SIRS DISCOVERER/WEBFIND

Providing Essential Support for

State and National Standards & Assessment
Scientific-Based Research on Learning

Mini-Research Guide for 3-8

Content and Tools to Increase Student Achievement

Content and Tools to Increase Teacher Effectiveness

INCLUDES:

- Dewey (DDC) correlation for Subjects supports elementary librarian and teachers (*NEW*)
- SIRS Discover and No Child Left Behind, SBR, student achievement. and State testing
- Ensured relevancy with teacher-editor selected documents and websites appropriate for grades 3-9
- Subject Tree searching aligned to state and national standards, textbooks and curriculum
- National Technology Standards for Students (ISTE); National Information Literacy Standards (AALS)
- Articles and websites correlated to the same Subject searching system
- Lexile reading level ratings (*NEW*) for articles and reading indexed websites help teachers customize resources for students
- Standard-based searching for correlated articles and websites support teachers and school leaders (*NEW*)

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SIRS Discoverer/WebFind Supports State and National Standards

Forty-nine of the states in the U.S. have adopted learning standards in an attempt to improve the quality of education. These academic standards attempt to define what all students should KNOW (content) and what they should be able to DO (skills). These standards are linked to a variety of standardized state assessments at the K-5, middle school, and the high school levels. These assessments are designed to (1) track student progress aligned to standards, (2) to provide a common focus for instruction for teachers, and (3) to provide school district accountability to the state. These assessments are mandatory for **public schools** to be eligible for the new federal **No Child Left Behind** formula and competitive Title grants. The major focus of state testing is on reading, writing, higher-order thinking, and math in grades 3-8.

Academic standards can vary dramatically from state to state, so it becomes a difficult task to show how a library learning resource can support all these standards. However, when state standards are studied in more detail, many common elements become apparent. A formal study and summary of these common elements in standards is available at **McREL** (Mid-continent Research for Education and Learning) **http://www.mcrel.org**

The following core curriculum academic standards were extracted from those of several states because they are typical of the language and scope of most state standards and those of McREL. The standards listed do not include the specific benchmarks that provide the details of expectations for each grade level. The following criteria apply to the standards listed:

1. **Only those standards** that are **directly supported** by SIRS Discoverer/WebFind mini-research activities are listed here.
2. Some standards or parts of them are **BOLDED** to indicate that they require **multiple resources** that provide **varying viewpoints,** and/or they need to be **current,** and also require the use of **higher-order thinking strategies** to implement effectively.
3. While SIRS Discoverer/WebFind is **essential** to implement the **bolded standards or parts of standards**, it is also **valuable** for all the standards listed when research activities require **in-depth** information **not found** in most **textbooks** or **school libraries.**
4. Standards **apply to all grade levels** but because of space limitation do not include correlated grade level benchmarks for content and skills.

National Standards—In addition, to **mandatory** state standards, there are **voluntary** national standards in each of the subject areas of the curriculum, as well as the National Technology Standards for Students (ISTE) and the National Information Literacy Standards (AASL/AECT). Many of these **voluntary** standards have subsequently been integrated into state academic standards because of their relevance to technology-driven reform in K-12 education and connection to the priorities of *No Child Left Behind.*

SIRS Discoverer/WebFind Guide for Educators—Teachers can be sure that the student mini-research activities outlined in this guide will help to **increase inferential reading, higher-order thinking, and writing/presentation skills,** and contribute to developing **digital information literacy skills** as well**.**

SIRS Discoverer/WebFind Content and Curriculum Features Help Increase Student Achievement and Teacher Effectiveness

Teacher Focused Instruction Enhancing Tools

Standards-Based Searching—This tool helps teachers to search for articles and websites that **correlate** to their **state content standards**. Used in conjunction with building teacher web pages or printing classroom copies of articles, this ensures standards-based lesson activities using DWF learning resources. (*NEW*)

Lexile Reading Level Ratings—Each article is rated by its Lexile reading level that measures its degree of comprehension difficulty. Lexiles are a scientifically-based method of adjusting reading material to the ability of the student. Schools may also continue to use the four-level SIRS' reading levels, which are based on the Flesch-Kincaid grading system as well as Editorial judgment. (*NEW*)

Mini-Research Guide—Provides models and strategies to integrate digital information literacy skills into the curriculum. Mini-research models and strategies ensure that higher-order thinking skills and the power of technology streamline the research process to save time and increase student achievement in reading, writing, and critical thinking skills (measured on state assessments). (*NEW*)

Suggested Research Topics—This tool provides a listing of about 20 current and historic research topics and correlated Pathfinder Subject links for students. **Teachers** are motivated to **create mini-research assignments** because much of the gathering of engaging topics and relevant resources is already prepared for them.

Current Events—Students and teachers can get information quickly about current events that are related to their subject area by clicking the Current Events icon. The SIRS editorial staff keeps this feature current and curriculum related on a **daily** basis. Teachers can scan this section and **print articles for classroom reading and discussion** to motivate student interest in their current world.

Student Activities and Hobbies—Students and teachers can explore this section for engaging ideas for activities that are appropriate for younger learners. This feature **motivates students to use SIRS** more often because it provides them with **more** puzzles, games, riddles and quizzes than any other general reference research database.

Unique Variety of Teaching/Learning Resources—Content includes many e-books, quizzes, interactive educational games, and other content not found in other digital and print resources. Also provides selected resources for three of the most popular K-8 research activities: biographies, countries, and animals.

Student Focused Learning Tools

Spell Check—One of the most frustrating experiences for students searching print or especially digital resources is **to not find** what they are looking for. Discouragement and time wasted provide disincentives for research. Spell check suggestions help students to be only **a click away from success**. (*NEW*)

Lexile Reading Level Scores—Students can use the Lexile ratings for each article to identify those that fit their personal Lexile scores. Many schools are adopting Lexiles and can provide appropriate Lexile scores for each student to use to customize their selection of articles for their research activity. (*NEW*)

Reading with Understanding—Access to a **dictionary, thesaurus, and encyclopedia** helps students to understand the information in the documents that are recovered from each search. When reading relevant documents, students may encounter words that they don't understand or want to know more about, they click type the word and get **immediate reinforcement**. Research shows that when students can get immediate reinforcement of their interests and questions, motivation, understanding, and learning are increased.

Home Access—Students can access SIRS Discoverer resources and/or custom teacher web pages, anytime and anywhere. Students learn best when they have the time and the interest to learn. Students can learn when they are **sick, on vacation, or on other occasions when they are not in school**.

Relevant and Appropriate Websites with Subject Searching— WebFind sites are editorially selected for their appropriateness to **K-8 curriculum, reading level, and state standards**. Surfing is eliminated for most curriculum topics **ensuring relevance, authority, and decency** of content. WebFind is searched by the same Subject Tree structure used in SIRS Discoverer. One search in Discoverer yields both articles and websites, saving time and ensuring success for students.

Email—Students email their search collections from school to home. This helps student retrieve their collections so that they may continue working on their writing, editing, and reporting at home without additional searching.

Rich Visual Learning Support—Thousands of photos included in the **Pictures** section, **Photo Essays,** and **Maps. Research says** that student understanding and motivation are enhanced by these editorially selected and subject-correlated resources.

Citation Support—Examples of the most popular formal citation styles for print and digital resources is only a click away.

Help—Context sensitive help is provided when students are working without teacher and librarian support. Online tutorials and guides on how to use Discoverer/WebFind also make researching easier for students.

DWF Interface Connects Teachers and Students to K-8 Curriculum and Standards

Notice the following features of the SIRS Discoverer/WebFind Interface:

1. Fifteen appropriate **Subject Tree** paths correlated to 3-8 curriculum/standards
2. WebFind searches websites based on the same **Subject Tree Paths** as Discoverer
3. **Reference** links to K-8 appropriate encyclopedia, world almanac, dictionary, and thesaurus help students understand and appreciate more of what they read
4. **Spotlight of the Month** focuses on national themes for each month to motivate student research
5. **Maps and Picture** sections make it easy for students to integrate graphics into research reports
6. **Photo Essays** section Photo Essays tell a story about a particular topic using colorful photos and brief text
7. **Top Pick** connects students to engaging information about historic event or holiday for the current date

One-Step Searching – SIRS Discoverer/WebFind 2004 Version searches all of the articles in Discoverer and the WebFind sites **simultaneously** and provides the number of resources available for the subject searched for each media type *(see tabs in illustration below*). By clicking on the tab for **magazines** or **newspapers** or **WebFind sites**, only those learning resources will be shown in the results list.

Discoverer Subject search --Cats (Sample of 52 articles)

Who's Smarter...Cats or Dogs?
National Geographic Kids ; March 2004; Lexile Score: 780; 16K.

Does Your Cat's Tail Have a Tale to Tell?
GRRR! PETA's Magazine for Kids ; Issue 1, 2004; Lexile Score: 860; 3K.

The Feline: From Goddess to Pet
Parents and Children Together Online ; April 16, 2003; Lexile Score: 970; 8K.

The Tale of the Tailless Cat
Parents and Children Together Online ; April 15, 2003; Lexile Score: 1000; 7K.

Purrr, Says the Kitten to the Lion King
Eye on Science ; April 10, 2003; Lexile Score: 990; 3K.

Kitty's Eagle Eyes in the Darkness
Eye on Science ; Oct. 3, 2002; Lexile Score: 1030; 3K.

Cat Protection in Brazil
Kidsnewsroom ; April 19-25, 2002; Lexile Score: 900; 1K.

Cloning Kitty: A Copy Cat of a Different Stripe
Chicago Tribune (Chicago, IL); Feb. 28, 2002; Lexile Score: 990; 3K.

Dewey Classification System and Discoverer/WebFind Subject Tree

Today, librarians and teachers in grades 3-8 generally rely more on print resources for student learning than on digital resources, than do students in high school and college. To help librarians, teachers, and students to navigate in DWF and in the traditional print library, ProQuest is providing a new tool to correlate Dewey numbers (DDC) to the Subject Tree paths and special features in Discoverer/WebFind. *Librarians can print this page and make copies* for students and teachers so that they can rely on a combination of digital and print resources that the library has to offer.

Subject Tree Path—*Special Feature Topics*	Dewey Equivalent Number	DDC Classification
Activities	790 Games and Entertainment	Fine Arts and Recreation
Animals	590 Zoology 636 Pets	Natural Science and Math Applied Science and Tech
Arts	740--770 Drawing/Painting/Graphic Arts, Photography, 780 Music	Fine Arts and Recreation
Biographies	920 Biography and Genealogy	History and Geography
Countries	930—990 History, 910 Geography	History and Geography
Cultures	300 Sociology and Anthropology, 390 Customs and Folklore, 370 Education 210 Philosophy and Theory of Religion	Social Sciences Religion
Current Events	050 Magazines, 070 News Media	
Drugs & Alcohol	610 Medicine and Health	Applied Science and Tech
Environment	550 Earth Science, 570 Biology, 580 Botany, 590 Zoology	Natural Science
Fiction—Variety of Genres	811English Language Literature	Literature
Health & Human Body	610 Medicine and Health 570 Biology	Applied Science and Tech Natural Science
History & Government	930—990 History of Countries by Continent 320 Political Science, 340 Law	Geography and History Social Science
Kids Corner	100--900 Engaging Literature & Activities	Variety of Dewey Categories
Notable People	920 Biography and Genealogy	History
Personal Growth	640 Family Management 140 Philosophy, 150 Psychology, 170 Ethics 370 Education	Applied Science Philosophy and Psychology Social Science
Reference	030 Encyclopedias	General Works
Science	500—590 All Sciences and 510 Math 600—630 Technology, Medicine, Engineering, and Agriculture	Natural Science Applied Science and Tech
Social Issues	320 Political Science, 340 Law, 360 Social Problems	Social Sciences
Sports	790 Sports, Games, and Entertainment	Fine Arts and Recreation
Technology	600 Technology, 620 Engineering, 000 Computer Science	Applied Science and Tech General Works

SIRS Discoverer/WebFind, Mini-Research, and Student Achievement

What does educational research indicate about the impact of well designed mini-research activities using Discoverer/WebFind? The following list of statements summarizes some of what we know works in the classroom and what we know about how students learn:

Students learn better when information is applied through activities that integrate higher-order thinking skills.

The **ProQuest Mini-Research process** focuses teachers and students on higher-order thinking skills. Instead of "who, what, when, where" research, students are motivated by "how, why, why not, and what if" research, which integrate Bloom's taxonomy of higher order thinking skills (see upcoming exhibit).

Students learn better when appropriate visuals are integrated with information.

Most learners are visual learners. With SIRS Discoverer/WebFind teachers and students access graphics and websites that provide the visual reinforcement that **doubles the opportunity to understand and retain** the information and concepts being studied. They can also use the graphics in their reports and presentations.

Students learn better when a variety of activities and assessments are part of the learning experience.

Research shows that students have **multiple learning styles** and need multiple ways of learning and expressing their knowledge and opinions. Research activities provide the opportunity for students to demonstrate what they know through writing, oral reports, or PowerPoint presentations. Research activities can be organized collaboratively so that students learn to work together and, when managed properly, can also learn from each other through questioning and response.

Students learn better when they have an opportunity to construct knowledge from information related to a relevant issue.

Information is **not knowledge**. Research shows that information must be **analyzed and synthesized into personal knowledge** through motivating and authentic learning activities such as researching information on issues that are relevant to a student's life and experiences. ProQuest mini-research strategies included in this guide provide the foundation to help teachers create these higher-order thinking activities.

Students learn to read and write better when reading and writing activities are related and integrated.

Reading and writing are **symbiotic**—they reinforce each other. These essential language arts skills can be integrated effectively using ongoing mini-research activities. These activities also help build knowledge and understanding in the core curriculum content subjects, and address state standards.
Integrated Reference resources provide the opportunity to get feedback on troublesome words that may interfere with understanding, or on words that invite interesting personal sidebars for learning.

Students learn to write better when they are asked to present "reasoned opinions" or defend/refute a position on issues that are relevant to them.

Writing can be creative—stories, poems, etc., or can be informative and persuasive. Mini-Research activities provide an opportunity for students to do the latter and, using critical thinking skills, present "reasoned opinions." The ability to form "reasoned opinions" and solve problems using relevant and accurate information is essential for **lifelong learning** and for student success in **higher education, careers, and life.**

Students learn better when TIME ON TASK is increased and not wasted in unessential activities.

SIRS Discoverer/WebFind provides only those learning resources that specifically **address K-8 curriculum and standards.** Students can access this information from home or at school. Time and the frustration of searching in multiple places is minimized, conserving time and energy for reading, writing, and higher-order thinking.

Students learn better when parents are involved with their school and homework.

Home access helps parents to get involved with research learning activities, whether assigned or **motivated by extra credit** opportunities. Teacher can create personal web pages that are customized to address **student interest and reading levels**. Parents can see and support mini-research assignments and learning. After teacher quality, **parental involvement** in student learning is the next most important factor used to predict student achievement.

Students learn better when they have access to a variety of world-class resources.

Teachers and librarians have always tried to **enrich textbook** teaching with a **variety of additional resources for in-depth learning.** Unfortunately, not all students and teachers are fortunate enough to attend schools with excellent libraries and classroom learning resources. SIRS Discoverer/WebFind provides this learning enrichment opportunity for all schools, many of which may lack all but the most meager resources and sometimes even textbooks. SIRS Discoverer/WebFind--with home access--is the **modern equivalent** to the benefits provided to students by parents in earlier generation when they invested in the traditional family encyclopedia.

Students learn better when they have easy access to engaging information and visuals that are correlated to their interests, reading levels, and school curriculum.

The **Suggested Research Topics** feature provides a changing mix of current and historic topic ideas and links to correlated information resources. This easy to use, always there, and constantly changing collection of topics, is sure to pique student interest. The motivation provided is the surest way for students to explore, learn more, and build essential digital information literacy skills.

Mini-Research Activities and Student Achievement

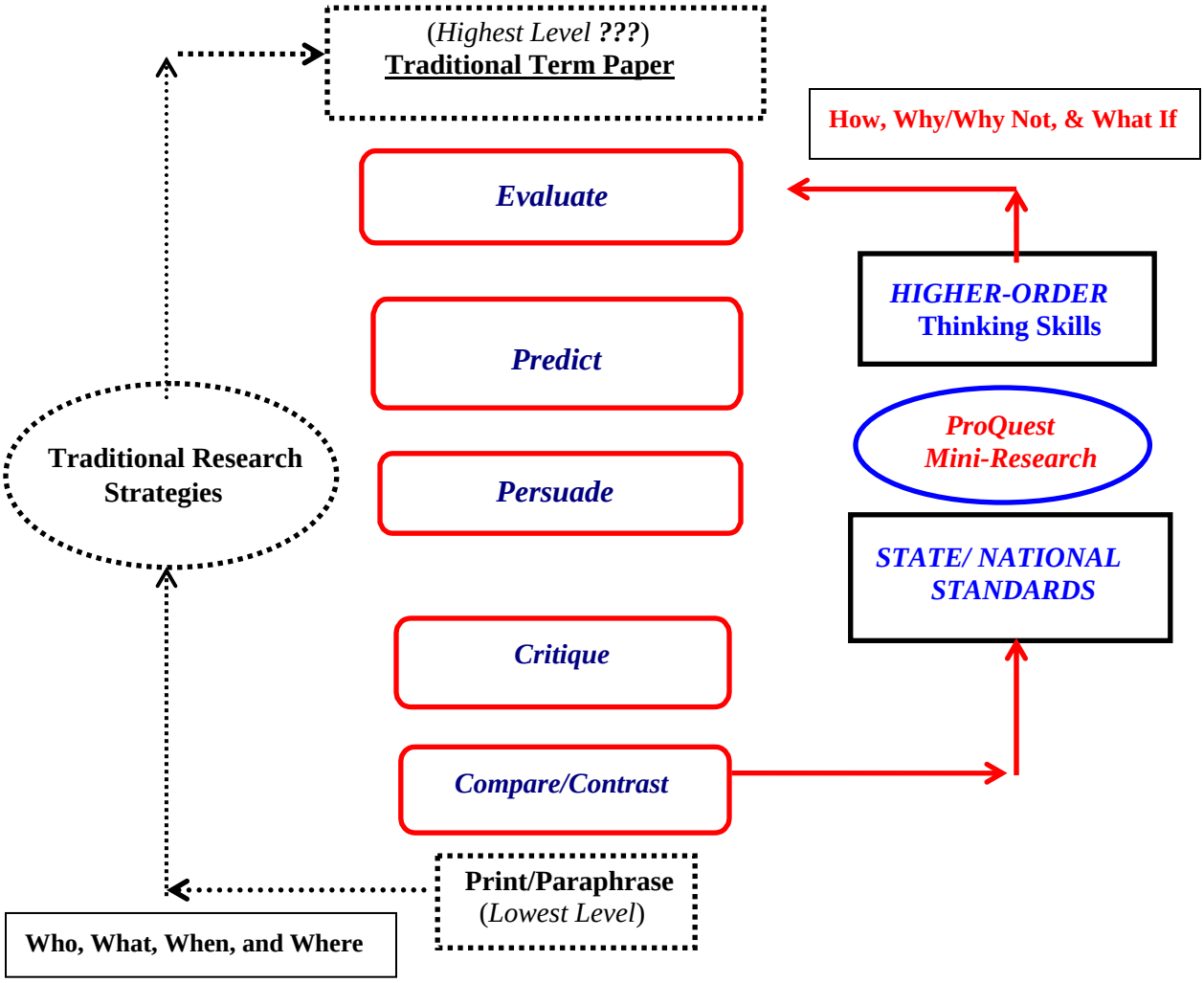
Scientific research on "what works in the classroom" has identified many learning activities that help to increase student achievement. One of those activities is **student mini-research on engaging current issues**. Through technology and the Internet, it is possible for this type of successful traditional learning activity to occur **more frequently** than in the past through "the mini-research design," therefore its benefits are multiplied. These benefits include the essential skills of **critical reading, expository** and **persuasive writing,** and **higher-order thinking skills**. These skills are the heart of state standards and the accompanying state assessments that measure student achievement. ProQuest mini-research integrated with the content and features of SIRS Discoverer/WebFind provide the strategies, models, and research topic ideas to motivate and prepare teachers to integrate more of these activities into their classrooms.

Because of the focused relevance of media content and ease of use features of SIRS Discoverer/WebFind, valuable time saved in the **lesser skill of searching** can now be invested in the **essential skills** mentioned above. Remote access provides opportunities for **parental support and homework** that extends these proven learning activities begun in the classroom.

* **Scientific Research Support for Student Research Activities** **Students Learn Better When They . . . . . .** * http://www.proquestk12.com/lsm/pqelib/pdfs/SBReLibTeacherTraining.pdf	**Teacher + Textbook Learning**	**Teacher + Textbook+ SIRS**
Have daily access to visual and multimedia content as well as verbal information (*most learners have a visual learning styles*)	No	Yes
Are involved in solving problems relevant to their community and world (*permanent learning only occurs when information is socially relevant*)	?	Yes
Have daily access to current information in the topic of study (*learning in context of the learner's world increases permanent memory*)	No	Yes
Have to defend their opinions on relevant issues with facts (*information can be constructed into permanent knowledge through engaging inquiry-based activities*)	?	Yes
Integrate reading with writing in an activity that focuses on questions of how, why, why not, and what if. *(higher-order thinking results in greater learning*)	?	Yes
Integrate reading and writing in the same activity (*both reading and writing are learned more effectively when taught together rather than separately*)	?	Yes
Demonstrating the results of their work and ideas to peers or others (*peer review provides the motivation that is essential to learning,*)	?	Yes
Collaborate with others to solve a problem or defend an opinion (*collaboration and communication provides essential feedback to test learner ideas and concepts*)	?	Yes
Investigate topics in depth (*in depth learning provides greater retention of ideas; surface learning of facts is temporary*)	?	Yes
Learn by doing (*application of facts and concepts through activity results in increased learning*)	?	Yes
Can easily explore other topics related to the current lesson or theme (*the brain processes information through patterns and associations*)	No	Yes
Can learn anytime and anywhere (*learning is more efficient when students are ready to learn*)	No	Yes
Integrate time-saving technology tools into their learning process (*time on task is vital for greater retention of information*)	No	Yes
Access learning resources at home and at school (*parental involvement and meaningful homework are essential in successful learning*)	No	Yes

ProQuest Mini-Research Process and Higher-Order Thinking Skills

Research Spectrum of Higher-Order Thinking Skills



Advantages of Mini-Research Activities with SIRS Discoverer/WebFind

- New formats make it easier for students to complete than traditional research papers
- Takes less classroom and homework time than traditional research activities
- Can be assigned in any subject area to integrate more writing into the curriculum
- Assignment can be made **more frequently** to reinforce **technology** and **information literacy** skills
- Mini-research strategies, ideas, and models are standards-based and easy for teachers to adapt
- Mini-research activities **keep textbooks current** in all areas and support state standards
- The **Summary Document** model and methods presents ways to help prevent **plagiarism**
- Mini-research models integrate Bloom's Taxonomy **of higher-order thinking designs** into research
- Remote access provides opportunities for research activities, anytime and anywhere

Discoverer/WebFind and Mini-Research—Prepares Students for State Assessments

Inherent Preparation for State Assessments in Essential Skills

Listed here is the Harcourt Brace description of the ***Stanford 9 (SAT9)***. ***This is the test that has been customized for California and many other states.*** *The purpose is to illustrate how Discoverer/WebFind and mini-research activities help students to prepare for state assessments without wasting time in targeted classroom prepping.*

The items bolded *illustrate the* ***connections*** *between the Stanford 9* ***test content and processes*** *that are* ***inherent in all ProQuest mini-research activities****. Other states such as Maryland, Michigan and Florida have created their own criterion-referenced state assessments that also focus on these processes.*

Only those Stanford 9 descriptors that are ***supported directly*** *by mini-research activities are listed.*

A combination of multiple-choice and open-ended subtests helps you obtain a more complete picture of both the breadth and depth of your students' educational achievement. Enhanced multiple-choice items in Stanford 9 have the following characteristics:

- They are framed within classroom or **real-life situations**.
- They often **elicit actual performance** from a student.
- Many of them measure **strategies or processes**.
- They **integrate process with knowledge**.

The open-ended subtests will help you address instructional objectives that are best measured with **performance-based tasks** and **student constructed responses**.

Concentration on Important Concepts & Learning Processes Across Content Areas

- **Alignment with state curriculums and frameworks, national standards and projects, and instructional methods**

Reading—What's New in Stanford 9?

- Includes reading passages written for Stanford 9 by well-known authors of children's and **young people's literature** (SIRS Discoverer/WebFind provides 31 publications focused on children's literature)
- Provides both multiple-choice and **open-ended assessment**
- Reports **process** scores

Reading Comprehension

In order to represent the literature-based curricula taught in many classrooms, the Reading Comprehension selections include original short stories and articles written expressly for Stanford 9 by published children's writers. With this authentic, original material, there is **no chance students would have been exposed to the selections previously and thus have an unfair advantage**.

- Recreational: Material read for enjoyment or literary merit, including **folk tales**, historical fiction, contemporary fiction, humor, and **poetry**
- Textual: **Expository material with content from the natural, physical, and social sciences, as well as other nonfiction general information materials**

The Reading Comprehension subtest also contains a variety of new item types that assess important reading processes:

- Interpretation questions measure students' comprehension **of implicit information and relationships and their ability to make connections beyond the text**
- Critical Analysis questions assess students' ability **to analyze and evaluate explicit and implicit information and relationships**

Language

- Emphasizes development of effective **written communication skills**
- **Supports Prewriting, Composing, and Editing** stages of the Writing Process Model

Each task is introduced with a scenario—a brief statement that provides **a topic and a concrete, purposeful writing assignment that a student writer must complete for a specified audience**.

Study Skills

This measures students' ability to use traditional resources (resource books, telephone books, dictionary), as well as **computer resources**. Proficiency in **organizing information**, such as **outlining and semantic mapping**, is measured as well.

Science Concepts, Processes and Content

- Decision Making and Problem Solving questions ask students to become involved in using their understanding of the world around them **in ways that are relevant to active members of society**
- Conceptual Understanding questions require students to use their understanding of basic science concepts in order to explain natural phenomena, **make predictions**, and explain the **limits of science**
- Life Science questions measure understanding of the structure and function of life forms and their **interactions with each other and the environment**
- Earth/Space Science questions assess understanding of the Earth and the **relationship of Earth to space**

Test items allow students to use **reasoning skills** to reach answers **rather than having to recall memorized, detailed facts and information**. Students may be asked to apply an understanding of the concept directly to a situation, but, more often, they are expected to use what they know to **apply information and data, interpret data, draw conclusions, and predict events**.

Social Science Concepts, Processes and Content

- Fundamental Concepts questions require a demonstration of **informational** and conceptual mastery
- Inquiry and Decision Making tasks assess facility in the inquiry process as well as understanding of the **real-world issues** implicit in the question
- Application questions require students to use the breadth of knowledge obtained in the classroom and **apply it to a problem**
- Economics, Civics, and Government questions include such complex content as economic choice and federalism in **everyday contexts**
- Geography questions require students to use geographic tools and solve geographic problems in situations **familiar to everyday life**

Social science is perhaps the ideal discipline in which to use an open-ended assessment. Many questions about history and economics, for example, **have more than one cause**, **effect, or result**. Social science open-ended questions require students to apply concepts and **make inferences** at a level beyond that required by the multiple-choice questions. They allow **students to bring divergent thinking, relevant information, and different outlooks to their answers**.

- History questions focus on United States, Western civilization, and people and **societies sharing our interdependent world**

- Geography questions focus on five themes: location; place—physical and human characteristics; relationships with places, humans, and environment; movement—**humans interacting on the Earth**; **and regions—how they form and change**
- Economics questions focus on macroeconomic concepts, **microeconomic concepts**, and **international** economic concepts
- Culture questions measure objectives in sociology and anthropology, emphasizing the importance of understanding the **interdependent family, community, nation, and the world**

Open-Ended Social Science

The open-ended Social Science questions require students **to apply concepts and make inferences** at a level beyond that required by the multiple-choice questions, even though the content covered is similar.

English Language Arts

SIRS Discoverer/WebFind supports all included standards. But *bolded standards* or *parts of standards* indicate that SIRS Discoverer/WebFind resources are *essential for success* because they provide the currency, need for multiple points of view, or timely access to a variety of media that are not readily available in most schools, libraries, or at home.

Typical English Language Arts Standards

READING STANDARDS—students examine, construct and extend the meaning of a variety of self-selected and assigned text (traditional and **electronic**) by applying a range of reading strategies and **analytic techniques**.

- Analyze features and rhetorical devices of different types of **public documents (e.g., policy statements, speeches, debates)** and how authors use the features to achieve their purposes
- Analyze how the patterns of organization, hierarchic structures, repetition of key ideas, syntax and word choice in text influence understanding
- **Synthesize the content and ideas from several sources dealing with a single issue** or written by a single author, producing evidence of comprehension by clarifying the ideas and **connecting them to other sources, related topics**, or prior experience
- Extend ideas presented in **primary or secondary sources** through **original analysis, evaluation and elaboration**
- Analyze an author's implicit and explicit philosophical assumptions and beliefs about a subject
- Make warranted and responsible assertions about significant patterns, motifs and perspectives, using elements of text to defend and clarify interpretations
- **Critique the power, validity and logic of arguments** advanced in public documents, their appeal to various audiences and the extent to which they anticipate and address reader concerns and counterclaims (e.g., appeal to authority, reason, or emotion)

READING STANDARDS—students interpret and analyze the meaning of literary works from diverse cultures and authors by applying different critical lenses and **analytic techniques**.

- Articulate the relationship between the expressed purposes and characteristics of different forms of dramatic literature (e.g., comedy, tragedy, drama, dramatic monologue)
- Identify the characteristics of **different forms of poetry** (e.g. epic, elegy, ode, sonnet) and how they shape the meaning of the selection
- Explain the concept that the theme of a selection represents a view or comment on life and analyze its function and effects in literature, using textual evidence to support the claims
- Analyze and evaluate how such literary elements as point of view, tone, voice, characterization and irony are used for specific rhetorical and aesthetic purposes
- **Compare and contrast** the major periods, themes, styles and trends of American and World literature and describe how works by members of different cultures relate to each other
- **Analyze the philosophical, political, religious, ethical and social influences** that have shaped characters' traits, plots and settings in recognized works of American and World literature
- Relate recognized works and authors of American and World literature to major **themes and issues of their eras**
- Analyze the literal and interpretive meaning of literary works using a variety of **critical approaches**, including reader response, **historical, cultural, biographical, aesthetic, political and philosophical approaches**

SIRS Support for Reading and Literature Standards

SIRS Discoverer: Subject Tree Icon: KIDS CORNER: Fiction

Subtopics:
> adventures
> animals
> diaries
> drama
> essays
> historical
> holidays & ceremonies
> humorous
> mysteries
> myths, legends, folktales & fairy tales
> plays
> poetry
> romance
> school
> science fiction
> sports
> written by kids

SIRS Discoverer: Subject Tree Path: NOTABLE PEOPLE: Authors, Playwrights & Poets (Sample from hundreds)

Talking Turkey: Meet Author Lisa Wheeler p
Yak's Corner ; Oct. 30, 2003; 5K.

Neil Gaiman's Weblog: What Fans p
Kidsnewsroom ; Oct. 17-24, 2003; 2K.

Teen Author Shares Love of Fantasy in 'Eragon' p
Time for Kids : Oct. 17, 2003: 3K.

Coetzee Wins 2003 Nobel Literature Award p
Morning Sun (Pittsburg, KS); Oct. 2, 2003; 4K.

Thrills and Chills: 'Goosebumps' Author Gives Readers the Creeps
Yak's Corner ; Oct. 2, 2003; 5K.

Musical Talents of Lemony Snicket p
Kidsnewsroom ; Sept. 26-Oct. 3, 2003; 2K.

Connecting with Words: Meet Writer Bill Martin Jr. p
Yak's Corner ; Sept. 11, 2003; 5K.

Drawn to Animals: Meet Artist Eric Carle p
Yak's Corner ; Sept. 11, 2003; 7K.

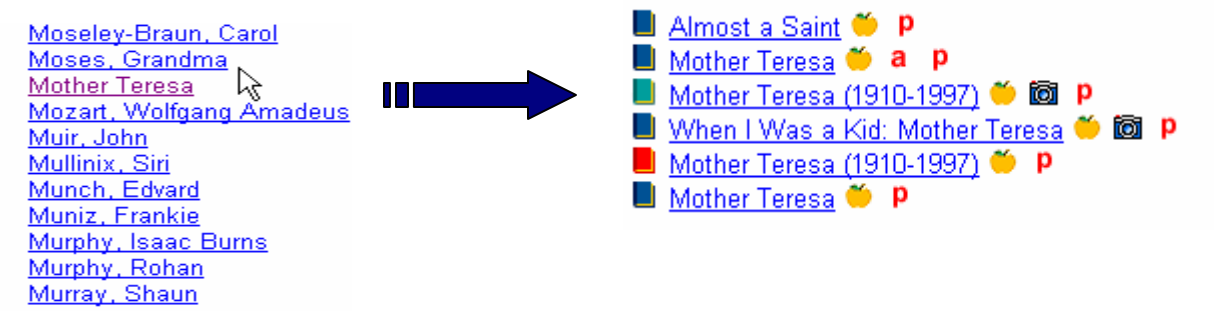
Daughter of 'Peanuts' Creator Writes Her Own Animal Tale p
Time for Kids ; Sept. 4, 2003; 3K.

The Invisible Man p
Children's World (New Delhi, India); Sept. 2003; 3K.

Doing the Write Thing: Kids Share Their Words with the World a p
Chicago Tribune (Chicago, IL); Aug. 7, 2003; 9K.

'Molly Moon' Author Casts Her Spell p
Yak's Corner ; July 31, 2003; 4K.

Click BIOGRAPHIES: (Includes many **Authors**-- Samples from 1,000+)



SIRS Support for Language & Language Arts Standards

LANGUAGE ARTS STANDARDS—students understand and use the structures and conventions of the English language (i.e., vocabulary, spelling, grammar, mechanics, and usage) in their oral and written communications.

- Identify and use knowledge of the **origins of commonly used words and phrases** derived from Greek, Roman, and Norse mythology and other works often alluded to in American and World literature to **understand the meaning of new words.**

SIRS Discoverer: Subject Tree Path: KIDS CORNER: Language

Reading Level—SIRS Discoverer/WebFind articles and websites are organized by four reading levels so that teachers and students can select appropriate resources for learning. This saves **time and frustration for students** and makes the research process **easier to manage for teachers**. **Now SIRS gives you the option of using Lexile reading levels to guide student reading. Lexiles are a scientifically-based method of measuring the difficulty of comprehension making it possible to better match articles to student ability.**

Reference Resources for Language Skills Development and Understanding

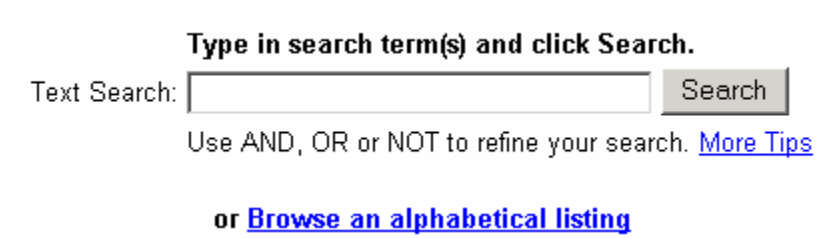
When reading relevant documents, students encounter words that they don't understand or want to know more about. Reference resources help students to better understand the documents that are recovered from a search.

Dictionary/Thesaurus -- Merriam-Webster's® Abridged Dictionary & Thesaurus are available to assist users in defining words, checking spelling, choosing the perfect word and more!

acronym
Main Entry: ac*ro*nym
Pronunciation: hak-r-nim
Function: n
:a word (as *radar*) formed from the beginning letter or letters of each or most of the parts of a compound term

World Almanac for Kids -- View facts and information on people, countries, animals, the environment and history. Maps and pictures are also available.

Funk & Wagnalls New Encyclopedia -- Search the 26,000 entries for articles that cover the natural world, science, history, places, people, ideas, cultures and more.



WebFind websites: Arts : Literature Fiction (Samples)

75 Years of Winnie the Pooh
Source: Trustees of the Pooh Properties, Penguin Putnam Books
Summary: Read about Winnie the Pooh and all his friends on this site. Play games, have a Pooh party, read a Poohism, or find Pooh recipes.
URL: http://www.penguinputnam.com//static/packages/us/yreaders/pooh75/home.html

African American Women Writers of the 19th Century
Source: Schomburg Center (SC) for Research in Black Culture, New York Public Library
Summary: Find full texts of fiction, poetry, and autobiographies by orks by 19th-century black women writers. This site offers profiles of the authors and selections from their works.
URL: http://digital.nypl.org/schomburg/writers_aa19/toc.html

American Folklore
Source: S. E. Schlosser, Rutgers State University
Summary: Read American folklore of all kinds: Native American myths and legends, tall tales, weather folklore, and ghost stories. You can find tales by state, region, historical period, or by the name of a famous character.
URL: http://www.americanfolklore.net

Anna Grossnickle Hines
Source: Anna Grossnickle Hines
Summary: Read about the work of Anna Grossnickle Hines, author of children's books. This site features the author's biography, descriptions of her books, and some essays by the author.
URL: http://www.aghines.com/

Writing Standards

Students produce **informational, practical, persuasive**, and narrative writing that demonstrates an awareness of audience, purpose and form using stages of the writing process as needed (i.e., pre-writing, drafting, revising, editing, and publishing).

- Establish a controlling impression or coherent thesis that conveys a **clear and distinctive perspective on the subject** and maintains a consistent tone and focus throughout the piece of writing
- **Support thesis** or **judgments** with techniques such as **analogies, paraphrases, quotations,** and **opinions** from **authorities**
- Develop key ideas by integrating complex connections among **ample supporting evidence** such as descriptions, personal experiences, observations, and/or **research-based information**

Samples of Writing Standards Support (Click **Activities:** Reading, Writing, and Language Projects

- Pen Pals--The Write Stuff
- Use the "5 R's": How to Write Creative Nonfiction
- Baseball Lingo to Bat Around
- What Is a Limerick?
- How Do I Write Thee? Let Me Count the Ways...
- From Notes to Quotes
- Be a Ghost Writer
- The Autobiography Box
- Expressing Americanism: Patriotic Writing
- Style: What It Is, and How to Develop Yours
- Listen and Learn: How to Write Dialogue
- Songwriting for Beginners
- Try Writing the Ten Minute Letter
- People Who Became Words: Eponyms
- Rules for Poets to Live By
- Start Your Own Writing Group!
- How to Write a Joke
- Haiku
- Have Fun Writing Poetry
- How to Write an Editorial or Letter to the Editor
- Say It in Slang
- Rhyming Riddles
- A TV Scriptwriting Workshop
- Good Grief! Oxymorons Are Everywhere!
- Nice Ways to Put It: Euphemisms
- Knots of Fun with Your Tongue
- Poems in Your Pockets
- Ready to Write?
- Make a Booster Brochure
- Random Acts of Writing
- How to Write a Limerick
- The Word on Rap
- Munch a Bunch of Poems
- How to Make a Newspaper
- How to Write an Adventure Story
- Learning Haiku
- Let's Write Poetry
- Palindromes

ProQuest mini-research strategies and models integrate higher-order thinking skills into inquiry-based problem-solving activities that support the scientific process of learning.

Research-Based Writing Standards

Students use the **research process** to search, organize, analyze, and **synthesize relevant information** to **solve problems** and to develop **informed opinions** on **real-world issues**.

- Use clear **research questions** and coherent **research methodology** to elicit and present evidence from **primary and secondary sources** using available library, **electronic,** and human resources
- **Synthesize information** from **multiple sources** and identify complexities and discrepancies in the information and how each medium offers a different perspective
- Use appropriate conventions for **in-text documentation, notes,** and **bibliographies**, adhering to style manuals
- Self-edit and refine writing using knowledge of standard English conventions of language and appropriate traditional and electronic resources (e.g., dictionary, thesaurus, spell-check software)
- Prepare writing for publication by **integrating illuminating graphics** and format and appropriate traditional and **electronic resources** to enhance the final product and create an easily read product
- Write expository texts for an intended audience and purpose that define, inform, explain, or some combination, including essays of analysis and **research papers** that marshal **evidence in support of a thesis** and related claims
- Write to **persuade** an intended audience by **clarifying and defending positions** with **precise and relevant evidence**, including **expert opinions** and commonly accepted beliefs

The writing process is **inherently** supported and developed through student mini-research activities. The ProQuest mini-research process is described in the section at the end of this guide (see Table of Contents). Mechanics of Writing are supported by Activities section and by WebFind websites.

Speaking Standards

Students communicate effectively in a variety of situations, with different audiences, purposes and formats.

- **Support, modify, or refute a position** using effective rhetorical and oral delivery strategies
- Speak in a variety of situations choosing an organizational pattern appropriate to convey a message or theme

Access to SIRS Discoverer/WebFind primary and secondary source materials on thousands of historic and current topics and issues supports the **Speaking Standards** in the areas of **exposition** and **persuasion**.

SIRS Supports Research, Writing and Speaking Standards

Formal Citation Models – The ProQuest mini-research process **encourages informal citations** especially at the elementary/middle school level. Students need time to focus on problem-solving and higher-order thinking skills. Some of this time can be gained by not taking time to convert SIRS citations into formal citations. However, when formal citations are appropriate, SIRS provides models of the **Modern Language Association** (MLA) formats for a variety of sources found in SIRS-Discoverer/WebFind.

MLA Works Cited *(Click* ***Cite*** *at top right of any results page)*

Author. "Article Title."Original Source of Article Date of original source: page numbers. Name of the Database Used. Name of the Service. Library where database was accessed, Location of library. Date of Access <URL of service's homepage.

Examples

Maddren, Gerry. "Against All Odds." Cricket Feb. 1998: 21-23. SIRS Discoverer. SIRS Discoverer on the Web. Silver Lakes Middle School Library, North Lauderdale, FL. 10 Nov. 2001 <http://www.sirs.com.

"All About... Dinosaurs." The World Almanac for Kids 2002 2001: n.p. SIRS Discoverer. SIRS Discoverer on the Web. Silver Lakes Middle School Library, North Lauderdale, FL. 10 Nov. 2001 <http://www.sirs.com.

Samples of Research Topics and Learning Resource Links (Click Suggested Research Topics)

Earthquakes
Subject Headings: Earthquakes; Earthquakes, History; Earthquake intensity; Earthquake prediction; Earthquake protection; Seismometry; Seismology, Research;
Subject Tree Paths: ENVIRONMENT: Disasters & Natural Disasters: earthquakes; HISTORY & GOVERNMENT: Major Events of Modern Times: disasters; SCIENCE: Weather, Climate & Natural Disasters: earthquakes
Keywords: earthquake* NOT "photo essays"
Encyclopedia Entry: EARTHQUAKE

Global Warming
Subject Headings: Global warming; Icebergs; Ice, Antarctica
Subject Tree Paths: SCIENCE: Atmosphere: global warming & greenhouse effect; ENVIRONMENT: Global Warming & Greenhouse Effect
Keywords: "global warming" AND Antarctica

Homeland Security
Subject Headings: Terrorism, Prevention; Threats; Security systems; Aeronautics, Safety measures; Airports, Security measures
Subject Tree Paths: SOCIAL ISSUES: Violence & Crime: prevention; SOCIAL ISSUES: Violence & Crime: terrorism
Keywords: "homeland security"; security AND Olympics; airline security OR airport security

Internet Piracy
Subject Headings: Internet music; Copyright infringement
Subject Tree Paths: TECHNOLOGY: Computers: Internet & World Wide Web; TECHNOLOGY: Communication: Internet & World Wide Web
Keywords: internet AND piracy

Mathematics

Typical Mathematics Standards

- Students understand that mathematics has been helpful to **solve practical problems** for many centuries
- Students understand that theories in mathematics are greatly influenced by practical issues; **real-world problems sometimes result in new mathematical theories and pure mathematical theories sometimes have highly practical applications**
- **Students understand that new mathematics continues to be invented even today, along with new connections between various components of mathematics**

SIRS Discoverer: Subject Tree Path: SCIENCE: Mathematics, Weights & Measures

Subtopics:
> Agriculture, Food & Drink
> Anthropology, Archaeology & Paleontology
> Astronomy & Space
> Atmosphere
> Careers in Science
> Chemistry
> Evolution
> Experiments & Discoveries
> Genetics
> Geography & Geology
> Light & Sound
> Mathematics, Weights & Measures
> Medical Science
> Nuclear Science
> Oceanography & Limnology
> Physics
> Plants, Trees, Flowers & Fungi
> Scientists
> Weather, Climate & Natural Disasters

Gottfried Wilhelm von Leibniz p
Mathematicians Are People Too (National Center for Education Statistics); May 12, 200
Bits, Bytes, Kilobytes
Wee Ones ; Jan. 2003; 5K.
Binary Numbers a
Cricket (Vol. 30, No. 4): Dec. 2002: 8K.
Speaking of Big Numbers... a
Christian Science Monitor ; Sept. 24, 2002; 2K.
A Brief Look at Infinity
Christian Science Monitor ; Sept. 24, 2002; 9K.
Calculations of Pi Come Full Circle
Eye on Science ; July 11, 2002; 3K.
Melody and Harmony: Inspiration...and Math
Odyssey ; March 2002; 13K.
The Calculus Quarrel p
Odyssey ; Feb. 2002; 8K.
Circular Reasoning Gets You to 360
Eye on Science ; Jan. 24, 2002; 3K.

Science & Technology Standards

SIRS Discoverer/WebFind supports all included standards. **But bolded standards** or **parts of standards** indicate that SIRS Discoverer/WebFind resources are **essential for success** because they provide the currency, need for multiple points of view, or timely access to a variety of media that are not readily available in most schools, libraries, or at home.

Typical Science & Technology Standards

Skills and Processes—students will explain how the nature of science has affected scientific inquiry, technology, and the history of science.

- **Access and process information** in order to formulate questions that lead to a testable hypothesis, which demonstrates the logical connections between the scientific concepts and the design of an investigation
- **Defend a position on a scientific issue** and take into account the different types of risks and benefits in formulating a plan of action
- **Critique** scientific information in order to **detect bias** and **analyze the bias source**
- Demonstrate and explain how using existing tools extend knowledge and identify the limitations, which drive the need for new technologies
- Explain that when designing a device or process (e.g., manufacturing, marketing, operating, maintaining, replacing, and disposing of) risk analysis and **technology assessment** determines how it will be employed
- Explain that science and technology have strongly **influenced the course of history** and cite how human inventiveness has brought **new risks** as well as **improvements to human existence**
- Describe how **various cultures**, over time, have made contributions that **led to current scientific ideas and technological invention**
- **Explain that scientific careers** differ from one another in what is studied, techniques used, where studied, and outcomes sought but they share a common purpose and philosophy and are part of the same scientific enterprise

Each of the following science **content areas** is dynamic and requires knowledge from current sources to understand how new knowledge and old knowledge interface to produce a better understanding of our world. **Bolded parts of standards indicate the need for the currency of SIRS Discoverer/WebFind resources**.

EARTH/SPACE SCIENCE—students will use scientific skills and processes to explain the chemical and physical interactions (i.e., natural forces and cycles, transfer of energy) of the environment, Earth, and the universe that occur over time.

- Materials and Processes That Shape A Planet—explain how formation, weathering, sedimentation, and reformation of rock constitutes a **continuing "rock cycle"**
- Earth History—use absolute dating, superposition, and fossil correlation to explain the sequence of events, which make up Earth's biologic and geologic history
- Plate Tectonics—describe Earth's surface in reference to plate tectonics (i.e. internal heat flow and the **dynamic nature of Earth's crust**)
- Astronomy—identify and describe the properties, interactions, and the **theories formation** of the universe and its components (e.g. **stars, planets, comets, meteors asteroids, and galaxies**)
- Interactions of Hydrosphere and Atmosphere—analyze the major components of the atmosphere and hydrosphere and explain how the transfer of energy through them **influences Earth's weather and climate**

LIFE SCIENCE—students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.

- Cellular—explain that most life functions involve chemical reactions regulated by **information stored within the cell** and may be influenced by the cell's response to its environment

- Genetics—explain how traits are inherited and passed from one generation to the next (i.e. from parental **DNA**, RNA to gross anatomical traits of offspring)
- Evolution—analyze the mechanisms of evolutionary changes (e.g., genetic variation, **environmental changes**, and natural selection)
- Biochemistry—explain the correlation between the structure and function of **biologically important molecules and their relationships to life processes**

Ecology—**analyze the interdependence** of diverse living organisms and their **interactions** with the components of the **biosphere**

Discoverer WebFind: Topic Search Icon: Science

> Agriculture
> Anthropology and Archaeology
> Astronomy and Space
> Chemistry
> Evolution
> Experiments and Discoveries
> Genetics
> Geography
> Geology
> Life Science
> Mathematics
> Paleontology
> Physics
> Weather and Climate

WebFind : Science : Astronomy and Space

2001 Odyssey: THEMIS
Source: Arizona State University Mars Education Program
Summary: "The Mars 2001 Odyssey orbiter launched from Kennedy Space Center 7 April 2001. The orbiter arrived at Mars on 24 October 2001. Odyssey carries three main science instruments: The Gamma Ray Spectrometer (GRS) the Thermal Emission Imaging System (THEMIS), and the Mars Radiation Environment Experiment (MARIE)." (MARS EDUCATION PROGRAM) View images of Mars from THEMIS, updated daily, and read about this mission to Mars.
URL: http://themis.asu.edu/

3-D Tour of the Solar System: Geology Tour
Source: Lunar and Planetary Institute (LPI)
Summary: The Geology Tour allows you to compare and contrast similar geologic features (for example, volcanos, craters, faults, etc.) as they exist on different planetary bodies....The 3-D image collection has been divided into six categories, represented by the six postcards labeled Atmospheres, Volcanos, Exploration, Craters, Faults, and Rivers. To browse the 3-D image collection for a particular category, you may click anywhere within that category's postcard." (LPI) Mercury, Venus, Earth, Moon, Mars, Jupiter, Saturn and Uranus are featured in this tour; images best viewed with 3-D glasses, if available.
URL: http://www.lpi.usra.edu/research/stereo_atlas/HTDOCS/GEOLOGY.HTM

3-D Tour of the Solar System: Planet Tour
Source: Lunar and Planetary Institute (LPI)
Summary: Explore the solar system--planet by planet. Descriptions of the planets, facts about the available 3-D images, and a glossary of terms are presented in addition to these 3-D images. Best viewed with 3-D glasses, if available.
URL: http://www.lpi.usra.edu/research/stereo_atlas/HTDOCS/PLANETS.HTM

SIRS Discoverer: Subject Tree Icon: ANIMALS

Subtopics:
> Animal Rights
> Animals As Entertainers
> Behavior
> Birds
> Careers--Working with Animals
> Dinosaurs & Other Extinct Species
> Endangered & Threatened Species
> Evolution
> Habitats
> Insects & Arachnids
> Invertebrates
> Mammals
> Microscopic Creatures
> Pets
> Reptiles & Amphibians
> Sea & Aquatic Creatures
> Service Animals
> Zoos & Aquariums

WebFind : Animals : Dinosaurs and Other Extinct Species (Samples)

The Age of Reptiles Mural
Source: Yale Peabody Museum
Summary: The mural at Yale University's Peabody Museum of Natural History is an incredible 110 feet in length and 16 feet high. It depicts a "panorama of time, effecting a symbolic reference to the evolutionary history of the earth's life up to the emergence of dinosaurs and through their domination of the Mesozoic era." (PEABODY MUSEUM) View the mural here, divided into five geological ages and accompanied by articles exploring each period.
URL: http://www.peabody.yale.edu/mural/

Chinese Dinosaurs
Source: Australian Museum
Summary: "Chinese Dinosaurs tells the story of some amazing fossils. How did modern birds evolve from small feathered dinosaurs about 140 million years ago?" (AUSTRALIAN MUSEUM) Read about Chinese dinosaurs, discover their relation to birds and dragons, and view a dinosaur family tree. Fact sheets about Chinese dinosaurs are presented.
URL: http://www.austmus.gov.au/chinese_dinosaurs/index.htm

PHYSICAL SCIENCE/CHEMISTRY—students will use scientific skills and processes to explain the composition, structure, and interactions of matter in order to support the predictability of structure and energy transformations.

- Physical or Chemical Changes—explain how the number and arrangement of electrons can be used to predict when an atom will transfer or share electrons to form a bond and explain how the resulting materials are different from the original materials (e.g., **organic, biochemical**, and inorganic examples)

- Classification of Matter—explain that all matter has structure and the structure serves as the basis for the properties of and the changes in matter
- Conservation of Matter and Energy—analyze the interrelationship of mass and energy associated with chemical, physical, and nuclear changes. (i.e. endothermic, exothermic, kinetic molecular theory, rate of change, and gas laws)

PHYSICAL SCIENCE/PHYSICS—students will use scientific skills and processes to explain the interactions of matter and energy and the energy transformations that occur.

- Mechanics—use algebra and geometry to apply the concepts of energy, force (i.e. Newton's Law, gravitation, friction), and momentum to explain the behavior of objects (i.e. linear and rotational motion, projectiles, collisions)
- Thermodynamics—analyze and apply the concepts of thermodynamics (i.e. laws, heat transfer, equilibrium)
- Electricity & Magnetism—analyze electric fields and their effect on charges and electric circuits (i.e., series, parallel, and complex), magnets and magnetic fields, and explain how electricity and magnetism affect one another (i.e., motors and generators)
- Wave Interactions—use energy transformations and physical effects to explain the interactions of waves and physical effects, (e.g., Doppler effect and Interference patterns)
- Nuclear Energy—describe **developments in modern Physics** (i.e. nuclear fission, photoelectric effect, wave-particles duality, energy of light) and their applications (e.g. nuclear power, MRI)

WebFind : Science : Chemistry

Acid Rain and pH - Kids' Corner
Source: Environment Canada
Summary: Learn how to measure how acidic or alkaline a substance is and what this measurement means, especially to plant growth. This site describes pH and offers three sets of learning activities for students K-12.
URL: http://www.ec.gc.ca/acidrain/kids.html

Alien Juice Bar
Source: Lawrence Hall of Science, University of California, Berkeley
Summary: Play three interactive games featuring space aliens to learn about acids, bases, and neutrals. This site requires the Flash plug-in.
URL: http://sv.berkeley.edu/showcase/flash/juicebar.html

Challenge of Materials
Source: Science Museum, London
Summary: What are materials? How are things around us made? What are the materials that have changed our lives
URL: http://www.sciencemuseum.org.uk/on-line/challenge/

WebFind : Science : Physics

The ABC's of Nuclear Science
Source: Berkeley Laboratory
Summary: "The ABC's of Nuclear Science is a brief introduction to Nuclear Science. We look at Antimatter, Beta rays, Cosmic connection and much more. Visit here and learn about radioactivity--alpha, beta and gamma decay. Find out the difference between fission and fusion. Learn about the structure of the atomic nucleus. Learn how elements on the earth were produced." (BERKELEY LABORATORY)
URL: http://www.lbl.gov/abc/

About Fusion!
Source: Princeton Plasma Physics Laboratory
Summary: This six-part tutorial explains nuclear fusion, how it works, how fusion reactors work, and why we would want to develop fusion power resources. Also, find a helpful glossary of fusion terms.
URL: http://ippex.pppl.gov/fusion/default.htm

All About Atoms
Source: Jefferson Lab
Summary: The Jefferson Lab presents this basic overview of atoms. Click on the electron, proton, neutron, or nucleus to learn more about each part of the atom, or just learn some fun facts about atoms.
URL: http://education.jlab.org/atomtour/index.html

Amusement Park Physics
Source: Annenberg/CPB Project
Summary: "This interactive exhibit, part of the Exhibits Collection, explores how the laws of physics play a role in the design of amusement park rides. Activities in the exhibit invite visitors to design a roller coaster and determine the outcomes of bumper car collisions." (ANNENBURG/CPB PROJECT) Explore the engineering and science behind amusement parks--also, find information on park ride injuries and a helpful physics glossary.
URL: http://www.learner.org/exhibits/parkphysics/

ENVIRONMENTAL SCIENCE—students will use scientific skills and processes to explain the interactions of environmental factors (living and non-living) and **analyze their impact from a local to a global perspective.**

- Flow of Matter and Energy—analyze how matter and energy are conserved **over time as they move through the lithosphere, hydrosphere, atmosphere, and organisms**
- Interdependence of Organisms—use physical and chemical concepts to analyze and explain the **interdependence of organisms within the environment**
- Natural Resources and Human Needs—use concepts from chemistry and physics to analyze and explain how **human activity can have positive** (recycling) and **negative** (toxic waste) **effects on the environment**
- Environmental Issues—investigate and analyze **environmental issues** from **local to global perspectives** (e.g. world population, food production and distribution, pollution and epidemics, biodiversity)

SIRS Discoverer: Subject Tree Icon: ENVIRONMENT
WebFind: Subject Tree Icon: ENVIRONMENT

Subtopics:
> Activism
> Careers--Working with or to Save & Protect the Environment
> Conservation of Natural Resources
> Disasters & Natural Disasters
> Ecology & Ecosystems
> Energy
> Environmental Health
> Environmental Law
> Environmentalists
> Garbage Disposal & Recycling
> Global Warming & Greenhouse Effect
> Kids Speak Out!
> Pesticides & Poisons
> Places to Discover
> Pollution
> Weather

> Conservation
> Disasters and Natural Disasters
> Ecology and Ecosystems
> Endangered Species
> Energy
> Global Warming
> Pollution
> Recycling

WebFind : Environment

10 Facts on Antarctic Life
Source: Australian Antarctic Data Centre
Summary: "Ten Facts was a response to a request from a K12 (USA) student who asked 'can you give me ten facts on Adelie Penguins?' Rather than compose a one-off response, we designed a standard template that could be used to describe interesting Antarctic features. Hence 'Ten Facts'." (AUSTRALIAN ANTARCTIC DATA CENTRE) This site provides 10 facts on a variety of Antarctic topics, including Arctic weather, animals, and research facilities.
URL: http://www.aad.gov.au/default.asp?casid=1134

Adaptation
Source: NASA Classroom of the Future
Summary: Explore the concept of adaptation, including the environment and environmental change, as well as physical adaptation.
URL: http://www.cotf.edu/ete/modules/msese/earthsysflr/adapt.html

The Andes Under Siege: Environmental Consequences of the Drug Trade
Source: U.S. Department of State (DOS)
Summary: "Narcotics cultivation and processing pose serious threats to the environment in the Andean region and in Southeast Asia -- the centers of the world's cocaine and heroin industries." (DOS) Deforestation in the environmentally sensitive region of the Andes mountain range in South America may threaten an entire ecosystem and the people who live in the area. Read about this largely unreported problem on this site.
URL: http://usinfo.state.gov/products/pubs/andes/

April 22: Earth Day
Source: Library of Congress (LOC)
Summary: "Earth Day was first observed in Spring of 1970. An estimated 20 million people nationwide attended festivities out of which came the largest grassroots environmental movement in U.S. history, and the impetus for national legislation like the Clean Air and Clean Water Acts. **URL:** http://memory.loc.gov/ammem/today/apr22.html

World Famous Scientists and Inventors

WebFind : Notable People : Scientists and Inventors

4,000 Years of Women in Science
Source: The University of Alabama
Summary: This site, sponsored by the University of Alabama, provides an overview of the contributions of women to fields of science. Going back 4,000 years, the site offers biographies, photographs, highlights, and reference sources for famous women scientists.
URL: http://crux.astr.ua.edu/4000ws/

About William Harvey
Source: William Harvey Medical Research Foundation
Summary: This site surveys Harvey's life and offers a detailed explanation of both Harvey's discovery of the circulation of the blood and the initial opposition to his theory.
URL: http://www.williamharvey.org/wm_harvey.htm

Adventures in Science and Technology
Source: SchoolNet Digital Collections program, Industry Canada
Summary: Learn to understand science and the different areas of scientific study on this basic but informative Web site. Also, find biographies of Canadian scientists in each area and experiments that you can do at home or for school projects. This site is also available in French.
URL: http://collections.ic.gc.ca/science/english/index.html

African Americans in the Sciences
Source: Princeton University
Summary: This site profiles African-American chemists, biologists, inventors, engineers, and mathematicians who have contributed to the advancement of science and engineering. The profiles may be accessed by alphabetized name or by profession. While some of the profiles are slight, others are extensive.
URL: http://www.princeton.edu/~mcbrown/display/faces.html

SIRS Discoverer: Subject Tree Icon: TECHNOLOGY

Subtopics:

> Agriculture, Food & Drink
> Careers in Technology
> Communication
> Computers
> Energy Sources
> Exploration & Research Methods
> Genetic Engineering
> Inventions & How Things Work
> Inventors
> Life in the Future
> Materials
> Medical Technology
> Military Technology
> Nuclear Technology
> Space Technology
> Transportation

SIRS Discoverer/WebFind Supports Social Studies Standards

SIRS Discoverer/WebFind supports all included standards. **But bolded standards** or **parts of standards** indicate that SIRS Discoverer/WebFind resources are essential for success because they provide the currency, need for multiple points of view, or timely access to a variety of media that are not readily available in most schools, libraries, or at home.

Typical History Standards

Chronology and Cause—students will understand the chronological order of historical events and recognize the **complexity** of **historical cause and effect**.

Historical Understanding—students will understand the meaning, implications, and importance of historical events.

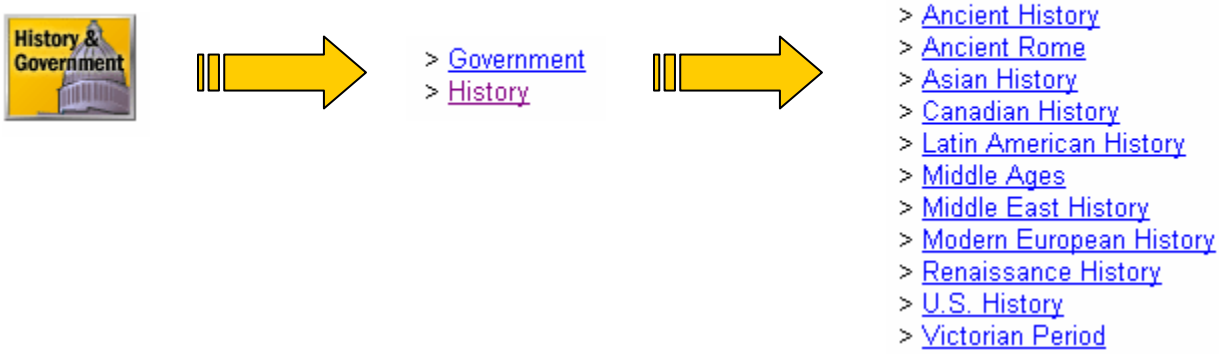
Research, Evidence, and Point of View—students will acquire the ability to frame questions that can be answered by **historical study and research**; to collect, evaluate, and employ information from **primary and secondary sources**, and to apply it in oral and written presentations.

Society, Diversity, Commonality, and the Individual—students should be expected to learn of the complex interplay that has existed from the beginning of our country between **American ideals and American practice** in the pursuit of realizing the goals of the Declaration of Independence for all people.

Interdisciplinary Learning: Religion, Ethics, Philosophy, and Literature—students will describe and explain fundamental tenets of major world religions; **basic ideals of ethics**, including justice, consideration for others, and **respect for human rights**.

Interdisciplinary Learning: Natural Science, Mathematics, and Technology in History—Students will describe and explain **major advances, discoveries, and inventions over time**.

Discoverer WebFind: Subject Tree Path: HISTORY AND GOVERNMENT: History



SIRS Discoverer: Subject Tree Path: HISTORY & GOVERNMENT

Subtopics:
> Africa
> Antarctica
> Asia
> Australia, New Zealand & Oceania
> Canada
> Country Facts
> Economics
> Europe
> Explorations & Inventions
> Historic Places & Landmarks
> Immigration & Migration
> International Organizations
> Major Events of Modern Times
> Mexico, Central America, South America & Caribbean
> Middle East
> United States of America
> Wars, Battles & Revolutions
> World History

WebFind : History and Government : History

ActiveHistory: Interactive Games and Lessons
Source: ActiveHistory
Summary: "Learning history doesn't have to be all about reading textbooks and watching drab documentaries. Here at ActiveHistory, interactive games add a completely new dimension to your history studies." (ACTIVEHISTORY) A history and politics teacher in England presents engaging online activities that bring historical events to life.
URL: http://www.activehistory.co.uk/games/index.htm

African Presence in the Americas: 1492-1992
Source: University of Michigan and the New York Public Library
Summary: This Web site traces the history of Africans in North, South, and Central America and the Caribbean over a period of 500 years. The site addresses issues of racial identity, migration, work, culture, and resistance to enslavement, and it also offers timelines and maps.
URL: http://www.si.umich.edu/CHICO/Schomburg/

Assassination of President Abraham Lincoln
Source: Library of Congress (LOC)
Summary: "On the evening of April 14, 1865, while attending a special performance of the comedy, 'Our American Cousin,' President Abraham Lincoln was shot." (LOC) This site offers a short narrative of the event and its aftermath, a timeline, and a gallery of pictures from the era.
URL: http://lcweb2.loc.gov/ammem/alhtml/alrintr.html

Become a Word Historian
Source: Exploratorium Magazine
Summary: "Many English words have their origins in other languages. By finding words with similar sounds and meanings in other languages, it's often possible to trace the history of a word back through many centuries. The history of a word, called its etymology, is often a good clue to its most essential meaning." (EXPLORATORIUM MAGAZINE) Learn how to explore the etymologies of common words on this Web page.
URL: http://www.exploratorium.edu/exploring/language/word_histories.html

A Brief History of Time
Source: University of Wisconsin
Summary: This site gives a brief history of time. It is set up on a timeline that begins with the Egyptians and their sundials and ends with the atomic clock, for which a second is defined as 9,192,631,770 vibrations of the cesium atom.
URL: http://whyfiles.org/078time/3.html

Typical Civics & Government Standards

Authority, Responsibility, and Power—students will explain forms of authority in government and other institutions; explain purposes of authority and distinguish authority from mere power.

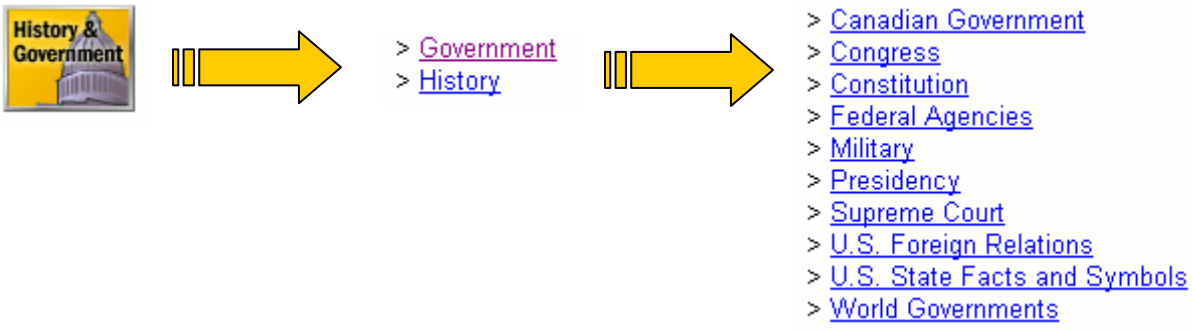
The Founding Documents—students will learn in progressively greater detail the content and the history of the Founding Documents of the United States—the Declaration of Independence, The Constitution, and selected Federalist papers, and elements of their state constitution.

Principles and Practices of American Government—students will describe how the United States government functions at the local, state, **national**, and **international levels**.

Citizenship—students will learn the rights and duties of citizens and the principle of equal rights for all, and identify major obstacles and **threats to civil rights**.

Forms of Government—students will study, **compare, contrast, and analyze diverse forms of government**; the ways of life and opportunities they permit, promote, and prohibit; and their effects on **human rights**.

Discoverer WebFind: Subject Tree Path: HISTORY & GOVERNMENT: Government



WebFind : History and Government : Government

An Outline of American Government
Source: University of Groningen
Summary: An Outline of American Government explores the U.S. Constitution, the branches of government, the processes of government, and the powers and responsibilities of state and local governments.
URL: http://odur.let.rug.nl/usanew/GOV/index.htm

Anniversary of Washington, D.C.
Source: U.S. Census Bureau
Summary: "In July 1790, the U.S. Congress authorized the selection of a site 'not exceeding 10 miles square' somewhere in the Potomac River region to serve as the permanent seat of the United States government. In the interim, Philadelphia would serve for a decade as the nation's capital. On Dec. 12, 1800, Washington, D.C., officially became the nation's capital." (U.S. CENSUS BUREAU) This site features statistics about the past and present of Washington, D.C.
URL: http://www.census.gov/Press-Release/www/releases/archives/facts_for_features/001574.html

Ben's Guide to U.S. Government: Main Page
Source: U.S. Government Printing Office
Summary: "Ben's Guide to U.S. Government, on GPO Access, teaches kids from kindergarten through 12th grade about the Federal Government." (BEN'S GUIDE) Using the historic character of Benjamin Franklin, Ben's Guide walks the student through the various documents and services available from the federal government. Included is information about the election process, how laws are made and links to other U.S. Government Websites for kids.
URL: http://bensguide.gpo.gov/

Discoverer WebFind: Subject Tree Path: NOTABLE PEOPLE

> Architects
> Astronauts
> Authors
> Aviators
> Entertainers
> Entrepreneurs
> Explorers
> First Ladies
> Human Rights Activists
> Illustrators
> Military Personnel
> Painters
> Photographers
> Politicians and Government Officials
> Royalty
> Scientists and Inventors
> Sports Figures
> U.S. Presidents
> World Leaders

Typical Geography Standards

Physical Spaces of the Earth—students will describe earth's **natural** features and their **physical** and **biological** characteristics.

Places and Regions of the World—Students will identify and explain the **location and features of places and systems** built and organized **over time**.

The Effects of Geography—Students will learn how physical environments have influenced particular cultures, economies, and political systems, and how geographic factors have affected **population distribution**, **human migration**, and other prehistoric and historical developments.

Human Alteration of Environments—Students will describe the ways in which **human activity** and **technology** have **changed the world**.

Sample Searches That Support Geography

Over 300 detailed, colorful maps are available as an online reference almanac. The maps include each of the 50 United States and the provinces and territories of Canada, as well as nations and regions of the world including Europe, Persian Gulf, Czech Republic, the Baltics, and Time Zones of the World.

SIRS Discoverer: Subject Tree Path: COUNTRIES

To Get Information on a Specific Country (Sample from 100+)

Afghanistan	Czech Republic	Liberia	Sudan
Algeria	Ecuador	Libya	Switzerland
Chechnya	Guyana	Nepal	Taiwan
Chile	Haiti	Philippines	Thailand
China	Honduras	Poland	Tibet
Colombia	Iceland	Qatar	Ukraine
Congo	Iraq	Romania	Vietnam

Typical Economics Standards

Fundamental Economic Concepts—students will understand fundamental economic concepts, including choice, ownership, exchange, cooperation, competition, purposive effort, **entrepreneurship**, incentive, and **money**.

Economic Reasoning—students will demonstrate understanding of supply and demand, price, labor markets, the costs of capital, factors affecting production, distribution, and consumption, **relations among such factors**, the nature of goods and services, **incentives, financial markets**, **cost-benefit (including marginal cost-benefit) analysis, fairness, and the value of trade**.

American Economic History—students will describe the development of the American **economy** from colonial times **to the present**.

Today's Economy—students will describe the distinctive aspects of the **contemporary economy of the United States and the world**.

Theories of Economy—students will describe and compare the major theories of economy, and will identify the individuals and historical circumstances in which these theories were developed.

SIRS Discoverer: Subject Tree Path: HISTORY & GOVERNMENT: Economics

- Troubles with Mutual Funds
  Kidsnewsroom ; Nov. 7-14, 2003; 2K.
- U.S. Economy Shows Improved Growth
  NewsHour Extra ; Nov. 6, 2003; 5K.
- Supermarket Workers Strike in California
  NewsHour Extra ; Oct. 30, 2003; 4K.
- Pulling the Plug
  Time for Kids World Report Edition ; Oct. 10, 2003; 3K.
- Bush Defends Policies on Economy
  Kidsnewsroom ; Oct. 10-17, 2003; 3K.
- Web Site of the Week: Wall Street Journal Classroom
  KRTeens ; Sept. 11, 2003; 2K.
- Cutting CD Prices
  Time for Kids ; Sept. 4, 2003; 2K.
- American Red Cross Cries for Help
  Kidsnewsroom ; Aug. 8-15, 2003; 1K.
- Judge Weighs Ban on Sales of Violent Video Game
  NewsHour Extra ; July 24, 2003; 5K.
- Summer Fun: The Economics of the Lemonade Stand
  Social Studies for Kids ; July 8, 2003; 4K.
- Under Fire, Food Giants Switch to Healthier Fare
  USA Today ; June 30, 2003; 13K.

Subtopics:

> Africa
> Antarctica
> Asia
> Australia, New Zealand & Oceania
> Canada
> Country Facts
> Economics
> Europe
> Explorations & Inventions
> Historic Places & Landmarks
> Immigration & Migration
> International Organizations
> Major Events of Modern Times
> Mexico, Central America, South America & Caribbean
> Middle East
> United States of America
> Wars, Battles & Revolutions
> World History

Typical Cultures Standards

The student understands

- **The relationship between the arts and the times during which they were created**
- **How people from various religious, ethnic, and racial groups adapt to life in the U. S. and contribute to the national identity**
- **The similarities and differences within and among cultures in different societies**
- That certain institutions are basic to all societies but may vary from one society to another
- **The relationship among religion, philosophy, and culture**
- The relationships that exist between artistic, creative, and literary expressions and the societies that produce them
- **The role of women, children, and families in different historical cultures**
- **How cultural socialization, norms, values, motivation, and communication influence relationships between groups**

Discoverer WebFind: Subject Tree Path: CULTURES

> African
> African American
> Ancient
> Arts and Artifacts
> Asian
> Australian and Oceanian
> European
> Holidays and Traditions
> Language
> Latin American
> Middle Eastern
> Mythology and Folklore
> Native American
> North American
> Religion and Philosophy

WebFind : Cultures

The Ancient Greek World
Source: University of Pennsylvania Museum
Summary: This site explores the Ancient Greek World, especially as it is revealed through its artifacts. Some of the topics included are histories of time periods, daily life, economy, religion and death, and women and goddesses.
URL: http://www.museum.upenn.edu/Greek_World/Index.html

Arctic Studies Center: Frequently Asked Questions
Source: Smithsonian Institution
Summary: This Web page contains answers to frequently asked questions about the Arctic. Learn facts about the Arctic's geography, environment and people. A map of the Arctic is included.
URL: http://www.mnh.si.edu/arctic/html/resources_faq.html

Borders & Identity
Source: Smithsonian Institution (SI)
Summary: "What is a border? Is the border a particular kind of region or social environment? If so, does the border tend to produce a particular kind of culture? And what is the relationship between this environment and its culture?" (SI) The Smithsonian's site on Borders & Identities attempts to answer these questions.
URL: http://www.smithsonianeducation.org/migrations/bord/borders.html

Celebrate Hispanic Heritage!
Source: Scholastic Inc.
Summary: Students can learn about Hispanic history in the Americas, famous Latinos, Latinos in history, and what Hispanic heritage means to ordinary Hispanics. Discover the contributions and rich cultures of Hispanic people in the United States.
URL: http://teacher.scholastic.com/activities/hispanic/index.htm

Cultural Profiles Project
Source: Citizenship and Immigration Canada
Summary: The Canadian Ministry of Citizenship and Immigration provides this guide to the countries and cultures of Canadian immigrants, but this resource is useful to anyone who wants to learn about world cultures. This site covers many dozens of nationalities in remarkable depth.
URL: http://www.settlement.org/cp/english/index.html

Typical Social Studies Skills Standards

The student is expected to

- **Use problem-solving processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, predict consequences, and take action to implement a decision**
- **Use and create appropriate maps, charts, tables and graphs to present information that clarifies social studies ideas and issues**
- **Apply critical thinking skills to organize and use information acquired from a variety of sources including electronic technology**
- **Communicate in oral, written and visual form**

SIRS Discoverer: Subject Tree Path: SOCIAL ISSUES

Subtopics:

- > Abortion
- > Aging
- > AIDS/HIV
- > Animal Rights
- > Consumerism
- > Death & Dying
- > Developing Nations
- > Environmentalism
- > Ethics
- > Ethnic & Race Relations
- > Family
- > Girls' & Women's Issues
- > Homelessness
- > Human & Civil Rights
- > Justice & Laws
- > Kids Speak Out!
- > Military & Defense
- > People with Special Needs
- > Population
- > Poverty
- > Public Health
- > School & Education
- > Teenage Pregnancy
- > Violence & Crime
- > World Hunger

Discoverer WebFind: Subject Tree Path: SOCIAL ISSUES

- > Environmentalism
- > Ethics
- > Ethnic and Race Relations
- > Gender Issues
- > Human and Civil Rights
- > Population
- > Public Health
- > Terrorism
- > Violence and Crime

WebFind : Social Issues

Anniversary of Americans with Disabilities Act (July 26)
Source: U.S. Census Bureau
Summary: "On this day in 1990, President George Bush signed into law the Americans with Disabilities Act, guaranteeing equal opportunity for people with disabilities in public accommodations, commercial facilities, employment, transportation, state and local government services and telecommunications." (U.S. CENSUS BUREAU) This page presents interesting statistics and facts about Americans with Disabilities.
URL: http://www.census.gov/Press-Release/www/2003/cb03ff-10.html

Bossman Blues
Source: The Why Files
Summary: A study finds that "abusive bosses don't get good cooperation from subordinates, who don't go the extra mile" (THE WHY FILES). Learn more about the effects of abusive bosses.
URL: http://whyfiles.org/shorties/121nastyboss/

Braille Bug
Source: American Foundation for the Blind (AFB)
Summary: "American Foundation for the Blind (AFB) Braille Bug features a kids' center that teaches sighted children about braille, and encourages literacy among sighted and visually impaired children in a fun environment packed with facts, information, games, graphics, and activities." (AFB) On this site, students will find a description of braille, as well as games and biographies of Louis Braille and Helen Keller.
URL: http://63.240.118.132/braillebug/default.asp

Censorship or Common Sense?
Source: The Why Files
Summary: "The Supreme Court says libraries must filter Internet porn or lose bucks. Censorship? Or a common-sense protection for kids? Do the filters work, or do they block innocent junk like The Why Files?" (THE WHY FILES)
URL: http://whyfiles.org/181internet_filter/index.html

SIRS Discoverer/WebFind Supports Personal Growth, Health, &Fitness

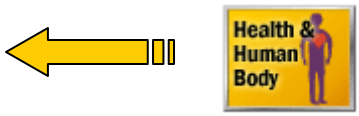
Typical Health Information Standards

- Enhance and maintain personal health for a lifetime.
- **Prevent disease and promote healthy living throughout life**.
- Recognize the significance of the reproductive process as it relates to future generations.
- **Investigate and evaluate the impact of media and technology on individual, family, community, and world health**.
- **Evaluate the information for its appropriateness**.

SIRS Discoverer: Subject Tree Path: HEALTH & HUMAN BODY

Subtopics:
> Aging
> AIDS/HIV
> Cancer
> Careers in Health Care
> Child Development
> Circulatory System
> Death & Dying
> Digestive System
> Eating Disorders
> Endocrine System
> Environmental Health
> First Aid & Safety
> Food, Drink & Nutrition
> Health Care
> Health Care Providers
> Human Genetics
> Immune System
> Kids Speak Out!
> Medicine
> Mental Health
> Nervous System
> Parts of the Body
> Physical Conditions, Diseases & Disorders
> Physical Health & Fitness
> Reproductive System
> Respiratory System
> Sleep
> Strange but True!
> Transplants & Amputations
> Urinary System

> Diet and Nutrition
> Diseases and Disorders
> Eating Disorders
> Environmental Health
> Fitness
> Medicine
> Mental Health
> Parts of the Body
> Safety



WebFind : Health and Human Body

4 Girls' Health
Source: U.S. Department of Health and Human Services (HSS)
Summary: "The www.4girls.gov Web site gives adolescent girls reliable, current health information. The site focuses on adolescent girls' health concerns and motivates girls to choose healthy behaviors." (HHS) Topics include puberty, fitness, nutrition, mental health, and substance abuse.
URL: http://www.4girls.gov/index2.htm

BAM: Body and Mind
Source: Centers for Disease Control and Prevention (CDC)
Summary: Read health articles for young people from the CDC. This site offers articles on fitness, disease, safety, as well as quizzes and activities.
URL: http://www.bam.gov/

Typical Health Behaviors Standards

- Assess the relationship between body structure and function and personal health throughout the life span.
- **Analyze the relationship between unsafe behaviors and personal health and develops strategies to promote resiliency throughout the life span**.

SIRS Discoverer: Subject Tree Path: DRUGS & ALCOHOL

Subtopics:
> Addiction Risk & Prevention
> Alcohol
> Caffeine
> Cocaine & Crack
> Drug Abuse Testing
> Drug Smuggling
> Hallucinogens
> Heroin
> Inhalants
> Kids Speak Out!
> Legalization & Legislation
> Marijuana
> Over-the-Counter Drugs
> Prescription Drugs
> Recovery from Addiction
> Smoking & Tobacco
> Steroids
> Synthetic Drugs

Typical Influencing Factors Standards

- Analyzes the effect of relationships on health behaviors.
- **Differentiates between positive and negative family influences.**
- **Evaluates the effect of a variety of environmental factors on community and world health.**
- **Understands how to access school and community health services for people of all ages.**
- **Understands situations in which people of all ages require professional health services.**

Typical Personal/Interpersonal Skills Standards

- **Synthesizes information and applies critical-thinking, decision-making, and problem-solving skills for making health-promoting decisions throughout the life span**.
- **Applies strategies for advocating and evaluating outcomes for health issues**.

SIRS Discoverer: Subject Tree Path: PERSONAL GROWTH

Subtopics:
> Appearance
> Careers & Jobs
> Family
> Friends
> Kids Speak Out!
> Peer Pressure
> School & Education
> Sexuality
> Social Activism
> Understanding Yourself & Others

SIRS Discoverer/WebFind Supports Standards for the Arts

Typical Arts Standards

Historical/Cultural Heritage—the student demonstrates an understanding of **art history and culture** as records of human achievement.
Historical/Cultural Heritage—the student relates **music and dance to history, to society, and to culture**.
Historical/Cultural Heritage—the student relates **theatre to history, society, and culture.**

Art and Craft Activities – *Click* ACTIVITIES: Art Projects

- Everything You Want to Know About Melody, Harmony and All That Jazz
- Make a Holiday Place Card
- The Ins and Outs of Weaving
- You Can Draw...a Monarch Butterfly
- Make a St. Patrick's Day Mask
- Make a Bird Feeder
- Make a Bowl to Hold Hope for the Future
- Handmade Holidays: Use Your Own Two Hands to Make the Season Merry...
- A Learning Link to the Los Angeles County Museum of Art
- Make a Nature Scene
- That's Impossible! Or Is It? We Come Clean with Tricky Pic How-Tos

SIRS Discoverer: Subject Tree Path: ARTS

Subtopics:
> Acting & Drama
> Animation
> Architecture
> Artists
> Careers in the Arts
> Censorship
> Circus
> Comics
> Dance
> Decorative Arts & Crafts
> Fashion
> Graphic Art & Design
> Kids Speak Out!
> Literature
> Mass Media
> Museums
> Music
> Painting, Illustrating & Cartooning
> Photography
> Sculpture
> Street Art

Discoverer Publication Samples that Support K-8 Learning Across the Curriculum

The following collection of K-8 appropriate magazines is organized by **Subject Search** categories that they primarily support. Many of these magazines also provide support for multiple categories (General Interest) as well. SIRS editors select the best of this content for use in Discoverer.

Animals

Animals
Zoo One
Zoobooks
Brookfield Zoo Views
Dog Fancy
Horse Illustrated
I Love Cats
Puddler
Your Cat
Zoonooza
Animal Free Press

The Arts

@rt Roomar
Art Institute of Chicago
Arts & Activities
ChildArt
National Gallery of Art
SchoolArts
Carefree ENTERPRISE
Clubhouse
Dance Spirit
Enchanted Learning

Cultures

Whispering Wind
World Kid
AIM
Asian Pages
Blacfax
Child Life
Holiday Origins
Japanophile
Old News
Skipping Stones

Environment

Wild Outdoor World
Friends of the Earth
Nature Friend
Ranger Rick
National Geographic World
Explore!
Living Museum
Trailblazer
Wind River Rendezvous
Your Big Backyard

General Interest

Boys' Quest
Children's Digest
Children's Express
Children's Playmate
Current Events©
Fact Monster
Funology
Humpty Dumpty's Magazine
Jack And Jill
Kidsnewsroom
Know Your World Extra©
Scholastic News
Teen Newsweek
Teen Times
Time for Kids
U.S. Kids
Youth Today
Consumer Reports for Kids
Faces
First Things First
Girl Power
J-14
Kind News
Muse
New Moon
Yak's Corner
Young & Alive

History

Calliope
Cobblestone
Cowboys & Indians
Old West
Journeys for the Junior Historian

Health

Appleseeds
Current Health©
Kidshealth
PREVLINE: Prevention Online
TeenHealth

Technology

Click
New Horizons

Kids Corner/Literature/Fiction

Absolutely Whootie: Stories
Literary Cavalcade
Plays, the Drama Magazine
Read©
Weekly Reader©
Writer
Writing
Young Voices
Cricket
Crinkles
Hopscotch
Ladybug

Personal Growth

Boys' Life
Career World
Discovery Girls
Girls' Life
Character Counts!
Focus on the Family
Grit
New Youth Connections
TeenGrowth

Science

Current Science©
Eye on Science
Fossil News
Odyssey
Science Made Simple
Science Weekly
ScienceSpin
Smithsonian In Your Classroom
SuperScience Blue

Sports

Nickelodeon GAS: Games and Sports for Kids
American Cheerleader
American Skating World
Breakaway
Junior Baseball
Soccer Jr.
Sport
Swimmer
Sports for Kids
Student Sports

ProQuest Mini-Research Higher-Order Thinking Strategies

Information becomes knowledge only when it is used to make comparisons, predict consequences, evaluate effectiveness, form connections, and then is communicated to an audience with a purpose.

ELEMENTARY SCHOOL (or Beginners)
(Who, What, When, Where?)

Reports should be mostly factual, require one good source (many times an encyclopedia article), and be presented in a **summarized** (extracting the most important information) or a **paraphrased** (synthesizing and restating the most important information) report of less than 100 words. Students should be encouraged to attach an appropriate picture or map to the report.

MIDDLE SCHOOL (or Upper Elementary/Some Experience)
(Who, What, When, Where, How and Why?)

Students should be required to use 2 or 3 sources. Reports can be written, oral, or created by teams. Reports should be between 100 and 200 words. Encyclopedic information is appropriate as one source only if it supports the 2 strategies listed below:

- **Compare/Contrast**—students research two similar leaders, authors, artists, works of literature, countries, ideas, etc. and show how they are both alike and/or how they are different

  Examples: Russia and Ukraine; Humans and chimpanzees; The Bible and the Koran; Classical and contemporary music; Abraham Lincoln and Franklin Delano Roosevelt; the Ancient Greeks and the Romans

- **Critique**—students research a popular opinion, idea, practice, trend, tradition, belief or custom, and provide a logical argument for revising or eliminating it

  Examples: eating eggs is bad for your heart; no pain, no gain; affirmative action laws lead to overall lowering of standards; the national debt will lead us into bankruptcy; to succeed, all students should go to college; the Electoral College is the best method of electing the president

HIGH SCHOOL (or Good Writers and Researchers)
(Who, What, When, Where, How and Why/Why Not, What If?)

Students should be required to use 3 or 4 sources. Reports can be written (200 to 300 words), oral (3 to 5 minutes) or in teams. With appropriate technology and training, a PowerPoint presentation should also be encouraged. Reports should require a summary document attached as a bibliographic reference to provide authentication. Strategies for mini-research should include predicting, evaluating, and persuading.

- **Persuade**—students research a controversial issue, select a position (or teachers could assign the position), and then create a logical argument to support their opinion

  Examples: students should have a right to free education through college; does literature reflect or drive society?; professional athletes are paid too much money; euthanasia should be permitted under appropriate controls; some illegal drugs should be legalized; the federal government should pass more restrictive gun control laws

- **Predict**—given a recent event, discovery, law, or invention, predict what will happen in the near future; given a past event or series of events, create a scenario that may occur in the near future

Examples: predict what will happen in the next decade if there is no action to reduce global warming; predict what sports will be most popular in 10 years and explain why; predict what jobs will be most in demand 10 years from now, and why; predict how the Internet will affect business, social life, and education; predict what benefits will be created from the success of the International Space Station; predict the benefits of the human genome mapping project; predict how the advent of the Euro will affect the economies of Europe; predict the impact of teachers merit pay plans.

- **Evaluate**—given a recent (in the last 5 years) change in a law, political leader, rules and regulations, organizational structure, invention, or discovery, summarize and evaluate the progress that may have been made in society because of that change

  Examples: the NAFTA treaty; the nuclear disarmament treaty; virtual courses for high school and college students; welfare reform; eBusiness; the use of computers in schools; the repair and upgrade of the Hubble telescope; the creation of the "Chunnel;" the alternative energy initiative

Tailoring ProQuest Mini-Research Strategies To Meet the Needs of Your Students

A single research topic can provide a range of mini-research activities that can be tailored with the appropriate degree of difficulty levels for all your students. The same basket of documents retrieved from one Search can be used to answer a variety of research questions.

TOPIC: Global Warming
SEARCH: *causes of global warming*

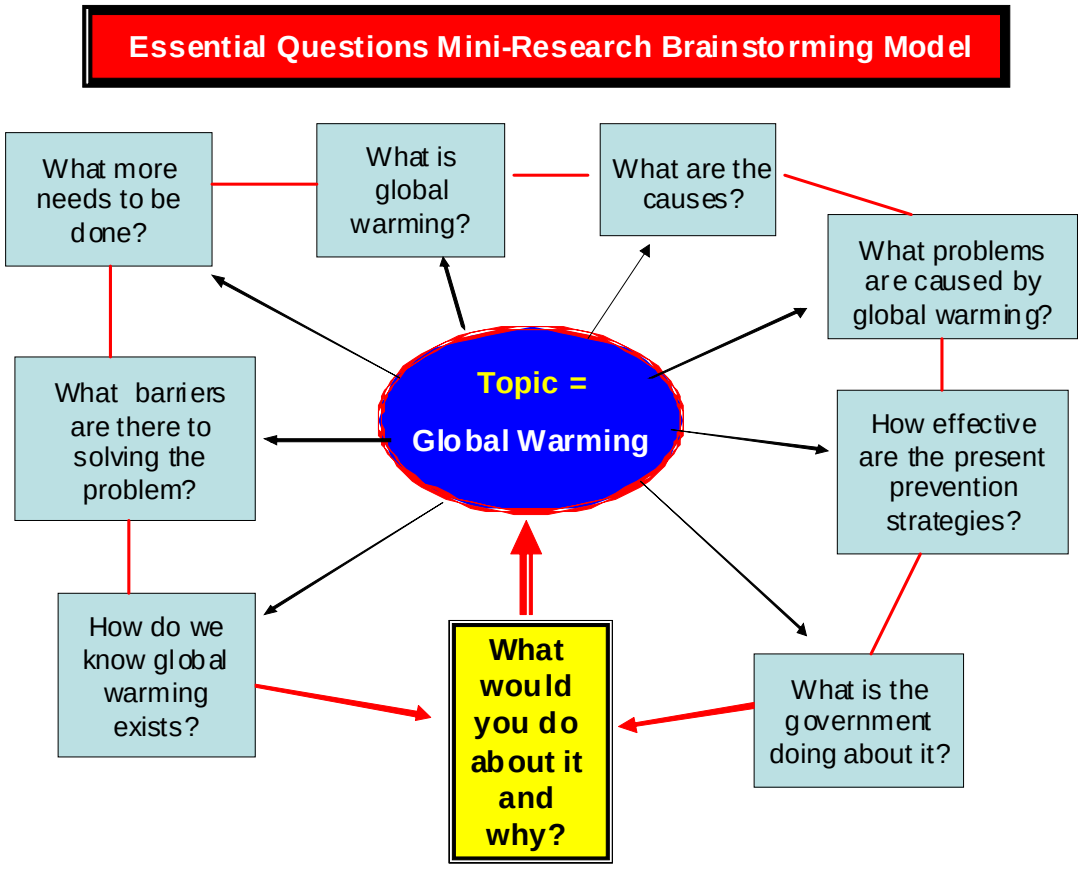
Mini-Research Strategy	Critical Thinking Question Possibilities
Expand:	What is global warming? (Look up and paraphrase – lowest level)
Compare/Contrast:	Compare the weather patterns in the U. S. today with the patterns 100 years ago. (Intermediate level critical thinking skills)
Critique:	What actions by society have contributed to global warming?
Predict:	Predict what will happen in the future if nothing is done to reverse global warming.
Persuade:	Persuade the U. S. Government to pass laws that would help to reverse global warming.
Evaluate:	Evaluate the effectiveness of the past actions taken by government and business to prevent further global warming. (Highest level)

Mini-Research and Brainstorming about the Issues/Problems

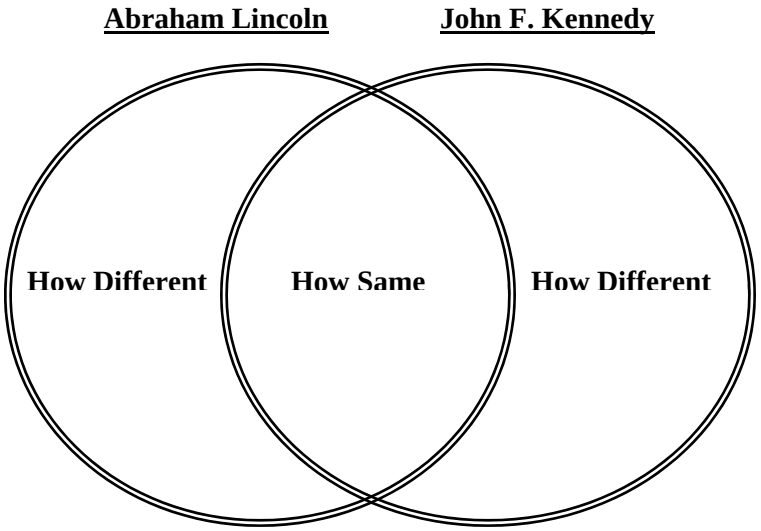
Too many times teachers make research assignments that are so global in nature that students and librarians who assist them are confused about what to research. The assignment is "do a report on **global warming**." This usually results in the copying an encyclopedia article either by hand or by copy/paste, changing a few words, then printing and turning in the report. The result is plagiarism and minimal learning. The focus of the report defaults to the lower-order thinking skills questions of "who, what, when, and where."

A brief brainstorming session prior to researching, using the mini-research process and a **graphic organizer** (www.inspiration.com) is the best way to guide students into thinking about all aspects of the problem to be solved and include questions of how, why, why not, and what if which are higher-order thinking skills tested on state assessments. The advantage of this process is those students do not have to think in sequence (outline form). Instead, they think randomly (brain research confirms the validity of this approach especially for novices) about the topic/problem with any one question prompting another, until 3-6 questions emerge. These essential questions are the basis for research and their answers will be analyzed and synthesized by the student to create original thought in the form of a report.

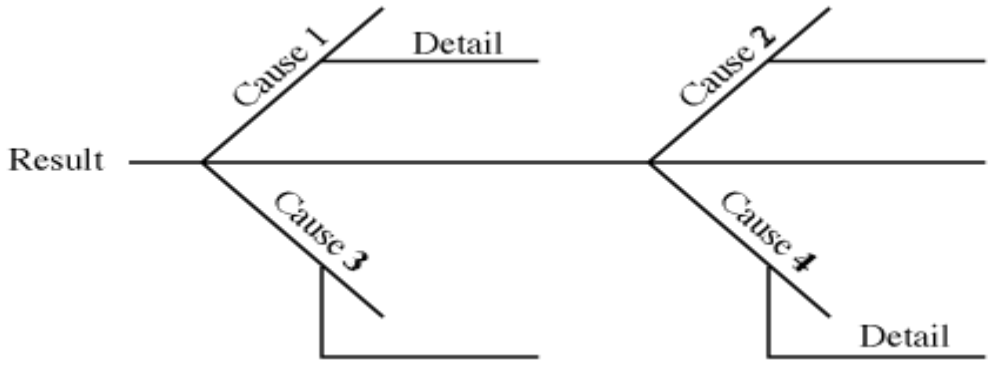
The model below is an example of this process. Each question brainstormed is written in one of the spaces without regard to which space and in what order. The teacher leads the process making sure that some of the questions involve how, why, etc. so that students are focused on problem solving and developing informed opinions on issues that affect their lives.



Venn Diagram—Useful for visual learners to **compare and contrast** the characteristics of 2 people, places, events, or things that are similar while researching information for a report. Write descriptors in the spaces before and after researching and before reporting.



Cause and Effect Map—It is used to show the causes of a complex event (an election, the creation of a significant structure or work, a war, etc.) or complex phenomenon (juvenile delinquency, learning disabilities). Key questions: What are the factors that cause/caused X? Are they interrelated? How can we modify or eliminate a cause(s) and alter the result? Fill in the map (**Detail**) as you gather research information for your report, or as a plan for research if you already know some of the significant causes.



Informal Model Format Integrates Summary Document with Final Report

SHOULD STEM CELL RESEARCH WITH HUMAN EMBRYOS BE STOPPED?

Executive Summary—by Tammy Weisman

Stem cell research with human embryos has the potential to develop breakthrough cures for a host of genetic diseases that kill millions of Americans and other people in foreign countries. Stem cells are basic cells that develop first in human embryos after fertilization. All other specialized cells in the human body evolve from stem cells by a process that is not fully understood today. By understanding this process, scientists could grow new organs and other specialized cells to replace damaged or diseased cells in human beings, and thereby prolong and extend the quality of their life?

Why would this research not be acceptable and even be supported by everyone? Those who oppose this research argue that it is immoral to use human embryos because in the research process you are destroying a potential human being. Others who support the research argue that by not engaging in research, we are allowing the destruction of existing human beings.

I support the right to do research on existing embryos and if necessary, to have new sources of voluntary donations to increase the supply. If research in our country is stopped, then it will continue in some other country that may not have the best interests of our citizens in mind.

History has shown that when major scientific discoveries have occurred, they are always challenged by religious groups who predict all sorts of dire consequences for humanity. History has also shown, that when these discoveries are adopted and managed well, human beings have always benefited. Many examples of this are second nature to us now: blood transfusions, organ transplantation, vaccination, etc.

Information that Addresses Essential Question 1: What is stem cell research?

Source: JUNIOR SCHOLASTIC. Oct. 1, 2001, pp. 8+. Copyright © Scholastic Inc. October 1, 2001. All rights reserved. Reprinted with permission. Stem Cells: Medical Miracle--Moral Dilemma. By Susanne McCabe

There are two major types of stem cells: adult and embryonic. Adult cells can be found throughout the body: in skin, heart, and blood cells. Study of them is less controversial than embryonic cells, but their ability to multiply and grow into other types of tissues is limited. Embryonic cells come from human embryos (fertilized eggs in the earliest phase of development). About four days after fertilization, scientists extract the cells from the blastocyst (a hollow ball of cells holding them), and isolate them in a petri dish. When combined with nutrients, these cells can be grown into heart or brain cells, muscle or nerve tissues. Their capacity to multiply is limitless.

Information that Addresses Essential Question 2: Who Opposes this research and why?

Source: NEWSHOUR EXTRA. Feb. 19, 2004, n.p. © 2004, KNIGHT-RIDDER NEWSPAPERS. Distributed by KNIGHT-RIDDER/TRIBUNE Information Services. First Stem Cells Extracted from Cloned Human Embryo. By Annie Schleicher

But embryonic stem cell research is controversial because harvesting the cells destroys an embryo that could have grown into a baby if implanted in a woman's uterus. President Bush is against making and destroying human embryos. "The use of embryos to clone is wrong. We should not as a society, grow life to destroy it," he said in 2001. The Bush administration policy does not allow the government to fund any research on stem cells taken from embryos destroyed after Aug. 9, 2001. Since the research is expensive, the ban has limited the amount of work being done in the United States.

Source: Defending cloning and stem cell research against faith-based curbs; Hull, Richard T; Flynn, Tom; Free Inquiry 01-01-2002; Page: 27

The report expressed the concern of conservatives that "society (and not only the embryos) will suffer irreversible moral harm by crossing the boundary that allows nascent human life routinely to be treated as a natural resource." This view turns on seeing embryos at their earliest stages as identical with humans that will, if those embryos are allowed to develop, clearly exist. This key belief, as well as the tactics of some of its proponents, deserves careful investigation. For, if it cannot stand up to nontheistic philosophical analysis, basing governmental policy on it crosses the boundary separating church and state.

Source: JUNIOR SCHOLASTIC. Oct. 1, 2001, pp. 8+. Copyright © Scholastic Inc. October 1, 2001. All rights reserved. Reprinted with permission. Stem Cells: Medical Miracle--Moral Dilemma. By Susanne McCabe

In his televised speech, the President said that the issue was too complex for a simple solution. "As the genius of science extends the horizons of what we can do," Bush said, "we increasingly confront complex questions about what we should do." His compromise (a resolution between two extremes) drew mixed reactions from both religious leaders and scientists.

"The trade-off he has announced is morally unacceptable," said Bishop Joseph A. Fiorenza, president of the U.S. Conference of Catholic Bishops. "It allows our nation's research enterprise to cultivate a disrespect for human life." The Catholic Church and other conservative groups oppose experimentation on unborn human embryos.

Information that Addresses Essential Question 3: Who supports this research and why?

Source: CURRENT SCIENCE. Oct. 10, 2003, pp. 10+. Copyright © Weekly Reader Corporation. October 10, 2003. All rights reserved. Reprinted with permission. Second Sight. By Kirsten Weir

Recently, scientists in Italy showed that mice paralyzed by multiple sclerosis, a disease that damages the nerve cells of the brain and spinal cord, recovered the use of their legs after receiving adult stem cells from the brains of healthy mice. The researchers aren't sure whether the same technique will work in humans, but they are hopeful.

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Some U.S. scientists say that other countries are further along in their research because no restrictions have been placed on their work. These scientists also express concern that privately-funded companies will control the direction of future research. Medical discoveries can mean big money for businesses. So ethical standards sometimes suffer in labs not required to follow government guidelines.

Michael J. Fox, who suffers from Parkinson's disease, strongly supports stem cell research. "The war against Parkinson's is a winnable war," Fox told Congress. "And I have resolved to play a role in that victory." During the presidential campaign last fall, Fox openly pleaded with Bush to decide in favor of federal funding.

Source: NEWSHOUR EXTRA. Feb. 19, 2004, n.p. © 2004, KNIGHT-RIDDER NEWSPAPERS. Distributed by KNIGHT-RIDDER/TRIBUNE Information Services. First Stem Cells Extracted from Cloned Human Embryo. By Annie Schleicher

While many U.S. lawmakers would like to ban human reproductive cloning, the debate is complicated by the question of whether to allow therapeutic cloning. Conservative lawmakers have attached bans on embryonic stem cell research to all bills regarding reproductive and therapeutic cloning, preventing Congress from coming up with a clear policy. Some U.S. scientists worry that the lack of government support for all cloning related to humans is already harming the future of American medical research.

Mini-Research Summary Document Helps Prevent PLAGIARISM

Attached to Written Reports as an Option to a Formal Bibliography and Also
Used for Teacher Approval Prior to Outline or Writing Report and Verification After

NEWSHOUR EXTRA. Feb. 19, 2004, n.p. © 2004, KNIGHT-RIDDER NEWSPAPERS. Distributed by KNIGHT-RIDDER/TRIBUNE Information Services. First Stem Cells Extracted from Cloned Human Embryo. By Annie Schleicher

Embryonic stem cells are unique because they have the potential to develop into any type of tissue or cell in the body. The research, called therapeutic cloning, could allow scientists to take a plug of skin or blood sample from a patient and use it to grow tissue, organs or batches of cells. The new cells would have the same genetic makeup as the donor and would therefore lower the risk that the injured or sick person's body would reject the new tissue.

Researchers also hope the stem cell research will lead to treatments for a range of diseases from Alzheimer's to Parkinson's to diabetes. But embryonic stem cell research is controversial because harvesting the cells destroys an embryo that could have grown into a baby if implanted in a woman's uterus.

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When combined with nutrients, these cells can be grown into heart or brain cells, muscle or nerve tissues. Their capacity to multiply is limitless. "It's like having a blob of clay that can be molded into any shape possible," explains Brian Butcher, a scientist at Tulane University in Louisiana.

While some scientists support Bush's decision, many complain that he is standing in the way of progress. "Limiting the number of stem cell lines...is basically tying [scientists'] hands behind their backs," said Dr. James C. Pierce, a professor at the University of the Sciences in Philadelphia. "We cannot predict what experiments [will] lead to the therapeutic tools doctors need to cure diseases such as Alzheimer's, diabetes, and organ failure."

The 60 or so existing stem cell lines, whose research value is still unknown, are located in 10 labs in five countries. In addition to the U.S., the countries include India, Sweden, Australia, and Israel. Some U.S. scientists say that other countries are further along in their research because no restrictions have been placed on their work. These scientists also express concern that privately-funded companies will control the direction of future research. Medical discoveries can mean big money for businesses. So ethical standards sometimes suffer in labs not required to follow government guidelines.

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Stem cells are unspecialized cells that develop under the right conditions into mature cells in the human body--heart, nerve, skin, whatever. Two types of stem cells exist: adult stem cells and embryonic stem cells. Adult stem cells, also called somatic stem cells, are found among the specialized cells that make up tissues and organs. Generally, adult stem cells differentiate, or specialize, into only the types of cells that make up the tissues where they reside. For example, stem cells in the liver mature only into liver cells.

Embryonic stem cells come from human embryos. A human embryo is an unborn child in its earliest stages of development. Unlike adult stem cells, embryonic stem cells can become any type of tissue in the body. That makes them extremely useful for researchers who hope to one day cure diseases such as diabetes or Parkinson's disease. Many hope to use stem cells to repair organs or even grow whole new organs.

Because embryonic stem cells come from developing humans, their use in medicine is controversial. Many embryos are produced in fertility clinics. Donated egg and sperm cells are combined to create embryos that are then implanted in women. Embryos that aren't implanted are destroyed or used as a source of stem cells in medical research.

Limbal stem cells are just one of many adult stem cell types being used or investigated by doctors. Bone marrow stem cells are now commonly transplanted to treat blood disorders such as leukemia--cancer of the leukocytes (white blood cells).

Recently, scientists in Italy showed that mice paralyzed by multiple sclerosis, a disease that damages the nerve cells of the brain and spinal cord, recovered the use of their legs after receiving adult stem cells from the brains of healthy mice. The researchers aren't sure whether the same technique will work in humans, but they are hopeful.

1. Each citation is **copied and pasted** from the original document in SIRS Discoverer/WebFind format, **avoiding complex style transformations and saving time**.

2. Each of the essential information sentences and paragraphs are copied and pasted from original documents based on their relevance to the issue and essential questions presented for research, thus demonstrating critical reading skills.

3. The teacher reviews, approves, and signs this ***Summary Document*** prior to the written report. This ensures the relevancy and adequacy of the information gathered by the student and also helps in the organization of the written report.

4. This ***Summary Document*** is attached to the final report to serve as an informal bibliography (Works Cited) and to help **validate** that the report is original and is **not plagiarized**.

5. Each document may be cited when necessary in the final written report using in-text references with the primary author's last name in parentheses.

Flexible Rubrics for Evaluating Mini-Research Reports

Mini-research reports **are not term papers**. They need to be relatively easy to evaluate to encourage teachers to assign these valuable learning activities. For this reason, this rubrics model will focus mostly on the research process (and the inherent *higher-order thinking skills--HOTS*), not solely on the traditional criteria of correctness of the ideas, or the mechanics and format of the content. Critical thinking elements are shown in **(*red bolded italicized text*). Teachers can create their own system** by varying the *Worth* factor or by including additional criteria or excluding existing criteria. Use the model below as a guide, but keep it simple!

Recommended Evaluative Criteria	Worth	Score
1. The *essential questions* for research were clear, relevant, and purposeful as they related to the question/issue/problem that was assigned. (***Brainstorming***) OPTIONAL	10	8
2. The *search terms* related to the essential questions were effective in accessing appropriate information.	5	5
3. The **Summary Document** of the researched information provided a *variety of viewpoints and was relevant and sufficient* to answer the essential questions in step 1. (***analyzing***)	20	15
4. The report included recommended *citation formats* for 3-4 sources summarized and approved in the *Summary Document*	5	5
5. The report used mini-research *recommended format models* correctly	5	5
6 The report demonstrated a high level of use of *correct language arts mechanics* (***editing and evaluating***)	10	8
7. The report answered the essential questions effectively (***organizing***)	10	10
8. The report flowed from an attention-grabbing introduction to development of important details, to a conclusion *based on facts/expert opinions* presented in the details (***synthesizing***)	30	25
9. The report is both meaningful and interesting to other readers	5	5
Totals	**100**	**86**

SIRS vs. Google and Other Web Surfing

SIRS for Teacher and Student Curriculum-Relevant Information	Googling and Internet Surfing for Curriculum-Relevant Information
Why do so many teachers and students think that Google and other Internet surfing are superior to their own library CUSTOM print and digital learning resources collections that they can access from school or at home?	Do doctors, lawyers, engineers, financial analysts, and other professionals Google for information to solve problems for clients? These professionals subscribe to custom and authoritative print and online databases to keep them current and help solve client problems?
100% of SIRS is K-12 curriculum-relevant for teachers and for students.	Less than 10% of Google is K-12 curriculum-relevant and is focused mostly on consumer related information.
Editorially selected best of publisher quality articles and websites that are reviewed and updated regularly and meet K-12 curriculum and state standards	High percentage of information is not updated regularly, and may be created by questionable sources.
Thousands of editorially selected newspapers, magazines, maps, correlated graphics, literature, reference sources to match curriculum, student interest, and reading levels.	Searches do not include access to newspapers and curriculum-relevant magazines and journal archives because this **information is copyrighted and only available through subscription databases.**
Accurate summaries of each article and website provide students and teachers with information that saves time for higher-order thinking and writing.	Summaries include phrases based on keyword searches and may or may not be accurate and time-saving for students and teachers.
Reading level designations for all articles and selection of appropriate websites for grades 3-8 in SIRS Discoverer/WebFind.	No method for adjusting results to student reading levels.
Dictionary and Thesaurus support for reading with understanding and enrichment--No Child Left Behind.	No equivalent feature for students to use.
Tagged List provides student with a list of selected resources and citations for use in writing reports.	No equivalent feature for students to use.
Citation models and support built into interface.	No equivalent feature for students to use.
Publisher quality content and quality websites address parent and administrative concerns about the risks of student Internet surfing.	Minimal or user-activated filters and no direct controls over authority and decency of websites.
Tutorials and other learning resources provide support for functionality and information literacy skills.	No equivalent feature for students to use.
Spotlights and other special topics features that connect students and teachers to current content in traditional areas of study.	Higher-order learning time wasted in determining curriculum-relevancy and accuracy of website information.
All articles and websites correlated to K-12 curriculum, textbooks, state and national academic standards.	Content not correlated to state standards and national standards and there are no correlated learning resources.

Mini-Research Supports the New K-12 Writing Initiatives

Several new initiatives have occurred recently that recognize the renewed importance of **writing as an essential activity for student learning**. WRITING IS ALWAYS A PART OF EVERY MINI-RESEARCH ACTIVITY.

- Research shows that the number of **writing activities assigned in K-12 classroom has diminished** and been replaced by increasing use of multiple choice assessments which require less teacher time and effort to grade.

- Research shows that narrative, expository, and persuasive writing require the use of **higher-order thinking skills (HOTS)**. HOTS is essential for permanent learning vs. rote learning that is primarily temporary.

- Research shows that the most important factor for college success is the **ability to write**.

To motivate more writing activities across the curriculum because of their value . . . . .

- The 2005 SAT will require writing samples that express student ideas on a **variety of issues** based on writing deficiencies discovered by an increasingly greater number of high school graduates.

- Colleges have recently put more emphasis on evaluating writing samples in the admissions process.

- The College Board revises the new SAT (2005) to include essay writing component to **encourage more writing assignments for students**

- The College Board indicates that **strong writing skills** are a reliable and essential predictor of college success

National Commission on Writing in America's School and Colleges activities in K-12

1. NCW – "Writing is essential to educational and career success"

2. NCW – "Writing allows students to "**connect the dots**" in their knowledge and is central to self-expression"

3. NCW – "Writing is how we teach students the complex skills of **analysis, synthesis, and problem solving"**

4. NCW – "Writing must become an important focus **beginning with elementary school**

5. NCW – "Assessment with only **multiple-choice tests** is not adequate"

Mini-Research Models and Strategies vs. Traditional Term Papers

Traditional Term Papers	*ProQuest Mini-Research Reports*
Formal—written	Informal—written, oral, PowerPoint
Lengthy, Time Consuming and Infrequent	Brief, 2-3 Class Periods, and More Frequent
Traditional and Scholarly Topics	Current, Relevant and Engaging Topics
Focus on College and College Bound	Focus on ALL Students and State Standards, Reading, and Writing Skills
Traditional Methods and Formats	Technology Enabled Methods and Formats
English and Social Studies	All Subjects and All Levels
Focus on Formal Formats, Citations and Bibliography	Focus on Higher-Order Thinking, Expression of Original Thought and Reasoned Opinion, and Problem Solving
Traditional Topics Prone to Copying and Plagiarism	Mini-Research Method and Original Thought Topics Help Prevent Plagiarism
Focus on Individual Effort, Print Output and Teacher as Audience	Open to Collaboration with Team Reports, Multimedia and PowerPoint Presentations, Variety of Print Formats, and Peer Audience for Motivation
Students Generally Limited to Local and Traditional Resources	Students Encouraged to Use a Variety of Digital Media from Respected and Copy-righted Sources

The Big6 Research Process and the ProQuest Mini-Research Process

ProQuest mini-research focuses on student use of digital information from ProQuest and leveraging the power of technology throughout the search, analysis, synthesis, and final report. Time is saved by either eliminating or streamlining unessential traditional research methodology. The time saved can be reinvested in the essential skills of critical reading, higher-order thinking, and writing that directly impact student achievement. As more and more quality curriculum information becomes available digitally, these are the skills that students will need for the future.

The Big6 Research Process—www.big6.com	ProQuest Mini-research Strategies
1. **Task Definition**—What needs to be done?	**There are 7 mini-research strategies that are based on 3 increasing levels of critical thinking. Coordinated teacher and student research planners help organize this step.**
2. **Information Seeking Strategies**—What resources can I use?	**Mini-research depends on minimizing time spent on searching and investing this time in reading, writing, and critical thinking. Using SIRS Discoverer/WebFind saves valuable classroom/library time and encourages greater use of research activities by teachers.**
3. **Location and Access**—Where can I find these resources?	**SIRS Discoverer/WebFind contains thousands of editor-selected, curriculum-relevant articles and websites, many of them updated daily.**
4. **Use of Information**—What can I use from these resources?	**Mini-research demands the same Big6 critical reading of documents for relevancy to the assigned problem/issue. Summaries of each resource help determining of relevancy and save time.**
5. **Synthesis**—What can I make to finish the job?	***ProQuest Mini-Research guides* provide guidelines, strategies, and models for the steps of organizing, analyzing, interpreting, synthesizing, and reporting of student research-based fact and reasoned opinion.**
6. **Evaluation**—How will I know I did my job well?	***Mini-Research Teacher Guides* provide flexible rubric models to evaluate student reports. Rubrics focus on the use of higher-order thinking skills that are used in the process.**

Higher-Order Thinking Levels	**BLOOM'S TAXONOMY—Bloom, B. S. (1956)** Type of Critical Thinking Skills Demonstrated
KNOWLEDGE **Most Student Testing at This Level** *(Lowest Level)*	• Observation and recall of information • Knowledge of dates, events, places • Knowledge of major ideas • Mastery of subject matter *Question Cues:* list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
COMPREHENSION	• Understanding information • Grasp meaning • Translate knowledge into new context • Interpret facts, compare, contrast • Order, group, infer causes • Predict consequences *Question Cues:* summarize, describe, interpret, contrast, predict, associate, discuss, distinguish, estimate, differentiate, extend
APPLICATION	• **Use information** • Use methods, concepts, theories in new situations • Solve problems using required skills or knowledge *Questions Cues:* apply, demonstrate, calculate, complete, illustrate, solve, examine, modify, relate, classify, experiment, **discover**
ANALYSIS **Research Activities**	• **Seeing patterns** • **Organization of parts** • **Recognition of hidden meanings** • Identification of components *Question Cues:* **analyze**, separate, order, explain, connect, classify, arrange, divide, **compare**, select, **explain**, **infer**
SYNTHESIS **Research Activities**	• **Use old ideas to create new ones** • **Generalize from given facts** • **Relate knowledge from several areas** • **Predict, draw conclusions** *Question Cues:* **combine, integrate, modify, rearrange**, substitute, create, design, invent, **what if**?, **compose**, formulate, **generalize**
EVALUATION **Research Activities** *(Highest Level)*	• **Compare and discriminate between ideas** • **Assess value of theories, presentations** • **Make choices based on reasoned argument** • **Verify value of evidence** • **Recognize subjectivity** Question Cues: **assess, decide**, rank, grade, test, measure, **judge**, **recommend,** explain, **discriminate**, **support, conclude**, **summarize**

Discoverer/WebFind Supports the National Educational Technology Standards for Students

The **I**nternational **S**ociety for **T**echnology in **E**ducation (ISTE) standards for students are divided into six broad categories. These categories provide a framework for linking performance indicators found within the **Profiles for Technology Literate Students** to the standards. Most of the **states have integrated all or part of NETS into their state learning standards.** Teachers can use these standards and profiles in planning technology-based activities in which students achieve success in learning, communication, and life skills. The standards that are **bolded** are **significantly reinforced** by mini-research with SIRS Discoverer/WebFind.

Basic operations and concepts

- Students demonstrate a sound understanding of the nature and operation of technology systems.
- **Students are proficient in the use of technology**.

Social, ethical, and human issues

- Students understand the ethical, cultural, and societal issues related to technology.
- Students practice responsible use of technology systems, information, and software.
- **Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity**.

Technology productivity tools

- **Students use technology tools to enhance learning, increase productivity, and promote creativity**.
- Students use productivity tools to collaborate in constructing technology-enhanced models, preparing publications, and producing other creative works.

Technology communications tools

- Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- **Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences**.

Technology research tools

- **Students use technology to locate, evaluate, and collect information from a variety of sources**.
- **Students use technology tools to process data and report results**.
- **Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks**.

Technology problem-solving and decision-making tools

- **Students use technology resources for solving problems and making informed decisions**.
- **Students employ technology in the development of strategies for solving problems in the real world**.

ISTE Technology Standards for Teachers

The **standards listed** below are **directly addressed and supported** *when teachers assign research activities* to students, using ProQuest mini-research and SIRS Discoverer/WebFind.

A. Basic Computer/Technology Operations and Concepts

- Operate a multimedia computer system with related peripheral devices to successfully install and use a variety of software packages

B. Personal and Professional Use of Technology

- Apply productivity tools for creating multimedia presentations
- Use computer-based technologies including telecommunications to access information and enhance personal and professional productivity
- Use computers to support problem solving, data collection, information management, communications, presentations, and decision making
- Demonstrate knowledge of equity, ethics, legal, and human issues concerning use of computers and technology
- Identify computer and related technology resources for facilitating lifelong learning and emerging roles of the learner and the educator
- Observe demonstrations or uses of broadcast instruction, audio/video conferencing, and other distance learning applications

C. Application of Technology in Instruction

- Explore, evaluate, and use computer/technology resources including applications, tools, educational software, and associated documentation
- Describe current instructional principles, research, and appropriate assessment practices as related to the use of computers and technology resources in the curriculum
- Design, deliver, and assess student learning activities that integrate computers/technology for a variety of student group strategies and for diverse student populations
- Design student learning activities that foster equitable, ethical, and legal use of technology by students
- Practice responsible, ethical and legal use of technology, information, and software resources