TEXAS PERFORMANCE STANDARDS PROJECT
Grade 7 Interdisciplinary Unit
Lifestyles of the Fit and Famous

This guide links the *Lifestyles of the Fit and Famous* unit to the Texas Essential Knowledge and Skills (TEKS) for seventh graders. *Lifestyles of the Fit and Famous* is an interdisciplinary unit that allows students to investigate various aspects of overall health, including the mathematics and science of sports and the social implications of a healthy lifestyle. *Lifestyles of the Fit and Famous* teaches students skills in the subject areas of mathematics, social studies, and health. For example, students ask questions and conduct research using a variety of sources, as required in the English Language Arts TEKS. The following document includes the applicable TEKS and the details of the *Lifestyles of the Fit and Famous* unit. The asterisks indicate the TEKS that are testable on the Texas Assessment of Knowledge and Skills (TAKS). The final section of this document presents the applicable Texas College Readiness Standards adopted by the Texas Higher Education Coordinating Board (THECB) on January 24, 2008.

Texas Essential Knowledge and Skills
This unit may address the following TEKS:

English Language Arts:
7.1 Reads grade-level text with fluency and comprehension
7.2 Understands new vocabulary and uses it when reading and writing
7.3 Analyzes, makes inferences, and draws conclusions about theme and genre in different cultural, historical, and contemporary contexts and provides evidence from the text to support their understanding
7.9 Analyzes, makes inferences, and draws conclusions about the author's purpose in cultural, historical, and contemporary contexts and provides evidence from the text to support their understanding
7.13 Uses comprehension skills to analyze how words, images, graphics, and sounds work together in various forms to impact meaning
7.14 Uses elements of the writing process (planning, drafting, revising, editing, and publishing) to compose text
7.19 Understands the function of and uses the conventions of academic language when speaking and writing
7.20 Writes legibly and uses appropriate capitalization and punctuation conventions in their compositions
7.21 Spells correctly
7.22 Asks open-ended research questions and develops a plan for answering them
7.23 Determines, locates, and explores the full range of relevant sources addressing a research question and systematically record the information they gather
7.26 Uses comprehension skills to listen attentively to others in formal and informal settings
7.27 Speaks clearly and to the point, using the conventions of language

Mathematics:

7.1 Represents and uses numbers in a variety of equivalent forms* (Testable on the Grade 7 Mathematics TAKS, Objective 1)
7.2 Adds, subtracts, multiplies, or divides to solve problems and justify solutions* (Testable on the Grade 7 Mathematics TAKS, Objective 1)
7.3 Solves problems involving direct proportional relationships* (Testable on the Grade 7 Mathematics TAKS, Objective 2)
7.4 Represents a relationship in numerical, geometric, verbal, and symbolic form* (Testable on the Grade 7 Mathematics TAKS, Objective 2)
7.5 Uses equations to solve problems* (Testable on the Grade 7 Mathematics TAKS, Objective 2)
7.6 Compares and classifies two- and three-dimensional figures using geometric vocabulary and properties* (Testable on the Grade 7 Mathematics TAKS, Objective 3)
7.8 Uses geometry to model and describe the physical world* (Testable on the Grade 7 Mathematics TAKS, Objective 3)
7.9 Solves application problems involving estimation and measurement* (Testable on the Grade 7 Mathematics TAKS, Objective 4)
7.10 Recognizes that a physical or mathematical model can be used to describe the experimental and theoretical probability of real-life events* (Testable on the Grade 7 Mathematics TAKS, Objective 5)
7.13 Applies Grade 7 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school* (Testable on the Grade 7 Mathematics TAKS, Objective 6)
7.14 Communicates about Grade 7 mathematics through informal and mathematical language, representations, and models* (Testable on the Grade 7 Mathematics TAKS, Objective 6)
7.15 Uses logical reasoning to make conjectures and verify conclusions* (Testable on the Grade 7 Mathematics TAKS, Objective 6)

Science:

7.1 Conducts field and laboratory investigations, using safe, environmentally appropriate, and ethical practices* (Testable on the Grade 7 Science TAKS, Objective 1)
7.2 Uses scientific inquiry methods during field and laboratory investigations* (Testable on the Grade 7 Science TAKS, Objective 1)
7.3 Uses critical thinking and scientific problem solving to make informed decisions* (Testable on the Grade 7 Science TAKS, Objective 1)
7.4 Knows how to use tools and methods to conduct science inquiry* (Testable on the Grade 7 Science TAKS, Objective 1)
7.6 Knows that there is a relationship between force and motion* (Testable on the Grade 7 Science TAKS, Objective 4)

Social Studies:

7.21 Applies critical-thinking skills to organize and use information acquired from a variety of sources, including electronic technology
7.22 Communicates in written, oral, and visual forms
7.23 Uses problem-solving and decision-making skills, working independently and with others, in a variety of settings

Health Education:

7.1 Comprehends ways to enhance and maintain personal health throughout the life span
7.3 Comprehends and utilizes concepts relating to health promotion and disease prevention throughout the life span
7.4 Knows how to research, access, analyze, and use health information

7.5 Engages in behaviors that reduce health risks throughout the life span
7.6 Understands how physical and social environmental factors can influence individual and community health throughout the life span
7.7 Investigates positive and negative relationships that influence individual, family, and community health
7.9 Understands how social factors impact personal, family, community, and world health
7.12 Analyzes information and applies critical-thinking, decision-making, goal-setting, and problem-solving skills for making health-promoting decisions

Physical Education:
7.3 Exhibits a health-enhancing, physically-active lifestyle that provides opportunities for enjoyment and challenge
7.4 Knows the benefits from involvement in daily physical activity and factors that affect physical performance

Description of Unit
This task will generate awareness of healthy lifestyle choices among students and community members. Students will begin by looking at a sport or a sports figure and analyzing the important aspects of math and science in that sport (e.g., the physics behind different pitches in baseball). Students will also investigate the social implications of participating in sports. Finally, they will conduct an in-depth investigation of a chosen health issue.

Goals
Students will meet these goals in their explorations:
- Find relationships between physics and sports
- Learn about the social ramifications of playing a sport
- Become familiar with some famous athletes and their role in society
- Make connections across disciplines
- Draw conclusions
- Ask questions and explore theories
- Understand the connections between healthy living and the ability to excel in a sport

Phase I. Learning Experiences
1. Introduce the concepts of wellness and healthy lifestyle choices to students. Talk about the social implications of leading a healthy lifestyle. Helpful websites include:
   http://win.niddk.nih.gov/publications/take_charge.htm
   http://www.weightlossresources.co.uk/calories/burning_calories/burn_more_calories.htm
   http://www.ahha.org/ahhastep.htm

2. Select a sport to study as a class or individually. Have a group discussion about what it would be like to be a professional athlete in that sport. Use these questions to guide the discussion:
   - What diet, exercise schedule, and other habits would an athlete have to maintain?
   - What are the responsibilities of professional athletes?
   - What role does the sport play in other cultures? How is it different/the same in this country?
   - What happens if a professional athlete gets injured? What are some steps they might take to get well again?

3. Talk about the mathematical and scientific aspects of the sport (e.g., velocity of a baseball, angles in shooting a basketball, force of a karate kick). Do a field investigation in which students can

observe and measure the aspects of mathematics and science that the class brainstormed. Helpful websites include:
http://www.scire.com/sds/sdsmenu.html
http://www.exploratorium.edu/sports/
http://archive.ncsa.uiuc.edu/Cyberia/VideoTestbed/Projects/NewPhysics/newtons_1.html

4. Watch a film or documentary (*Miracle, Chariots of Fire, Field of Dreams, A League of Their Own*) about sports and culture. Analyze the social implications of health and wellness. What role did sports play for the individuals or groups in the movie? What role do sports play in our society overall?

Phase II. Independent Research

A. Research process

1. Selecting a topic. Each student should choose a health issue, sport, or athlete and investigate a series of articles on the topic. Here is one helpful website:
   http://www.kidshealth.org/teen/food_fitness/

   Relevant literature:
   Game Face: What Does a Female Athlete Look Like? by Jane Gottesman
   The Ultimate Athlete by George Leonard

2. Asking guiding questions. Once the student has selected a topic, he/she should form guiding questions to learn about the topic's significance.
   - Who does the issue/sport/athlete affect?
   - Why is the issue/sport/athlete relevant for the population?
   - What should a general audience know about the issue/sport/athlete?
   - What societal or historical characteristics shape the issue/sport/athlete?
   - Is the issue/sport/athlete unique to your location? Your culture?

   While these examples are general, the student's questions should be specific to the chosen topic. The questions should lead him/her to form individual research-based opinions. The student should also develop a hypothesis or some possible answers to the questions.

   Each student should think of guiding questions about the issue/sport/athlete that will lead him/her to form research-based opinions. Each student should also develop a hypothesis or some possible answers to the questions.

3. Developing and submitting a research proposal. The student should include these components in the research proposal:
   - The issue/sport/athlete he/she will study
   - The five guiding questions he/she will investigate, as well as hypothetical answers to those questions
   - Resources he/she will need to find answers to questions, such as primary and secondary sources, correspondence with experts on the subject, etc.

4. Conducting the research. After you have approved student proposals, each student begins using the resources he/she has identified and others he/she may encounter. During this stage, the student will need to keep a log, note cards, or resource process sheets of all the sources and what he/she has learned from each one.

As part of the research process, the student should keep a food and exercise diary to track habits. The student should also conduct an oral or electronic interview with a fitness or health expert. You may need to assist students with identifying an appropriate interview subject.

5. Developing conclusions. Based on the research, students should work together to put on a wellness fair for other students in the school or people in the community. Students should share what they have learned about healthy habits.

B. The product

The student will show what he/she has learned through **one** of the following products:

1. A brochure or article. The student should write a brochure or article for publication that includes the student's findings and solutions to the health problem, if the student studied a health issue. If the student studied a sport or athlete, he/she should write about the social implications of the sport. Be sure to include any appropriate statistics, data, and charts or graphs.

2. A new sport or game. When creating the new sport or game, the student should consider any barriers or reasons people would not become involved in the activity, address player preferences (e.g., individual or team, contact sport). Provide an analysis of how many calories people from different age and weight groups will burn while playing the game.

3. A learning center. The student should create a learning center for an elementary grade level to promote the importance of sports and/or wellness in an interesting way.

C. Communication

The student should present the product—the brochure or article, invented sport/game, or learning center—to an audience. Provide some background—why you developed that game, created the learning center, or chose that issue—and offer any solutions or findings.

D. A completed project consists of:

1. A research proposal, including guiding questions and answers
2. A research log, notes, or resource process sheets
3. A transcript of the interview
4. The product—the brochure or article, invented sport or game, or learning center
5. A Works Cited Page
6. A videotape or audiotape of the student's talk, including the unscripted Q&A session

THECB College Readiness Standards

This unit may address the following THECB College Readiness Standards:

<u>English Language Arts</u>:

I.A.2	Generates ideas and gathers information relevant to the topic and purpose, keeping careful records of outside sources
I.A.3	Evaluates relevance, quality, sufficiency, and depth of preliminary ideas and information, organize material generated, and formulate thesis
II.A.1	Uses effective reading strategies to determine a written work's purpose and intended audience
II.A.2	Uses text features and graphics to form an overview of informational texts and to determine where to locate information
II.A.3	Identifies explicit and implicit textual information, including main ideas and author's

	purpose
II.A.4	Draws and supports complex inferences from text to summarize, draw conclusions, and distinguish facts from simple assertions and opinions
II.A.8	Compares and analyzes how generic features are used across texts
II.A.9	Identifies and analyzes the audience, purpose, and message of an informational or persuasive text
II.B.1	Identifies new words and concepts acquired through study of their relationships to other words and concepts
III.A.1	Understands how style and content of spoken language varies in different contexts and influences the listener's understanding
III.A.2	Adjusts presentation (delivery, vocabulary, length) to particular audiences and purposes
III.B.1	Participates actively and effectively in one-on-one oral communication situations
III.B.2	Participates actively and effectively in group discussions
III.B.3	Plans and delivers focused and coherent presentations that convey clear and distinct perspectives and demonstrate solid reasoning
IV.A.1	Analyzes and evaluates the effectiveness of a public presentation
IV.A.2	Interprets a speaker's message; identifies the position taken and the evidence in support of that position
IV.A.3	Uses a variety of strategies to enhance listening comprehension
IV.B.1	Listens critically and responds appropriately to presentations
IV.B.2	Listens actively and effectively in one-on-one communication situations
IV.B.3	Listens actively and effectively in group discussions
V.A.1	Formulates research questions
V.A.2	Explores a research topic
V.A.3	Refines research topic and devise a timeline for completing work
V.B.1	Gathers relevant sources
V.B.2	Evaluates the validity and reliability of sources
V.B.3	Synthesizes and organizes information effectively
V.B.4	Uses source material ethically
V.C.1	Designs and presents an effective product

Mathematics:

I.A.1	Compares real numbers
I.B.1	Performs computations with real and complex numbers
IV.D.2	Applies probabilistic measures to practical situations to make an informed decision
VI.A.1	Plans a study
VI.B.1	Determines types of data
VI.B.2	Selects and apply appropriate visual representations of data
VI.B.4	Describes patterns and departure from patterns in a set of data
VIII.A.1	Analyzes given information
VIII.A.2	Formulates a plan or strategy
VIII.A.3	Determines a solution
VIII.A.4	Justifies the solution
VIII.A.5	Evaluates the problem-solving process
VIII.B.1	Develops and evaluate convincing arguments
VIII.B.2	Uses various types of reasoning
VIII.C.1	Formulates a solution to a real-world situation based on the solution to a mathematic problem
VIII.C.2	Uses a function to model a real-world situation
VIII.C.3	Evaluates the problem-solving process
IX.A.1	Uses mathematical symbols, terminology, and notation to represent given and unknown

information in a problem

IX.A.2 Uses mathematical language to represent and communicate the mathematical concepts in a problem

IX.A.3 Uses mathematics as a language for reasoning, problem solving, making connections, and generalizing

IX.B.1 Models and interprets mathematical ideas and concepts, using multiple representations

IX.B.2 Summarizes and interprets mathematical information provided orally, visually, or in written form within the given context

IX.C.2 Creates and uses representations to organize, record, and communicate mathematical ideas.

IX.C.3 Explains, displays, or justifies mathematical ideas and arguments, using precise mathematical language in written or oral communications

X.A.1 Connects and uses multiple strands of mathematics in situations and problems

X.A.2 Connects mathematics to the study of other disciplines

X.B.1 Uses multiple representations to demonstrate links between mathematical and real-world situations

X.B.2 Understands and uses appropriate mathematical models in the natural, physical, and social sciences

Science:

I.A.3 Formulates appropriate questions to test understanding of natural phenomena

I.A.4 Relies on reproducible observations of empirical evidence when constructing, analyzing, and evaluating explanations of natural events and processes

I.B.1 Designs and conducts scientific investigations in which hypotheses are formulated and tested.

I.C.1 Collaborates on joint projects

I.E.1 Uses several modes of expression to describe or characterize natural patterns and phenomena These modes of expression include narrative, numerical, graphical, pictorial, symbolic, and kinesthetic

I.E.2 Uses essential vocabulary of the discipline being studied

II.A.1 Understands the real number system and its properties

III.B.1 Reads technical and scientific articles to gain understanding of interpretations, apparatuses, techniques or procedures, and data

III.B.2 Sets up apparatuses, carries out procedures, and collects specified data from a given set of appropriate instructions

III.B.3 Recognizes scientific and technical vocabulary in the field of study and uses this vocabulary to enhance clarity of communication

III.B.4 Lists, uses, and gives examples of specific strategies before, during, and after reading to improve comprehension

III.C.1 Prepares and represents scientific/technical information in appropriate formats for various audiences

III.D.1 Uses search engines, databases, and other digital electronic tools effectively to locate information

III.D.2 Evaluates quality, accuracy, completeness, reliability, and currency of information from any source

Social Studies:

I.F.1 Uses a variety of research and analytical tools to explore questions or issues thoroughly and fairly

IV.A.1 Identifies and analyzes the main idea(s) and point(s) of view in sources

IV.A.2 Situates an informational source in its appropriate contexts

IV.A.3 Evaluates sources from multiple perspectives

IV.A.4 Understands the differences between a primary and secondary source and use each appropriately to conduct research and construct arguments
IV.A.5 Reads narrative texts critically
IV.A.6 Reads research data critically
IV.B.1 Uses established research methodologies
IV.B.3 Gathers, organizes, and displays the results of data and research
IV.B.4 Identifies and collects sources
IV.C.1 Understands/interprets presentations critically
IV.D.1 Constructs a thesis that is supported by evidence
IV.D.2 Recognizes and evaluates counter-arguments
V.A.1 Uses appropriate oral communication techniques, depending on the context or nature of the interaction
V.A.2 Uses conventions of standard written English
V.B.1 Attributes ideas and information to source materials and authors

Cross-Disciplinary Standards:
I.A.1 Engages in scholarly inquiry and dialogue
I.A.2 Accepts constructive criticism and revises personal views when valid evidence warrants
I.B.1 Considers arguments and conclusions of self and others
I.B.2 Constructs well-reasoned arguments to explain phenomena, validate conjectures, or support positions
I.B.3 Gathers evidence to support arguments, findings, or lines of reasoning
I.B.4 Supports or modifies claims based on the results of an inquiry
I.D.1 Self-monitors learning needs and seeks assistance when needed
I.D.2 Uses study habits necessary to manage academic pursuits and requirements
I.D.3 Strives for accuracy and precision
I.D.4 Perseveres to complete and master tasks
I.E.1 Works independently
I.E.2 Works collaboratively
I.F.1 Attributes ideas and information to source materials and people
I.F.2 Evaluates sources for quality of content, validity, credibility, and relevance
I.F.3 Includes the ideas of others and the complexities of the debate, issue, or problem
II.A.1 Uses effective prereading strategies
II.A.2 Uses a variety of strategies to understand the meanings of new words
II.A.3 Identifies the intended purpose and audience of the text
II.A.4 Identifies the key information and supporting details
II.A.5 Analyzes textual information critically
II.A.6 Annotates, summarizes, paraphrases, and outlines texts when appropriate
II.A.7 Adapts reading strategies according to structure of texts
II.B.1 Writes clearly and coherently, using standard writing conventions
II.B.2 Writes in a variety of forms for various audiences and purposes
II.C.1 Understands which topics or questions are to be investigated
II.C.2 Explores a research topic
II.C.3 Refines research topic based on preliminary research and devise a timeline for completing work
II.C.4 Evaluates the validity and reliability of sources
II.C.5 Synthesizes and organizes information effectively
II.C.6 Designs and presents an effective product
II.C.7 Integrates source material
II.C.8 Presents final product
II.D.1 Identify patterns or departures from patterns among data

II.D.2	Uses statistical and probabilistic skills necessary for planning an investigation, and collecting, analyzing, and interpreting data
II.D.3	Presents analyzed data and communicate findings in a variety of formats
II.E.1	Uses technology to gather information
II.E.2	Uses technology to organize, manage, and analyze information
II.E.3	Uses technology to communicate and display findings in a clear and coherent manner
II.E.4	Uses technology appropriately