benchmark 9 for 4th grade:**

Productive resources are the natural resources, human resources and capital goods available to make goods and services.

- **Benchmark 10 for 4th grade:**

Natural resources, such as land, are "gifts of nature"; they are present without human intervention.

- **Benchmark 11 for 4th grade:**

Human resources are the quantity and quality of human effort directed toward producing goods and services.

- **Benchmark 12 for 4th grade:**

Capital goods are goods produced and used to make other goods and services.

Standard 2

- **Benchmark 1 for 4th grade:**

Few choices are all-or-nothing decisions; they usually involve getting a little more of one thing by giving up a little of something else.

- **Benchmark 2 for 4th grade:**

A cost is what you give up when you decide to do something.

- **Benchmark 3 for 4th grade:**

A benefit is something that satisfies your wants.

Standard 5

- **Benchmark 1 for 4th grade:**

Exchange is trading goods and services with people for other goods and services or for money.

- **Benchmark 2 for 4th grade:**

The oldest form of exchange is barter — the direct trading of goods and services between people.

- **Benchmark 3 for 4th grade:**

People voluntarily exchange goods and services because they expect to be better off after the exchange.

Standard 6

- **Benchmark 3 for 4th grade:**

Specialization and division of labor usually increase the productivity of workers.

Standard 8

- **Benchmark 1 for 4th grade:**

Higher prices for a good or service provide incentives for buyers to purchase less of that good or service and for producers to make or sell more of it. Lower prices for a good or service provide incentives for buyers to purchase more of that good or service and for producers to make or sell less of it.

- **Benchmark 1 for 8th grade:**

An increase in the price of a good or service encourages people to look for substitutes, causing the quantity demanded to

decrease and vice versa. This relationship between price and quantity demanded, known as the law of demand, exists as long as other factors influencing demand do not change.

Standard 10

- **Benchmark 1 for 4th grade:**

Banks are institutions where people save money and earn interest, and where other people borrow money and pay interest.

- **Benchmark 2 for 4th grade:**

Saving is the part of income not spent on taxes or consumption.

Standard 11

- **Benchmark 1 for 4th grade:**

Money is anything widely accepted as final payment for goods and services.

- **Benchmark 2 for 4th grade:**

Money makes trading easier by replacing barter with transactions involving currency, coins or checks.

- **Benchmark 5 for 4th grade:**

Most countries create their own currency for use as money.

Standard 15

- **Benchmark 1 for 4th grade:**

When workers learn and practice new skills they are improving their human capital.

- **Benchmark 2 for 4th grade:**

Workers can improve their productivity by improving their human capital.

- **Benchmark 3 for 4th grade:**

Workers can improve their productivity by using physical capital such as tools and machinery.

Standard 14

- **Benchmark 3 for 8th grade:**

Entrepreneurs and other sellers earn profits when buyers purchase the products they sell at prices high enough to cover the costs of production.

- **Benchmark 4 for 8th grade:**

Entrepreneurs and other sellers incur losses when buyers do not purchase products they sell at prices high enough to cover the costs of production.

CONTENT STANDARDS

A Correlation of the Lessons with the Voluntary National Content Standards in Economics

Standards	Benchmarks	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11	Lesson 12
Standard 1	1 for 4th grade	Choices	●	●						●			
	3 for 4th grade	Goods	●										
	4 for 4th grade	Services	●										
	5 for 4th grade	Choices determine resource use								●			
	6 for 4th grade	Choices require giving up something		●						●			
	7 for 4th grade	Opportunity cost		●						●			
	8 for 4th grade	Consumers	●										
	9 for 4th grade	Productive resources							●			●	
	10 for 4th grade	Natural resources							●			●	
	11 for 4th grade	Human resources							●			●	
	12 for 4th grade	Capital goods (resources)							●			●	
	Standard 2	1 for 4th grade	Few choices are all-or-nothing decisions		●		●						
2 for 4th grade		Costs				●							
3 for 4th grade		Benefits				●							
Standard 5	1 for 4th grade	Exchange			●								●
	2 for 4th grade	Barter							●				
	3 for 4th grade	Why people trade			●				●				
Standard 6	3 for 4th grade	Specialization and division of labor				●							
Standard 8	1 for 4th grade	Prices provide incentives to buyers							●				
	1 for 8th grade	Law of demand							●				
Standard 10	1 for 4th grade	Banks										●	
	2 for 4th grade	Saving										●	
Standard 11	1 for 4th grade	What is money											●
	2 for 4th grade	Money makes trading easier											●
	5 for 4th grade	Most countries create currency											●
Standard 14	3 for 8th grade	Entrepreneurs, profits					●						
	4 for 8th grade	Entrepreneurs, losses					●						
Standard 15	1 for 4th grade	New skills increase human capital				●							
	2 for 4th grade	Human capital and productivity				●							
	3 for 4th grade	Physical capital and productivity				●							

Selected standards from *Voluntary National Content Standards in Economics*
National Council on Economic Education, 1997