



Recommended for GRADES 3-5 (you may modify for other ages)

Reach for the Stars – Curriculum Guide (Item 1 of 3)

Adapted from the book: *Her Story: A Timeline of the Women Who Changed America* by Charlotte S. Waisman and Jill S. Tietjen, New York: HarperCollins, 2008.

Dear Educator,

We are pleased that you are receiving this slide presentation (See Item 2 of 3) to use in your classes. This document provides comments, directions, and options for your use in preparing curriculum for your class. In a separate document are flash cards featuring the accomplishments of 20 women (See Item 3 of 3). They can be used to enhance the participation of your students.

We welcome you to read our book and to connect with us. (See www.herstoryatimeline.com) To develop these teaching materials, we have chosen to follow one theme from our book. For classroom and curricula use, there are many other ways to use the information in the book by concentrating on different thematic issues. For example, one can follow the important women in politics and public service. Another thread is to follow women who played a significant role in major social movements. You will come to know the book as a whole; it contains brief profiles of over 850 key and influential women in the history of the United States, in a timeline format that also clarifies important moments in our country's history. The overwhelming majority of the women who are identified are excellent role models for both girls and boys.

The focus for this particular curriculum is on a series of slides that accompany this document. They highlight some of the women who made noteworthy contributions in mathematics and science. Other women were chosen for inclusion in this module because their major historical contributions were made when they were young adults or teenagers. The tie-in with younger women might make them more “real” to your students. This is the inspiration for the title: *Reach for the Stars*.

This teaching module is meant to identify a number of different types of contributions made by women who have reached for the stars, both literally and figuratively. We touch on women astronomers, pilots and astronauts as well as women who dreamed big when they were young (figuratively reaching for the stars). Any of these topics could be expanded in further detail in a series of lessons that you create to aid in that exploration.



Use our ideas “as is” or incorporate changes that are appropriate for your learning environment. Most of all enjoy reading and teaching about these exemplary women “on whose shoulders we all stand.”

Curricular Standards

This curriculum has been developed to conform to the Texas Essential Knowledge and Skills standards for Grades 3-5. Specifically, the presentation, flash cards, and optional assignments provide the following.

Third Grade

English Language Arts and Reading

§110.5 English Language Arts and Reading, Grade 3.

(b) Knowledge and Skills.

(8) Reading/vocabulary development. The student develops an extensive vocabulary. The student is expected to: (C) use resources and references such as beginners’ dictionaries, glossaries, available technology, and context to build word meanings and to confirm pronunciations of words (2-3);

Science

§112.5 Science, Grade 3.

(b) Knowledge and skills.

(3) Scientific processes. The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to: (E) connect Grade 3 science concepts with the history of science and contributions of scientists.

Social Studies

§113.5 Social Studies, Grade 3.

(a) Introduction

(1) In Grade 3, students learn how individuals have changed their communities and world. Students study the effects inspiring heroes have had on communities, past and present. Students learn about the lives of heroic men and women who made important choices, overcame obstacles, sacrificed for the betterment of others, and embarked on journeys that resulted in new ideas, new inventions, and new communities. Students expand their knowledge through the identification and study of people who made a difference, influenced public policy and decision making, and participated in resolving issues that are important to all people. Throughout Grade 3, students develop an understanding of the economic, cultural, and scientific contributions made by individuals.

(b) Knowledge and skills.

(3) History. The student understands the concepts of time and chronology. The student is expected to: (B) create and interpret timelines.

(13) Culture. The student understands the role of real and mythical heroes in shaping the culture of communities, the state, and the nation. The student is expected to: (A) identify the heroic deeds of state and national heroes such as Daniel Boone and Davy Crockett.



(15) Science, technology and society. The student understands how individuals have created or invented new technology and affected life in communities around the world, past and present. The student is expected to:

(A) identify scientists and inventors such as Louis Daguerre, Cyrus McCormick, Louis Pasteur, and Jonas Salk who have created or invented new technology; and

(B) identify the impact of new technology in photography, farm equipment, pasteurization, and medical vaccines on communities around the world.

Fourth Grade

Science

§112.6 Science, Grade 4.

(b) Knowledge and skills.

(3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to: (E) connect Grade 4 science concepts with the history of science and contributions of scientists.

Social Studies

§113.6 Social Studies, Grade 4.

(a) Introduction.

(1) . . . Students identify the contributions of people of various racial, ethnic, and religious groups to Texas and describe the impact of science and technology on life in the state.

(b) Knowledge and skills.

(21) Science, technology and society. The student understands the impact of science and technology on life in Texas. The student is expected to: (A) identify famous inventors and scientists such as Gail Borden, Joseph Glidden, and Patillo Higgins and their contributions.

Fifth Grade

English Language Arts and Reading

§110.7 English Language Arts and Reading, Grade 5.

(b) Knowledge and Skills

(13) Reading/inquiry/research. The student inquires and conducts research using a variety of sources. The student is expected to: (D) interpret and use graphic sources of information such as maps, graphs, time lines, tables, or diagrams to address research questions (4-5).

(23) Viewing/representing/interpretation. The student understands and interprets visual images, messages, and meanings. The student is expected to: (B) interpret important events and ideas gleaned from maps, charts, graphics, video segments or technology presentations (4-8).

Science

§112.7 Science, Grade 5.

(b) Knowledge and skills.

(3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to: (E) connect Grade 5 science concepts with the history of science and contributions of scientists.



Social Studies

§113.7 Social Studies, Grade 5.

(a) Introduction.

(1) . . . In Grade 5, students learn about the history of the United States from its early beginnings to the present with a focus on colonial times through the 20th century. Historical content includes the colonial and revolutionary periods, the establishment of the United States, and issues that led to the Civil War. An overview of major events and significant individuals of the late-19th century and the 20th century is provided. . . Students examine the importance of effective leadership in a democratic society and identify important leaders in the national government. . . Students describe customs and celebrations of various racial, ethnic, and religious groups in the nation and identify the contributions of famous inventors and scientists.

(b) Knowledge and skills.

(5) History. The student understands important issues, events, and individuals of the 20th century in the United States. The student is expected to: (B) identify the accomplishments of notable individuals such as Carrie Chapman Catt, Dwight Eisenhower, Martin Luther King, Jr., Rosa Parks, Colin Powell, and Franklin D. Roosevelt who have made contributions to society in the areas of civil rights, women's rights, military actions, and politics.

(24) Science, technology and society. The student understands the impact of science and technology on life in the United States. The student is expected to: (A) describe the contributions of famous inventors and scientists such as Neil Armstrong, John J. Audubon, Benjamin Banneker, Clarence Birdseye, George Washington Carver, Thomas Edison, and Carl Sagan.

Experiential Learning Activity

So, you can see how the module meets/exceeds the Texas Standards.

Now—to the IDEAS!

A specific, practical module to incorporate into your overall teaching plans is developed below.

- Activity Summary. Show a PowerPoint presentation (provided) that makes the students aware of the women who have reached for the stars either literally or through dreaming big and accomplishing as a teenager or younger.



- Age of Students. The *Reach for the Stars* curriculum has been developed for third to fifth grade students. The book, *Her Story: A Timeline of the Women Who Changed America*, while clearly written for an adult audience, is useful as a reference since it is so highly visual. You may wish to have at least one copy of the book available in your classroom and/or in your school library.
- Classroom make-up. It is anticipated that the class will be both boys and girls.
- Goals(Outcomes):
 1. To identify a number of important, historical female figures who have reached for the stars.
 2. To clarify the many different ways that one might reach for the stars.
 3. To develop a definition of what “reaching for the stars” means for each person who is featured and, further, for each student who is experiencing the module.
 4. To interest students in a project or assignment based on this teaching module that takes their learning deeper.
- Group Size. There is no minimum or maximum number of students who would be the best audience for this module. The “typical” classroom size would work well. There is no need to divide into smaller groups, or subgroups although this can be a useful variation, should your class benefit from small group discussions.
- Time Required. From your introduction through showing the slides, through processing (or discussion or small group activity), the module itself may take one or more than one typical class period. Projects undertaken outside of class will require additional time and efforts on the parts of the students. We have been deliberately flexible here, so as to encourage you to use this material as part of your overall curricular strategy.



- Materials and AV Requirements.
 1. A computer to show the PowerPoint slides
 2. An LCD projector
 3. A screen
 4. A white board (or flip chart) and chalk or markers
 5. Blank paper and pencil/pen for notes or questions (each student will need to have these)
 6. Assignment Sheet (teacher-generated from ideas below)
 7. Copies of the quick quiz to distribute to all students

- Physical Setting. A typical classroom where the lights can be dimmed for projection purposes will work. There are no special seating or table requirements.

- Facilitating risk. The risk to the teacher is low, as all information is supplied in a step-by-step manner.

- Other. This curriculum module on *Reach for the Stars* would, generally speaking, be introduced in a history or science module.

- **Process: (step by step)**
 1. Elicit definitions from the students as to “what would reaching for the stars include”?
 2. Post their answers and suggestions.
 3. Ask if they know any national or local women throughout U.S. history who are or who have been engaged in reaching for the stars (and post) – alternatively, have students answer the quick quiz provided later in this document.
 4. Show the PowerPoint presentation that identifies (listed by historical year) both the women and their contributions.
 5. Use the note pages that are below the slides to help provide the narrative you will say. (Or, print out the notes in a script format for yourself.)
 6. Stop at any time during the slides to take questions or pose issues to your class
 7. Understand that one of the desired outcomes of the presentation will be that the definition of what constitutes “reaching for the stars” will be broadened.



8. Conclude with returning to the definition and determining new elements that have arisen as a result of what the students have seen.
 9. Create an assignment list from the choices noted below, that you wish to pursue.
 10. Give out your “add-on” assignments with due dates you assign, length you choose, and the like.
- Assignment Topics [Note to Teacher: The optional assignments vary in their difficulty and complexity. You may wish to determine the length of reports to be provided – a page – a paragraph, for example, or reduce the number of bullet points that students explore in preparing the assignment. The description below is a summary of each of the assignments. They are described in more detail on the notes section of each slide.]
 1. Eliza Lucas Pinckney. Assignment to find information about clothes that use indigo dye.
 2. Sybil Ludington. Assignment about the Civil War battle between the Monitor and the Merrimac.
 3. Maria Mitchell. Assignment to research a comet.
 4. Bessie Coleman. Assignment to research types of passenger airplanes.
 5. Amelia Earhart. Assignment to research the Women Airforce Service Pilots who served during World War II.
 6. Judy Garland. Assignment to research tornadoes.
 7. Becky Schroeder. Assignment to research one of five selected patents.
 8. Ellen Ochoa. Assignment to learn about space shuttle missions.
 9. Conclusion slide. Assignment to help students reach for the stars in their own lives



Be sure to connect with us if you have any questions or issues. Also, let us know how your module goes!

Most Sincerely,

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Glossary

Astronaut: (ass·tro·NOT): a person who travels into space

Astronomer (ă·STRAW·na·mur): a person who studies the stars and other objects in space

Comet (COM·mitt): An object in space with a head and a tail that orbits a sun

Indigo (IN·dee·go): A plant that produces blue dye

Invention (in·VEN·shun): An idea for a new product

Patent (PAT·int): A document that gives an inventor rights to an invention

Plantation (plan·TAY·shun): A big house having large fields and crops growing in the fields

Telescope (TELL·ă·skope): A device that makes small objects far away appear to be bigger



Quick Quiz – Match the Woman With Her Accomplishment

Many women have helped us all reach for the stars. Place the letter of the woman in the space in front of her numbered accomplishment.

- A. Maria Mitchell
- B. Amelia Earhart
- C. Judy Garland
- D. Eliza Lucas Pinckney
- E. Becky Schroeder
- F. Bessie Coleman
- G. Ellen Ochoa
- H. Sybil Ludington

- _____ 1. At age 14, she runs her father’s plantations. In 1744, she makes blue dye from the indigo plant.
- _____ 2. She is called the “female Paul Revere.” At age 16, she rides all night in heavy rain. She knocks on the doors of farms for 40 miles. She warns each house that the British are coming.
- _____ 3. She finds a comet. She gets a Gold Medal. The King of Denmark gives it to her. She is a famous astronomer.
- _____ 4. In 1921, she is a pilot. She gets an international pilot’s license. She is the first U.S. woman to do so.
- _____ 5. In 1932, she is a pilot. She flies by herself across the Atlantic Ocean.
- _____ 6. She is in the movie *The Wizard of Oz*. She played Dorothy. She was 16. She began acting at age 6.
- _____ 7. In 1974, she gets a patent. She invents a writing board that lights up in the dark. She is around 12 years old.
- _____ 8. In 1990, she is an astronaut. She is the first Hispanic woman astronaut. She is an electrical engineer.



ANSWERS:

Information on all of these women is contained within *Her Story: A Timeline of the Women Who Changed America* (HarperCollins, 2008) by Charlotte S. Waisman and Jill S. Tietjen. Let's see how you did.

1. D
2. H
3. A
4. F
5. B
6. C
7. E
8. G