



Money skills you need for life.

**Hands on Banking**<sup>®</sup>



## **How Hands on Banking<sup>®</sup> / El futuro en tus manos<sup>®</sup> Aligns with Kansas Education Standards**

The *Hands on Banking* program is helping students across the United States grasp important mathematics concepts while gaining valuable skills for life. The curriculum aligns with national and state principles and standards for mathematics, reading, and economics. All units and lessons are grade-level appropriate and are available in both English and Spanish.

The **No Child Left Behind Act** is a federal law designed to improve the academic achievement of all students, particularly those who are minorities, disabled, economically disadvantaged, or have limited English proficiency. The Act requires teachers of mathematics to provide all students with equal opportunities to excel and the mathematical skills and knowledge they need to actively participate in American society. Consistent with the objectives of the No Child Left Behind Act, the *Hands on Banking / El futuro en tus manos* curriculum includes supplemental materials for grade levels 4-12 that is also aligned with both state and national educational standards for mathematics, reading, and economics.

Specifically, *Hands on Banking* Teaching Guides coordinate with:

- *Kansas State Department of Education, Mathematics Standards, 2004*
- *Kansas Standards for History and Government; Economics and Geography, 2005*
- *Kansas Curricular Standards for Listening, Viewing & Speaking, 2006*
- *Connections between Hands-on-Banking and Kansas Curricular Standard for Reading Education (2003, modified 2009)*
- *Principles and Standards for School Mathematics* compiled by the National Council for Teachers of Mathematics (2000)
- *National Standards in K-12 Education*, Jumpstart Coalition for Personal Financial Literacy (2007)
- *Voluntary National Content Standards in Economics*, National Council on Economic Education and National Association of Economics Educators and the Foundation for Teaching Economics (1997)
- *Standards for the English Language Arts*, sponsored by the National Council of Teachers of English and the International Reading Association (1998)
- Department of Defense Education Activity (DODEA) *Curriculum Standards for Mathematics, Reading, and Social Studies. "Teaching the children of America's military families worldwide."* (2009)

We encourage teachers to use the connections below as starting points. Please refer to your own school, district, or local, standards to determine the appropriateness of individual units and lessons for your students.

## Connections between *Hands on Banking* and Kansas State Department of Education, *Mathematics Standards, 2004*

### FOURTH GRADE

- Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 1:** Number Sense – The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

The student:

- solves real-world problems using equivalent representations and concrete objects to:
  - a. compare and order whole numbers from 0 through 100,000 (2.4.A1a-b) add and subtract whole numbers from 0 through 10,000 and decimals when used as monetary amounts. (2.4.A1a-d)
  - b. multiply a one-digit whole number by a two-digit whole number. (2.4.A1a-b)
- determines whether or not solutions to real-world problems that involve the following are reasonable.
  - a. whole numbers from 0 through 10,000. (2.4.A1a-b)
  - c. decimals greater than or equal to zero when used as monetary amounts. (2.4.A1c-d)

**Benchmark 2:** Number Systems and Their Properties – The student demonstrates an understanding of whole numbers with a special emphasis on place value; recognizes, uses, and explains the concepts of properties as they relate to whole numbers; and extends these properties to fractions (including mixed numbers), decimals, and money.

The student:

- solves real-world problems with whole numbers from 0 through 10,000 using place value models; money; and the concepts of these properties to explain reasoning. (2.4.A1a-b,d)

**Benchmark 3:** Estimation – The student uses computational estimation with whole numbers, fractions (including mixed numbers) and money in a variety of situations.

The student:

- estimates to check whether or not the result of a real-world problem using whole numbers from 0 through 10,000, fractions (including mixed numbers), and monetary amounts is reasonable and makes predictions based on the information. (2.4.A1a-d)

**Benchmark 4:** Computation – The student models, performs, and explains computation with whole numbers, fractions, and money including the use of concrete objects in a variety of situations.

The student:

- solves one- and two-step real-world problems with one or two operations using these computational procedures.
- adds and subtracts whole numbers from 0 through 10,000 and when used as monetary amounts. (2.4.A1a-b,d)
- multiplies through a two-digit whole number by a two-digit whole number.
- multiplies whole dollar monetary amounts (up through three-digit) by a one- or two-digit whole number. (2.4.A1a-b,d),
- multiplies monetary amounts less than \$100 by whole numbers less than ten (2.4.A1a-d)
- figures correct change through \$20.00. (2.4.A1a-d)

## **FIFTH GRADE**

**Standard 1: Number and Computation** – The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 1: Number Sense** – The student demonstrates number sense for integers, fractions, decimals, and money in a variety of situations.

The student:

- solves real-world problems using equivalent representations and concrete objects to:
- compare and order (2.4.A1a-d) –
- whole numbers from 0 through 1,000,000
- decimals greater than or equal to zero to hundredths place
- add and subtract whole numbers from 0 through 100,000 and decimals when used as monetary amounts (2.4.A1a,c)
- multiply through a two-digit whole number by a two-digit whole number (2.4.A1a-b)
- divide through a four-digit whole number by a two-digit whole number (2.4.A1a-b)
- determines whether or not solutions to real-world problems that involve the following are reasonable:
- whole numbers from 0 through 100,000 (2.4.A1a-b)
- decimals greater than or equal to zero through hundredths place (2.4.A1c)

**Benchmark 2: Number Systems and Their Properties** – The student demonstrates an understanding of the whole number system; recognizes, uses, and explains the concepts of properties as they relate to the whole number system; and extends these properties to integers, fractions (including mixed numbers), and decimals.

The student:

- solves real-world problems with whole numbers from 0 through 100,000 and decimals through hundredths using place value models; money; and the concepts of these properties to explain reasoning. (2.4.A1a-c,e)

**Benchmark 3: Estimation** – The student uses computational estimation with whole numbers, fractions, decimals, and money in a variety of situations.

**Benchmark 4: Computation** – The student models, performs, and explains computation with whole numbers, fractions including mixed numbers, and decimals including the use of concrete objects in a variety of situations.

- adds and subtracts decimals from thousands place through hundredths place when used as monetary amounts. (2.4.A1a-c)

## **SIXTH GRADE**

**Standard 1: Number and Computation** – The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 2: Number Systems and Their Properties** – The student demonstrates an understanding of the rational number system and the irrational number pi; recognizes, uses, and describes their properties; and extends these properties to algebraic expressions in one variable.

- analyzes and evaluates the advantages and disadvantages of using integers, whole numbers, fractions (including mixed numbers), decimals, or the irrational number pi and its rational approximations in solving a given real-world problem. (2.4.A1a-c)

**Benchmark 3: Estimation** – The student uses computational estimation with rational numbers and the irrational number pi in a variety of situations.

- determines if a real-world problem calls for an exact or approximate answer and performs the appropriate computation using various computational methods including mental math, paper and pencil, concrete objects, or appropriate technology. (2.4.A1a)

## SEVENTH GRADE

**Standard 1:** Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 1:** Number Sense – The student demonstrates number sense for rational numbers, the irrational number  $\pi$ , and simple algebraic expressions in one variable in a variety of situations.

- determines whether or not solutions to real-world problems using rational numbers, the irrational number  $\pi$ , and simple algebraic expressions are reasonable. (2.4.A1a)

**Benchmark 2:** Number Systems and Their Properties – The student demonstrates an understanding of the rational number system and the irrational number  $\pi$ ; recognizes, uses, and describes their properties; and extends these properties to algebraic expressions in one variable.

The student:

- generates and/or solves real-world problems with rational numbers and the irrational number  $\pi$  using the concepts of these properties to explain reasoning (2.4.K1a)
- symmetric property of equality, e.g., Sam took a \$15 check to the bank and received a \$10 bill and a \$5 bill. Later Sam took a \$10 bill and a \$5 bill to the bank and received a check for \$15.  $\$15 = \$10 + \$5$  is the same as  $\$10 + \$5 = \$15$ .
- analyzes and evaluates the advantages and disadvantages of using integers, whole numbers, fractions (including mixed numbers), decimals, or the irrational number  $\pi$  and its rational approximations in solving a given real-world problem. (2.4.K1a)

**Benchmark 3:** Estimation – The student uses computational estimation with rational numbers and the irrational number  $\pi$  in a variety of situations.

The student :

- determines if a real-world problem calls for an exact or approximate answer and performs the appropriate computation using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology. (2.4.A1a)

**Benchmark 4:** Computation – The student models, performs, and explains computation with rational numbers, irrational number  $\pi$ , and first-degree algebraic expressions in one variable in a variety of situations.

The student:

- generates and/or solves one- and two-step real-world problems using these computational procedures and mathematical concepts. (2.4.A1a)
- percentages of rational numbers.

## EIGHTH GRADE

**Standard 1:** Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 1:** Number Sense – The student demonstrates number sense for real numbers and simple algebraic expressions in a variety of situations.

The student:

- generates and/or solves real-world problems using equivalent representations of rational numbers and simple algebraic expressions (2.4.A1a)

**Benchmark 2:** Number Systems and Their Properties – The student demonstrates an understanding of the real number system; recognizes, applies, and explains their properties; and extends these properties to algebraic expressions.

The student:

1. generates and/or solves real-world problems with rational numbers using the concepts of these properties to explain reasoning (2.4.A1a)
  - a. commutative, associative, distributive, and substitution properties
  - b. identity and inverse properties of addition and multiplication
  - c. symmetric property of equality
  - d. addition and multiplication properties of equality

**Benchmark 3:** Estimation – The student uses computational estimation with real numbers in a variety of situations.

The student:

1. estimates to check whether or not the result of a real-world problem using rational numbers and/or simple algebraic expressions is reasonable and makes predictions based on the information. (2.4.A1a)
  - determines if a real-world problem calls for an exact or approximate answer and performs the appropriate computation using various computational methods including mental mathematics, paper and pencil, concrete objects, and/or appropriate technology. (2.4.A1a)

## **Grades 9-12**

### **Mathematics Curriculum Standards: Kansas State Department of Education; Approved July 2003-Updated January 31, 2004**

The National Standards in **Personal Finance** identify what K-12 students should know and be able to do in personal finance; benchmarks are provided at three grade levels (grades 4, 8, and 12) and are grouped into four major categories: Income, Spending and Credit, Saving and Investing, and Money Management. Although the National Standards in Personal Finance are benchmarked at three grade levels, the indicators in the Kansas Curricular Standards for Mathematics that correlate with the National Standards in Personal Finance are indicated at each grade level with a **(\$)**.

## **Grades 9-10:**

**Standard 1:** Number and Computation - The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 1:** Number Sense – The student demonstrates number sense for real numbers and algebraic expressions.

Base Indicators:

1. Knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money. (\$)
2. Compares and orders real numbers and/or algebraic expressions and explains the relative magnitude between them. (\$)

Application Indicators:

1. Generates and/or solves real-world problems using equivalent representations of real numbers and algebraic expressions. (\$)
2. Determines whether or not solutions to real-world problems using real numbers and algebraic expressions are reasonable. (\$)

**Benchmark 2:** Number Systems and Their Properties – The student demonstrates an understanding of the real number system; recognizes, applies, and explains their properties, and extends these properties to algebraic expressions.

Base Indicators:

3. Names, uses, and describes these properties, (commutative, identity, symmetric, addition, zero), with the real number system and demonstrates their meaning including the use of concrete objects. (\$)
4. Uses and describes these properties, (transitive, reflexive), with the real number system. (\$)

Application Indicators:

1. Generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning. (\$)
2. Analyzes and evaluates the advantages and disadvantages of using integers, whole numbers, fractions (including mixed numbers), decimals or irrational numbers and their rational approximations in solving a given real-world problem. (\$)

**Benchmark 3:** Estimation – The student uses computational estimation with real numbers in a variety of situations.

Base Indicators:

1. Estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology. (\$)
2. Uses various estimation strategies and explains how they were used to estimate real number quantities and algebraic expressions. (\$)

Applications Indicators:

1. Adjusts original rational number estimate of a real-world problem based on additional information (a frame of reference). (\$)
2. Estimates to check whether or not the result of a real-world problem using real numbers and/or algebraic expressions is reasonable and makes predictions based on the information. (\$)
3. Determines if a real-world problem calls for an exact or approximate answer and performs the appropriate computation using various computational strategies including mental math, paper and pencil, concrete objects, and/or appropriate technology. (\$)
4. Explains the impact of estimation on the result of a real-world problem (underestimate, overestimate, range of estimates). (\$)

**Benchmark 4:** Computation – The student models, performs, and explains computation with real numbers and polynomials in a variety of situations.

Base Indicators:

1. Computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology. (\$)
2. Performs and explains these computational procedures. (\$)

Multiplication or division to find (\$):

- a percent of a number
- percent of increase and decrease
- percent one number is of another number
- a number when a percent of the number is given

Matrix addition (\$), e.g., when computing (with one operation) a building's expenses (data) monthly, a matrix is created to include each of the different expenses; then at the end of the year, each type of expense for the building is totaled.

Scalar-matrix multiplication (\$), e.g., if a matrix is created with everyone's salary in it, and everyone gets a 10% raise in pay; to find the new salary, the matrix would be multiplied by 1.1.

Application Indicators:

1. Generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and in mathematical concepts with: (\$)

- Applications from business that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined
- Application of percents
- Simple exponential growth

**Standard 2:** Algebra – The student uses algebraic concepts and procedures in a variety of situations.

**Benchmark 1:** Patterns – The student recognizes, describes, extends, develops, and explains the general rule of a pattern in a variety of situations.

Base Indicators:

1. Identifies, states, and continues the following patterns using various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description)

2. Generates and explains a pattern

Application Indicators:

1. Recognizes the same general pattern presented in different representations [numeric (list or table), visual (picture, table, or graph), and written] (\$)

2. Solves real-world problems with arithmetic or geometric sequences by using the explicit equation of the sequence: A savings program can double your money every 12 years. If you place \$100 in the program, how many years will it take to have over \$1,000? (\$)

**Benchmark 2:** Variables, Equations, and Inequalities – The student uses variables, symbols, real numbers, and algebraic expressions to solve equations and inequalities in variety of situations.

Base Indicator:

1. Solves - **N** linear equations and inequalities both analytically and graphically (\$)

Application Indicator:

1. Represents real-world problems using variables, symbols, expressions, equations, inequalities, and simple systems of linear equations (\$)

2. represents and/or solves real-world problems with - linear equations and inequalities both analytically and graphically

**Benchmark 3:** Functions – The student analyzes functions in a variety of situations.

Base Indicator:

9. describes the difference between independent and dependent variables and identifies independent and dependent variables. (\$)

**Benchmark 4:** Models – The student develops and uses mathematical models to represent and justify mathematical relationships found in a variety of situations involving tenth grade knowledge and skills.

Base Indicator:

1. The student knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include:
  - a. process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to model computational procedures, algebraic relationships, and mathematical relationships and to solve equations (\$)
  - d. equations and inequalities to model numerical and geometric relationships (\$)
  - e. function tables to model numerical and algebraic relationships
  - l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data (\$)

Application Indicators:

1. The student recognizes that various mathematical models can be used to represent the same problem situation. Mathematical models include:
  - a. process models (concrete objects, pictures, diagrams, flowcharts, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to model computational procedures, algebraic relationships, mathematical relationships, and problem situations and to solve equations (\$)
  - c. equations and inequalities to model numerical and geometric relationships (\$)
  - d. function tables to model numerical and algebraic relationships (\$)
    - i. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to describe, interpret, and analyze data (\$)
2. The student uses the mathematical modeling process to analyze and make inferences about real-world situations (\$).

**Connections between *Hands on Banking* and *Kansas Standards for History and Government; Economics and Geography, 2005***

**FOURTH GRADE – EIGHTH GRADE**

**Economics Standard:** The student uses a working knowledge and understanding of major economic concepts, issues, and systems, applying decision-making skills as a consumer, producer, saver, investor, and citizen of Kansas and the United States living in an interdependent world.

**Benchmark 3:** The student makes effective decisions as a consumer, producer, and saver..

1. Understands that *spending* is the exchange of money for *goods* and/or *services*.
2. Distinguishes between *spending*, *borrowing*, *trading*, and/or *stealing*.
3. Understands that *scarcity of resources* requires *choices*.
4. Understands that individual economic choices have consequences.
5. Demonstrates an understanding of the concept of saving resources for a future purpose.

## HIGH SCHOOL

**Economics Standard:** The student uses a working knowledge and understanding of major economic concepts, issues, and systems applying decision-making skills as a consumer, producer, saver, investor, and citizen of Kansas and the United States living in an interdependent world.

**Benchmark 3:** The student makes effective decisions as a consumer, producer, saver, investor, and citizen.

- (A) - (\$) develops a personal *budget* that identifies sources of *income* and *expenditures* (e.g., wages, rent payments, *savings*, taxes, insurance).
- 5. (K) - (\$) determines the *costs* and *benefits* of using *credit*. 6. ▲(A) - (\$) analyzes the costs and benefits of investment alternatives (e.g., stock market, bonds, real estate).

(\$) marks an indicator that addresses a personal finance topic.

## Connections between *Hands on Banking* and *Kansas Curricular Standards for Listening, Viewing & Speaking, 2006*

### Grades 4-8

#### Listening

**Standard:** Learners will participate effectively as listeners within formal and informal groups.

- **Benchmark 1:** The effective listener is attentive.
- **Benchmark 2:** The effective listener identifies/recognizes verbal and nonverbal cues accurately.
- **Benchmark 3:** The effective listener understands the message.
- **Benchmark 4:** The effective listener remembers and applies content of message.
- **Benchmark 5:** The effective listener analyzes/evaluates the message.

#### Viewing

**Standard:** Students will demonstrate skills in viewing for a variety of purposes.

- **Benchmark 1:** The effective viewer is attentive.
- **Benchmark 2:** The effective viewer recognizes/identifies the cues in visual messages transmitted through objects, images, sounds, and words.
- **Benchmark 3:** The effective viewer understands the visual message.
- **Benchmark 4:** The effective viewer remembers and applies the content of the visual message.
- **Benchmark 5:** The effective viewer analyzes/evaluates visual messages.

#### Information Retrieval

**Standard:** Communicators will retrieve information from a variety of appropriate sources.

- **Benchmark 2:** The effective communicator uses sources from a variety of media and formats.
- **Benchmark 4:** The effective communicator analyzes/evaluates the sources and information.

## Connections between *Hands on Banking* and Kansas Curricular Standard for Reading Education (2003, modified 2009)

### FOURTH GRADE – EIGHTH GRADE

The student reads and comprehends text across the curriculum.

**Benchmark 1:** The student uses skills in alphabets to construct meaning from text.

**Benchmark 2:** The student reads fluently.

**Benchmark 3:** The student expands vocabulary.

**Benchmark 4:** The student comprehends a variety of texts (*narrative, expository, technical, and persuasive*).

### Grades 9-12

Kansas: Reading Curricular Standards (Grade Level Cluster 9-12) Kansas State Department of Education; Approved July 8, 2003; Standards aligned to assessments that begin in the 2005-06 school year.

**Standard 1:** The student reads and comprehends text across the curriculum.

**Benchmark 2:** The student reads fluently.

**Benchmark 3:** The student expands vocabulary.

Indicator:

Locates and uses reference materials available in the classroom, school, and public libraries (e.g., dictionaries, thesauri, atlases, encyclopedias, internet) that are appropriate to the task.

**Benchmark 4:** The student comprehends a variety of texts (*narrative, expository, technical, and persuasive*).

Indicators:

1. Identifies characteristics of *narrative, expository, technical, and persuasive texts*.
3. Uses prior knowledge, content, and text type features to make, to revise, and to confirm predictions.
4. Generates and responds logically to literal, inferential, evaluative, synthesizing, and *critical thinking* questions before, during, and after reading the text.
5. Uses information from the text to make inferences and draw conclusions.
7. Compares and contrasts varying aspects (e.g., *characters' traits and motives, themes, problem-solution, cause-effect* relationships, ideas and concepts, procedures, viewpoints, *authors' purposes, persuasive techniques, use of literary devices, thoroughness of supporting evidence*) in one or more appropriate-level texts.
8. Explains and analyzes *cause-effect* relationships in appropriate-level *narrative, expository, technical, and persuasive texts*.
9. Uses *paraphrasing* and organizational skills to *summarize* information (stated and implied *main ideas, main events, important details, underlying meaning*) from appropriate-level *narrative, expository, technical, and persuasive texts* in logical or sequential order, clearly preserving the author's intent.
10. Identifies the *topic, main idea(s), supporting details, and theme(s)* in text across the content areas and from a variety of sources in appropriate-level texts.
12. Establishes purposes for both assigned and self-selected reading (e.g., to be informed, to follow directions, to be entertained, to solve problems).
13. Follows directions presented in *technical text*.

**Kansas: Writing Curricular Standards (Grade Level Cluster 9-12) Department of Education (2003)**

**Standard 1:** Writing: The students write effectively for a variety of audiences, purposes, and contexts.

**Benchmark 3:** The student writes technical text using the writing process.

Indicator:

6. Applies appropriate strategies to generate technical text (e.g. brainstorming, listing, webbing, working in pairs or cooperative groups, identifying information from print sources).

7. Organizes information within each section, paragraph, list, or graphic in a logical and effective sequence to meet the reader's informational needs.

**We congratulate you on your support of financial education in your schools, and thank you for your interest in our program. We welcome your questions and comments, or if you would like additional information, please contact us at [hobinfo@wellsfargo.com](mailto:hobinfo@wellsfargo.com)**