Topic: Building a Basketball Court: Sizing
Grade: 4-6

An integrated lesson plan covering 2 sessions of 1 hour each, with an out-of-class assignment
Grade: 5-8

Dr. Bob Rhodes
Hopi Reservation

Lesson-Planning Approach

Some learners perceive their "world" as a whole, where all things are interconnected and dependent upon each other. These "integrated" students face major challenges in coping with our dominant educational, social, and economic systems, which tend to present information in a linear fashion without the necessity of integration into meaningful context. Integrated students are at-risk of failing as they attempt to grasp information in ways that do not match their experience. Among large populations of at-risk students are many from Native American and similar cultures who do not regard their world as a sum of parts but as a blend of all that they experience.

This lesson plan does include some traditional, linear approaches to delivering information (checklists, rules, analysis, problem solving and organization). In addition to the traditional, linear delivery of information, this lesson plan also includes some of the following strategies, designed to appeal to at-risk students as they learn academic/life skills:

- Integration of technology
- Story telling/anecdotal information
- Non-competitive group and team work
- Performance-based assessment and rubrics
- Visual presentations and practice through technology and other means
- Project-based assignments that integrate family and community
- Activities appealing to multiple intelligences (Gardner)

Lesson Overview

This lesson is more interesting and appropriate for students during basketball season, but can be done any time.

This lesson is designed to be a part of a larger unit to actually construct a basketball court. The assumption is that the students are interested in determining the size of a court. Students will research, measure, determine area, and make a scale drawing. Students will discover differences in basketball court sizes and discuss those differences. They will then determine an appropriate size for a court for themselves.

Lesson Objectives

Project Objectives: When students complete this lesson, they will be able to…

- Research on the internet
- Research in encyclopedias
- Measure in inches, feet, yards
- Determine area in more than one way
- Make a scale drawing
- Work in small groups cooperatively
- Develop leadership skills

Integration of Other Functional/Academic Skills: Students will be able to…

Math:	Measure in feet, inches, and yards Convert between feet, inches, yards, including fractions and Decimals Calculate area Draw to scale
Reading:	Do research on the Internet and in encyclopedias
Language Arts:	Report to the group, written and/or verbally Telephone etiquette, follow directions, give directions
Social Studies:	Work in groups Do independent and group research Determine research approach

State/National Standards (Complete as Appropriate)

See list at end of document.

Websites

www.worldofsports.com
www.handymanusa.com/articles/basketballcourt.htm
www.infoplease.com/IPA/A0112320.html

Pre-requisites

None

Required Materials

1. Measuring devices
2. Graph paper
3. Encyclopedias
4. Yard stick
5. Measuring tape(s) (16' or 25')
6. 81 12" square floor tiles or a floor tiled with 12" tiles

Handouts

Required Equipment/Technology

- Internet access
- Telephone access
- MS Word for students
- Calculators

THE LESSON

Note: Students do not learn from what <u>you</u> do but from what you have <u>them</u> do.

What you say is less likely to be remembered than what they say. Ask questions, give few answers.

This more of an outline than a detailed set of instructions. Add your own ideas and personality to the lesson.

During this whole project, the role of the instructor is more that of a coach than that of a source of information. Whenever possible, let students do the research, ask the questions, come up with the answers or possibilities, work out their differences, even go in the wrong direction. The instructor can try to keep up the students' enthusiasm, show them their progress, encourage them.

Activity	Instructor Notes
Day 1	
Discuss reasons for needing Basketball court dimensions	Students want to build a basketball court. They need to know how much material is needed Or any other reason.
Determine ways of finding dimensions Discuss search topics	Measure, ask a coach, encyclopedia, internet, call a more knowledgeable person at another location
Homework and Day 2	
Divide into groups, find dimensions Measure as many courts as possible. Discuss results	Answers should be in feet and inches. Cement comes in cubic yards, so you will eventually need square yards. There is a wide difference in basketball court dimensions, so group discussion will be necessary to discuss differences. Students should determine what size is right for them.
Determine length, width, area	Find floor tiles (1 foot square) and show that area is length times width.

Convert any extra inches to fractions (decimals) of feet.	
Determine area in square feet	
Determine area in square yards	Show that 1 sq. yd. = 9 sq. ft. with tiles Try 3x3 yards with 81 tiles
Draw a basketball court to scale, including appropriate markings	Some may have to go remeasure for markings.

Rubrics

(You will likely be able to develop additional rubrics. This is a start.

Measurement

1. Easily measures the length and width of a basketball court in feet and inches.
2. Measures the length and width of a basketball court in feet, has some trouble with inches.
3. Has some trouble measuring more than one length of a tape measure or yard stick.
4. Requires a great deal of assistance to accurately measure length and width.

Conversion

1. Easily converts measurements to feet, yards, inches and any of those with fractions and/or decimals.
2. Can convert measurements to feet, yards, inches but has trouble with fractions and/or decimals.
3. Can convert to some extent, but has trouble. Is not able to deal with fractions and/or decimals in conversions.
4. Is not able to convert linear measurements.

Area

1. Using measurements of length and width, can determine area in square feet, square yards, square inches, including fractions and/or decimals.
2. Using measurements of length and width in feet, can determine area in square feet. Has trouble with yards and/or inches.
3. Has trouble conceptualizing the relationship between width, length and area.
4. Is not able to determine area.

Scale Drawing

1. Is able to make a scale drawing accurately
2. Is able to make a scale drawing with only a few errors.
3. Is able to make a scale drawing with several errors.
4. Is not able to make a scale drawing.

Problem Solving

1. Is able to determine a procedure and steps to determine the area of a basketball court, with options and alternatives.
2. Is able to determine one procedure to determine the area of a basketball court.
3. Must follow the lead of others in determining how to find the area of a basketball court.

Technology Use

1. Is able to do a search to find the area of a basketball court, including markings.
2. Is able to do a search, but gets distracted.
3. Is not able to do a search.

Leadership

1. Is able to organize the team to accurately accomplish the determined task. Can report back to the group.
2. Is able to participate in the group activity to accomplish the determined task. Can assist in reporting back to the group.
3. Goes with the group but does not participate in the accomplishment of the determined task. Does not assist with reporting to the group.

LIST OF STANDARDS FOR COMPLETED PROJECT– ARIZONA

Following are Arizona State Standards that would or could be covered by this project.

Language Arts

LS-E1. Prepare and deliver an organized speech and effectively convey the message through verbal and nonverbal communications with a specific audience
LS-E2. Prepare and deliver an oral report in a content area and effectively convey the information through verbal and nonverbal communications with a specific
LS-E3. Interpret and respond to questions and evaluate responses both as interviewer and interviewee
LS-E4. Predict, clarify, analyze and critique a speaker's information and point of view
R-E4. Identify the author's purpose, position, bias and strategies in a persuasive selection
(Grades 4-5)
PO 1. Identify the author's purpose and use of details to support the purpose
PO 2. Describe the author's use of strategies to convince or persuade
- bandwagon
- peer pressure
- "loaded" words
PO 3. Identify the author's bias
(Grades 6-8)
PO 1. Identify the author's purpose and use of details to support the purpose
PO 2. Describe the author's use of strategies to convince or persuade
- bandwagon
- peer pressure
- "loaded" words
PO 3. Identify the author's bias
R-E5. Evaluate an instructional manual such as assembly directions or user's guide

for clarity and completeness
Note: Can be used for 5th and 8th grades, depending on difficulty of manual used for the assessment
PO 1. Identify the components of an instructional manual (e.g., directions, tools required,
parts needed, illustrations, diagram sequence, bold face for relevant steps)
PO 2. Incorporate information from the illustrations
PO 3. Locate support help in manual or from manufacturer
PO 4. Identify the sequence of activities needed to carry out a procedure
PO 5. Identify information that is either extraneous or missing (e.g., directions, tools required, parts needed, illustrations, diagram sequence, bold face for relevant steps)
VP-E1. Analyze visual media for language, subject matter and visual techniques used to influence opinions, decision making and cultural perceptions
VP-E2. Plan, develop and produce a visual presentation, using a variety of media such as videos, films, newspapers, magazines and computer images
VP-E3. Compare, contrast and establish criteria to evaluate visual media for purpose and effectiveness
W-E1. Use correct spelling, punctuation, capitalization, grammar and usage,
along with varied sentence structure and paragraph organization, to complete effectively a variety of writing tasks
(Grades 4-5)
PO 1. Spell correctly
PO 2. Punctuate correctly (e.g., sentence endings, commas in a friendly letter's greeting and closing, commas in a series, abbreviations, quotations in dialog, apostrophes)
PO 3. Apply rules of capitalization (e.g., sentence beginnings, titles, abbreviations, proper nouns)
PO 4. Apply standard grammar and usage (e.g., subject-verb agreement, simple and compound sentences, appropriate verb tense, plurals)
PO 5. Organize paragraphs with a variety of sentence structures (e.g., simple, compound)
(Grades 6-8)
PO 1. Spell correctly
PO 2. Punctuate correctly (e.g., sentence endings, commas in a series, commas in compound sentences, abbreviations, quotation marks, colon in a business letter greeting, apostrophes)
PO 3. Apply rules of capitalization (e.g., sentence beginnings, titles, abbreviations, proper nouns, direct quotations)
PO 4. Apply standard grammar and usage (e.g., subject-verb agreement; simple, compound and complex sentences; appropriate verb tense; plurals; prepositions)
PO 5. Organize paragraphs with a variety of sentence structures (e.g., simple, compound, complex)
PO 1. Write a personal experience narrative
- develop a story line in a sequence that is clear
- use descriptive words and phrases
PO 1. Write a personal experience narrative

- develop a story line in a sequence that is clear
- use figurative language or descriptive words and phrases

W-E3. Write a summary that presents information clearly and accurately, contains the most significant details and preserves the position of the author

(Grades 4-5)

Note: For instructional purposes–not for state assessment

(Grades 6-8)

PO 1. Use own words except for material quoted

PO 2. Preserve the author's perspective and voice

PO 3. Contain main ideas of event/article/story plus the most significant details

PO 4. Present clearly written and organized information

W-E5. Write a report that conveys a point of view and develops a topic with appropriate facts, details, examples and descriptions from a variety of cited sources

(Grades 4-5)

PO 1. Write a report in own words that states, develops and provides a concluding statement for a point of view (perspective) about a topic that is narrow enough to be adequately covered

PO 2. Use logical sequence (including transitional words and phrases such as *first*, *next*,
then)

PO 3. Provide support through facts, details, examples or descriptions that are appropriate, directly related to the topic and from a variety of cited sources

(Grades 6-8)

PO 1. Write a report in own words (except for material quoted) that states, develops and provides a concluding statement for a point of view (perspective) about a topic that is narrow enough to be adequately covered

PO 2. Organize a report with a clear beginning, middle and end including use of smooth transitions

PO 3. Provide support through facts, details, examples or descriptions that are appropriate,
directly related to the topic, and from a variety of cited sources

PO 4. Use personal interpretation, analysis, evaluation or reflection to evidence understanding of subject

Math

1M-E1. Read, write and order integers, whole numbers and rational numbers

(Grades 4-5)

PO 1. Compare and order using concrete or illustrated models

A. whole numbers (to millions)

B. common fractions (halves, thirds, fourths, eighths)

C. decimals (thousandths)

PO 2. Represent place value using concrete or illustrated models

A. whole numbers (millions), decimals (thousandths)

PO 3. Read and write whole numbers, integers, common fractions and decimals using realworld situations

A. whole number (millions), decimals (thousandths), fractions (halves, thirds, fourths, eighths)
(Grade 6-8)
PO 1. Compare and order using concrete or illustrated models
D. rational numbers (e.g., -5, 1.2, 1 3/4, square root of 16)
PO 2. Represent place value using concrete or illustrated models
B. rational numbers (millions to millionths)
PO 3. Read and write whole numbers, integers, common fractions and decimals using realworld situations
B. rational numbers (millions to millionths)
1M-E2. Relate the basic arithmetic operations to one another (e.g., multiplication and division are inverse operations)
(Grades 4-5)
PO 1. Represent the process of multiplication as repeated addition, using concrete or illustrative models
A. whole numbers
PO 2. Represent the process of division as repeated subtraction, partitioning a group and
partitioning a whole, using concrete or illustrative models
A. whole numbers
PO 3. Write the family of equations using inverse operations for a given set of numbers
A. whole numbers with addition/subtraction [(4 + 5 = 9, 5 + 4 = 9, 9 – 4 = 5, 9 – 5 = 4) and multiplication/division]
(Grades 6-8)
PO 1. Represent the process of multiplication as repeated addition, using concrete or illustrative models
B. fractions and decimals
PO 2. Represent the process of division as repeated subtraction, partitioning a group and
partitioning a whole, using concrete or illustrative models
B. fractions and decimals
PO 3. Write the family of equations using inverse operations for a given set of numbers
B. positive fractions and decimals, integers with addition/subtraction and multiplication/division
1M-E3. Demonstrate proficiency with the operations of multiplication and division of whole numbers
(Grades 4-5)
PO 1. Calculate multiplication/division
A. three-digit by two-digit to find the product
B. facts through 12
C. mental math and estimation with multiples of 10
D. one-digit divisor to find quotient with remainder
PO 2. Calculate multiplication and division problems using contextual situations
(Grades 6-8)
PO 1. Calculate multiplication/division
E. two-digit divisor, with remainders and rounding in context (e.g., percentages and

money)
PO 2. Calculate multiplication and division problems using contextual situations
1M-E5. Represent and use numbers in equivalent forms (integers, fractions, percent, decimals, exponents, scientific notation and square roots)
(Grades 4-5)
PO 2. Demonstrate the relationship and equivalency among
A. decimals, fractions and percents (e.g.,1/2 = .5 = 50% with halves, fourths and tenths)
(Grades 6-8)
PO 1. Add, subtract, multiply and divide integers, positive fractions and decimals
PO 2. Demonstrate the relationship and equivalency among
B. decimals, fractions, ratios, percents
1M-E6. Recognize that the degree of precision needed in calculating a number depends on how the results will be used and the instruments used to generate the measurements
(Grades 4-5)
PO 2. Apply the appropriate strategy (e.g., estimation, approximation, rounding or exact numbers) when calculating to solve problems
PO 3. Demonstrate/describe the magnitude of
A. whole numbers (e.g., “How many apples in the orchard?”)
Note: We recommend that the following be assessed at the district level:
PO 4. Interpret calculations and calculator results within a contextual situation
(Grades 6-8)
PO 1. Express answers to the appropriate place or degree of precision (e.g., time, money, pi)
PO 2. Apply the appropriate strategy (e.g., estimation, approximation, rounding or exact numbers) when calculating to solve problems
PO 4. Interpret calculations and calculator results within a contextual situation
2M-E1. Construct, read, analyze and interpret tables, charts, graphs and data plots
PO 1. Construct
A. bar graphs, line graphs, frequency tables and Venn diagrams
PO 2. Interpret and analyze data from graphical representations and draw simple conclusions
A. bar graphs, line graphs, circle graphs, frequency tables and Venn diagrams
PO 2. Interpret and analyze data from graphical representations and draw simple conclusions
PO 3. Choose an appropriate graphical format to organize and represent data
2M-E2. Make valid inferences, predictions and arguments based on statistical analysis
(Grades 4-5)
PO 1. Formulate predictions from a given set of data and justify predictions
PO 2. Compare a given prediction with the results of an investigation
(Grades 6-8)
PO 1. Formulate predictions from a given set of data and justify predictions
PO 2. Compare a given prediction with the results of an investigation
PO 3. Critique the conclusions and recommendations of others’ statistics
PO 4. Consider the effects of missing or incorrect information

3M-E1. Use algebraic methods (write number sentences, in the form of expressions and equations) to explore, model and describe patterns and functions involving numbers, shapes, data, graphs and data plots
PO 2. Create simple geometric and number patterns
PO 3. Describe a rule for a simple pattern (e.g., 5, 10, 15, 20 . . . rule = add five or count by fives)
PO 4. Generate patterns using algebraic expressions
3M-E4. Analyze functional relationships to explain how a change in one variable results in a change in another
(Grades 4-5)
PO 1. Describe a real-life situation in which a change in one variable results in the change of the other (e.g., temperature in the classroom goes up and the amount of clothing goes down)
PO 3. Compute an "output" for a given "input" in a function
(Grades 6-8)
PO 2. Produce the rule (function) that explains the relationship (pattern) between the numbers when a change in the first variable affects the second variable (T-chart, two-row
table, or input/output machine)
3M-E7. Solve simple linear equations and inequalities using a variety of methods (e.g., informal, formal, graphical) and a variety of manipulatives
(Grades 4-5)
PO 1. Solve equations using
A. whole numbers with one variable--one step
3M-E8. Develop, analyze and explain methods for solving proportions
(Grades 4-5)
Note: There are no POs at this level
(Grades 6-8)
PO 1. Describe how to solve a problem in context using a proportion
PO 2. Compare quantities using ratios
PO 3. Solve proportions using formal (e.g., cross product) or informal methods (e.g., diagrams, geometric models)
4M-E1. Visualize and draw two- and three-dimensional geometric figures with special attention to analyzing and reasoning informally about their properties (e.g., parallelism, perpendicularity and congruence)
(Grades 4-5)
PO 1. Classify two-dimensional shapes and three-dimensional figures by their properties
A. by sight
PO 3. Draw or build two-dimensional shapes by applying significant properties of each (e.g., draw a rectangle with two sets of parallel sides and four right angles)
PO 1. Classify two-dimensional shapes and three-dimensional figures by their properties
B. by properties
4M-E2. Apply geometric properties and relationships such as congruence, similarity, angle measure, parallelism and perpendicularity to real-world situations
(Grades 4-5)

PO 1. Design or draw a model (e.g., designing a playhouse, garden) that demonstrates basic geometric relationships, such as
A. parallelism, perpendicularity, similarity
PO 5. Identify lines that are parallel and perpendicular
PO 1. Design or draw a model (e.g., designing a playhouse, garden) that demonstrates basic geometric relationships, such as
4M-E4. Represent and solve problems relating to size, shape, area and volume using geometric models
(Grades 4-5)
PO 1. Solve problems using given formulas for
A. simple area and perimeter
PO 2. Identify a variety of shapes having the same perimeter and area
(Grades 6-8)
PO 1. Solve problems using given formulas for
B. area, perimeter/circumference of various circles/polygons
5M-E1. Estimate, make and use measurements (U.S. customary and metric) to describe and make comparisons
(Grades 4-5)
PO 1. Measure length, volume and weight in both U.S. customary and metric units
PO 2. Convert measurement units to equivalent units within a given system (customary and metric) (e.g., 12 inches = 1 foot, 10 decimeters = 1 meter)
PO 3. Estimate measurements for both U.S. customary and metric units within either system
(Grades 6-8)
PO 3. Estimate measurements for both U.S. customary and metric units within either system
PO 4. Compare estimated measurements between U.S. customary and metric systems (e.g., a yard is about a meter*)*
5M-E2. Select and use appropriate units and tools to measure to the degree of accuracy required in a particular problem-solving situation
(Grades 4-5)
PO 1. State the appropriate tool to measure in a particular situation (e.g., “What tool would you use to measure the top of your desk?”)
PO 2. State the appropriate unit of measurement in a particular situation (e.g., “What unit of measurement would you use to measure the top of your desk?”
PO 3. Measure to the appropriate degree of accuracy to solve problems (e.g., measuring to the nearest sixteenth of an inch or using ounces, measuring to the nearest millimeter
or using liters)
(Grades 6-8)
PO 3. Measure to the appropriate degree of accuracy to solve problems (e.g., measuring to the nearest sixteenth of an inch or using ounces, measuring to the nearest millimeter
or using liters)
5M-E3. Estimate, use and describe measures of distance, perimeter, area, volume, capacity, weight, mass and angles

(Grades 4-5)
PO 1. Differentiate between perimeter and area of quadrilaterals using concrete and illustrative models
PO 2. Record estimates and measurements for
A. distance
A. perimeter
E. area
G. weight
(Grades 6-8)
PO 2. Record estimates and measurements for
B. distance in scale drawings
B. circumference
C. area
F. volume
5M-E4. Develop and use formulas and procedures to solve problems involving measurement
(Grades 4-5)
PO 1. Develop a procedure or formula to calculate
A. area and perimeter of simple polygons
PO 2. Use given formulas to find
A. area and perimeter of simple polygons
(Grades 6-8)
PO 1. Develop a procedure or formula to calculate
B. area of polygons and circles
5M-E5. Describe how a change in the linear dimension of an object affects its perimeter, area and volume
(Grades 4-5)
PO 1. Describe the change in perimeter and area when one dimension of an object is altered
(Grades 6-8)
PO 2. Describe the effect on perimeter, area and volume when one dimension of an object is altered
6M-E3. Use *if* . . . *then* statements to construct simple valid arguments
(Grades 4-5)
PO 1. Construct simple valid arguments using *if* . . . *then* statements based on
A. graphic organizers (e.g., Venn diagrams and pictures . . .)
B. geometric shapes
(Grades 6-8)
PO 1. Construct simple valid arguments using *if* . . . *then* statements based on
B. geometric shapes
C. proportional reasoning in probability
PO 2. Solve problems using deductive reasoning

Science

1SC-E1. Identify a question, formulate a hypothesis, control and manipulate variables, devise experiments, predict outcomes, compare and analyze results, and defend conclusions
(Grades 4-5)
PO 1. Distinguish between a question and a hypothesis
PO 2. Describe the functions of variables in an investigation
1SC-E3. Organize and present data gathered from their own experiences, using appropriate mathematical analyses and graphical representations
(Grades 4-5)
PO 1. Organize gathered data into an appropriate format
PO 2. Construct a representation of data (e.g., bar graph, line graph, frequency table, Venn diagram)
2SC-E2. Describe how science and technology are interrelated
(Grades 4-5)
PO 1. Describe how science has helped technology change over time
PO 2. Describe how technology has helped science change over time
2SC-E3. Provide different explanations for a phenomenon; defend and refute the explanations
(Grades 4-5)
PO 1. Propose several possible explanations for a scientific phenomenon
PO 2. Provide evidence to defend an explanation for a scientific phenomenon
PO 3. Provide evidence to refute an explanation for a scientific phenomenon
(Grades 6-8)
PO 1. Analyze different theories to explain a phenomenon
PO 2. Defend or refute the explanation of a phenomenon
2SC-E4. Identify characteristics of scientific ways of thinking
(Grades 4-5)
PO 1. Describe a variety of ways scientists generate ideas
(Grades 6-8)
PO 1. Describe the following scientific processes: observing, communicating, comparing, organizing, relating, inferring and applying
3SC-E1. Recognize how scientific knowledge, thinking processes and skills are used in a great variety of careers
(Grades 4-5)
PO 1. Explain how scientific knowledge and skills are integral to a variety of careers
(Grades 6-8)
PO 1. Explain how scientific knowledge, thinking processes and skills are used to solve problems in a variety of careers
3SC-E3. Identify a specific need and propose a solution or product that addresses this need, taking into consideration various factors
(Grades 4-5)
PO 1. Identify a human or environmental need
PO 2. Describe the various factors affecting the need
PO 3. Propose a solution or product that addresses the need
(Grades 6-8)

PO 1. Design a solution or product that addresses a need and considers the factors of an environmental or human problem
3SC-E4. Implement a proposed solution or design and evaluate its merit
(Grades 4-5)
PO 1. Evaluate the possible strengths and weaknesses of a given solution to a problem
(Grades 6-8)
PO 1. Apply a proposed solution to a problem
PO 2. Evaluate the merit of a proposed solution
5SC-E1. Examine, describe, compare, measure, and classify objects and mixtures of substances based on common physical and chemical properties (e.g., states of matter, mass, volume, electrical charge, density, boiling points, pH, magnetism, solubility)
(Grades 4-5)
PO 1. Identify common physical and chemical properties
PO 2. Compare physical and chemical properties of common objects
PO 3. Compare physical and chemical properties of common mixtures
(Grades 6-8)
PO 1. Classify objects and mixtures of substances based on physical and chemical properties
PO 2. Analyze physical and chemical properties of objects and mixtures
5SC-E2. Classify and describe matter in terms of elements, compounds, mixtures, atoms and molecules
(Grades 4-5)
PO 1. Distinguish among matter, mixtures and compounds
5SC-E4. Identify and predict what will change and what will remain unchanged when matter experiences an external force or energy change (e.g., boiling a liquid; comparing the force, distance and work involved in simple machines)
(Grades 4-5)
PO 1. Define force
PO 2. Describe the effects of various forces on an object
(Grades 6-8
PO 1. Identify properties of matter that will/will not change when matter experiences external force or energy change
PO 2. Predict the outcome when matter experiences an external force or energy change
6SC-E3. Describe the composition (including the formation of minerals, rocks and soil) and the structure of the earth
(Grades 4-5)
PO 1. Describe the layers of the earth and their compositions
PO 2. Explain how rocks, minerals and soil are formed

Social Studies

4SS-E3. Describe how consumers and businesses interact in the United States economy, with emphasis on:
PO 1. how competition, markets, and prices influence people's behavior
PO 2. how people earn income by selling their labor to businesses

PO 3. how entrepreneurs take risks to develop new goods and services to start a business
4SS-E4. Apply the economic concepts of scarcity and choice, with emphasis on:
PO 1. how limited resources and unlimited human wants cause people to choose some things and give up others
PO 2. scarcity, opportunity costs, and trade-offs, and how these concepts influence decision-making
PO 4. how scarcity influences personal financial choices, including budgeting, saving, investing, and credit
4SS-E5. Describe the economic benefits of specialization and exchange, with emphasis on:
PO 1. why specialization improves standards of living
PO 2. how money, as opposed to barter, facilitates trading, borrowing, saving, investing, and the ability to compare the value of goods and services
4SS-E7. Describe the operation of a market economy, with emphasis on:
PO 1. Adam Smith's ideas of a market economy, including private property, freedom of enterprise, competition, consumer choice, and the limited role of government
PO 2. how the interaction between buyers and sellers determines market prices
PO 3. how competition among sellers lowers costs and prices and encourages producers to produce what consumers are willing and able to buy
PO 5. why voluntary exchange benefits buyers and sellers
PO 7. how income for most people is determined by the value of the resources they sell and how the distribution of income affects public policy and standards of living
4SS-E8. Describe the factors that cause economic growth, with emphasis on:
PO 3. the role of entrepreneurs in the free enterprise system who take the risks of organizing productive resources

Technology

1T-E1. Communicate about technology using developmentally appropriate and accurate terminology
PO 1. Use basic vocabulary related to technology (e.g., FireWire, USB, parallel, serial, scanning, digitizing, OCR)
PO 2. Use basic vocabulary related to systems (e.g., network, infrastructure, Internet, Intranet, LAN, WAN, Ethernet, firewall, server, TCP-IP)
1T-E2. Demonstrate increasingly sophisticated operation of technology components
PO 1. Use touch-typing strategies to reach a minimum of 25 words per minute with accuracy
(e.g., meets school-identified standard for accuracy)
PO 2. Retrieve and save information remotely (e.g., network servers, Internet, Intranet, peripheral devices)
PO 3. Demonstrate functional operation of technology devices (e.g., presentation devices,
digital cameras, scanners, document cameras, scientific probes)

2T-E3. Demonstrate knowledge of current changes in technologies and the effect those changes have on the workplace and society
PO 2. Describe the impact of technology use on individuals at home and in the workplace
(e.g., computer has replaced the TV for some individuals; free time is spent using technology versus outdoor activities; jobs have been created and/or eliminated due to technological advances; possible infringement of privacy)
PO 3. Discuss the social implications of the "digital divide" (e.g., homes and schools with
much technology and connectivity versus those with less or none)
3T-E1. Use formatting capabilities of technology tools for communicating and illustrating
PO 1. Use word processing editing tools to revise a document (e.g., cut and paste, tabs and margins, font size, font style, delete and undo, selecting, spell check, click and drag)
3T-E2. Use a variety of technology tools for data collection and analysis
PO 2. Create and use a spreadsheet to analyze data (e.g., use formulas, create charts and
graphs)
4T-E2. Use technology tools for individual and collaborative writing, communication and publishing activities to create curricular related products for audiences inside and outside the classroom
PO 1. Plan, design and present an academic product using technology tools (e.g., multimedia authoring, presentation software, digital cameras, scanners, projection devices)
5T-E1. Locate information from electronic resources
PO 1. Identify electronic research resources
PO 2. Define subject searching and devise a search strategy to locate information using available electronic research resources (i.e., electronic card catalog, online or
CD-ROM reference sources, grade level appropriate Internet resources)

Workplace Skills

1WP-E1. Deliver a speech clearly, with expression and in an organized fashion, making eye contact with audience, and convey the message through nonverbal as well as verbal communications
PO 1. Prepare a coherent speech with an introduction, body, and conclusion
PO 2. Present verbal and non-verbal forms of communication in presenting the speech
PO 3. Select a variety of forms of print and non-print material to convey the message
1WP-E3. Demonstrate correct grammar and punctuation in writing
PO 1. Spell correctly
PO 2. Punctuate correctly (e.g., sentence endings, commas, semicolons, colons)
PO 3. Apply rules of capitalization correctly (e.g., sentence beginnings, titles, abbreviations, proper nouns)
PO 4. Apply standard grammar and usage (e.g., subject/verb agreement, simple and compound sentence, appropriate verb tenses, plurals)

PO 5. Organize paragraphs with a variety of sentence structures (e.g., simple, compound,
complex)
1WP-E4. Respond to oral and written presentations by formulating relevant feedback, expressing opinions, discerning the main idea and distinguishing fact from opinion
PO 1. Summarize main ideas of an oral or written presentation
PO 2. Differentiate between facts and opinions in a presentation *(Grades 6-8)*
PO 4. Express opinions relating to the main idea in a presentation
1WP-E5. Interpret, clarify, and evaluate a presenter's point of view
PO 1. Explain the presenter's point of view *(Grades 4-5)*
PO 2. Compare the presenter's point of view with personal point of view *(Grades 6-8)*
1WP-E7. Identify the relevant details and facts of written materials
PO 1. Identify the purpose of written material and response expected from reader
PO 2. Identify relevant facts contained in selected written material
1WP-E8. Write formal communications that have a definite audience and clear purpose; contain no gaps, omissions or assumptions which impede comprehension; and follow the proper form whether it be a personal or business letter, message, memo, manual directions or applications
PO 1. Write a formal communication in an appropriate format for a specific audience and
purpose
PO 2. Organize ideas in a meaningful sequence using transitional words or phrases
PO 3. Write ideas that are clear and directly related to the topic
2WP-E1. Apply math standards 1-6 to a variety of workplace scenarios
3WP-E1. Utilize information acquired from several sources and transfer information learned in one situation to another
PO 1. Research a designated topic using a wide array of information sources
PO 2. Analyze the information obtained from the research
PO 3. Classify the information obtained from the research
PO 4. Compare the information to a new situation
3WP-E2. Devise and implement a plan of action by specifying goals and constraints
PO 1. Define goals and objectives
PO 2. Develop appropriate time line
PO 3. Identify constraints to achieving goals
PO 4. Identify resources needed to accomplish goals
PO 5. Develop criteria to evaluate plan of action
3WP-E3. Generate alternatives, consider risks, evaluate and choose solutions
PO 1. Select from possible solutions in a designated scenario
PO 2. Evaluate possible solutions in a designated scenario
PO 3. Identify risks in a designated scenario
PO 4. Assess risks and risk factors in a designated scenario
3WP-E4. Monitor progress and make adjustment to meet stated objectives
PO 1. Identify activities for given objectives
PO 2. Designate assessment tasks to measure progress towards objectives
PO 3. Evaluate progress towards objective
PO 4. Revise activities when necessary to achieve objective

3WP-E5. Reflect on the action taken to determine what has been gained, lost or achieved
PO 1. Evaluate what has been gained, lost or achieved
4WP-E2. Analyze the difference between individual and group decisions and accomplishments
PO 1. Identify the characteristics of individual decisions and accomplishments
PO 2. Identify the characteristics of group decisions and accomplishments
PO 3. Compare the characteristics of individual and group decisions and accomplishments
4WP-E3. Exert a high level of effort and perseverance toward goal attainment, as a team member
PO 1. Identify the team goal
PO 2. Identify the team member roles and responsibilities
5WP-E1. Evaluate areas of interest and/or potential career choices
PO 1. Identify areas of interest (e.g., personal, career)
PO 2. Evaluate individual skills
5WP-E2. Demonstrate work ethics and behaviors for success as defined by school and community
PO 1. Identify characteristics of work ethics and behavior as defined by school and community
PO 2. Demonstrate identified work ethics and behaviors in your school and community
5WP-E3. Demonstrate the connection between academic skills and career pathways by identifying required education and training to achieve career choice(s)
PO 1. Identify academic preparation necessary for a variety of careers
7WP-E1. Demonstrate basic computer operation skills in a variety of applications to organize information
PO 1. Use technology to retrieve, organize and manipulate electronic information using media such as CD-ROM, videodisks and telecommunication systems

The Arts

1AT-E1. Create and script (e.g., through scenarios for improvisations and scripts), both individually and in groups, scenarios that develop tension and suspense between believable, interrelated characters
PO 1. In small groups cooperatively plan scenes or improvisations

Foreign Language

Health

1CH-E1. Explain the relationship between positive health behaviors and health care and the prevention of injury, illness, disease, disability and premature death
(Grades 4-5)
PO 1. Describe positive health behaviors which can prevent common injuries, diseases and other conditions

1CH-E5. Explain how environmental health and personal health are interrelated
(Grades 4-5)
PO 1. Describe the relationship between healthy people and a healthy environment
(Grades 6-8)
PO 1. Compare healthy environments and healthy people with unhealthy environments and unhealthy people
3CH-E3. Distinguish between responsible and risky/harmful behaviors (e.g., responsible: exercise, sleep, nutrition; risky: the use of tobacco, alcohol and other drugs)
(Grades 4-5)
PO 1. List differences between responsible and risky behaviors
(Grades 6-8)
PO 1. Identify responsible and risky behaviors
3CH-E4. Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations
(Grades 4-5)
PO 1. Identify ways to prevent personal and family injuries
PO 2. Identify ways to avoid dangerous situations for yourself and your family
(Grades 6-8)
PO 1. Identify existing prevention and management strategies regarding personal and family health
PO 2. Identify ways to avoid threatening situations
4CH-E1. Describe health behaviors and the use of health services in different cultures and explain the factors responsible for the differences
(Grades 4-5)
PO 1. Compare how different cultures regard health
PO 2. Distinguish the ways health services are used by different cultures
(Grades 6-8)
PO 1. Distinguish how different cultures utilize health services
PO 2. Describe the factors responsible for the differences in health care
5CH-E3. Demonstrate strategies to manage conflict in healthy ways
(Grades 4-5)
PO 1. Classify techniques that will promote conflict resolution
PO 2. Choose five healthy ways to control conflict
(Grades 6-8)
PO 1. Determine which ways can control conflict
PO 2. Apply five healthy ways to control conflict

Physical Education

1PA-E1. Demonstrate competence in a variety of movement forms
(Grades 4-5)
PO 1. Throw, catch, strike and kick using mature form in a variety of physical activity settings
PO 2. Dribble and pass a variety of objects to a stationary target/receiver (e.g., hands, feet, equipment)

PO 2. Dribble and pass a variety of objects to a moving target/receiver (e.g., hands, feet, equipment)
2PA-E1. Describe the relationship between a healthy lifestyle and feeling good
(Grades 4-5)
PO 1. Give examples of the benefits derived from regular physical activity
PO 2. Identify several moderate to vigorous physical activities that provide personal pleasure
2PA-E2. Apply basic principles of training to improve physical fitness
(Grades 4-5)
PO 1. Engage in appropriate activity that results in the development of muscular strength and endurance
PO 1. Participate in physical activities at home for personal enjoyment and benefit
3PA-E1. Participate regularly in health-enhancing physical activities to accomplish personal health goals
(Grades 4-5)
PO 1. Participate regularly in a physical activity that develops a healthy lifestyle
PO 2. Describe health benefits that result from regular and appropriate participation in physical activity
3PA-E2. Participate in a variety of physical activities of personal interest
(Grades 4-5)
PO 1. Identify at least one enjoyable activity he/she participates in daily (formal or informal)
PO 2. Identify opportunities for more formal participation in physical activities in the community
PO 1. Participate in activities both in and out of school based on individual interests and capabilities (e.g., aquatics, self-defense, gymnastics, games, sports, dance and outdoor pursuits)
5PA-E1. Explain the influence of peer pressure in physical activity settings
(Grades 4-5)
PO 1. Explain the difference between acts of courage and reckless acts
PO 1. Identify positive and negative peer influence
PO 2. List positive ways to exert independence
5PA-E2. Identify potential consequences when confronted with a behavior choice
(Grades 4-5)
PO 1. Act in a safe manner during physical activity
(Grades 6-8)
PO 1. Remain on task without close teacher monitoring
PO 2. Solve problems by analyzing causes and potential solutions
5PA-E3. Cooperate with a group to achieve group goals in competitive as well as cooperative settings
(Grades 4-5)
PO 1. Work independently and on task for partner, small or large group activities
PO 2. Resolve interpersonal conflicts with a sensitivity to rights and feelings of others