

Information Problem-Solving

Consider presenting objectives and curriculum standards as a problem for students to solve. These problems can be authentic or improbable, but they will allow students to define the task. The problem should be structured so that it causes students to *need* to and *want* to engage in the content.

Examples (various grade levels):

When studying **regions of the U.S.**, present the following information problem: Foreign tourism in the U.S. is down. The U.S. Department of Tourism has hired your advertising firm. What is your task?

Prehistoric animals: You found an egg. It hatches and out comes a dinosaur! What is your task?

Regions of the state: Our city has a diverse student population. New students do not know anything about the state. Our class studies the state in social studies. What can we do to help new students know about the state?

Spiders: People are killing too many spiders because they are scary-looking. What can we do to help people understand that spiders are good for our environment? What is our task?

Basketball skills: All of your friends are playing basketball. You don't know how, but want to join in the game. What is your task?

Botany: You are planning a garden. Which plants will do best? How will understanding the structure of plants help you decide? What is your task?

Solar system: You work for NASA. You are the commander of the Pathfinder II which will carry astronauts to Mars (or another planet). You must prepare your crew for the trip. What is your task?

Civil War: Your city council wishes to create a museum of the Civil War using artifacts that symbolize the war. They also want to feature the area's contribution to the war effort. What is your task?

Simple machines: You are the superintendent on a construction site. The newest worker is from another country and doesn't know the names of or understand how the simple tools work. What is your task?

Deserts: You are planning a camping trip in the Arizona desert. You want to understand this biome in order to pack appropriately and enjoy the experience while you are there. What is your task?

Graphing and other math skills: The student council wants to sell snacks in the cafeteria during lunch to earn money for community service projects. It has come to use for help in determining which snacks will sell the best and at the least cost to them. What is our task?

Culture (identify the social, political, and economic contributions of women to American society) **and Women's History Month:** Imagine that the U.S. postal service wants to add a series of stamps on American women of importance. They want the public's suggestions on women to include. What is the task?

Astronomy (explain how life on earth is affected by its unique placement and orientation in our solar system: Earth is becoming overpopulated in the 21st century. Your NASA research team must determine if other planets are habitable. What is your task?

Foreign language (culture): You are going to become a foreign exchange student (or visit) in _____. What do you need to know before you go? What is your task? Or, you are hosting a foreign exchange student from _____. You want to make her/him feel as home as possible. What is your task?

Math (geometry): You are an architect hired to design a structure (castle, cathedral, temple, memorial, statue, bridge, dam, stadium, skyscraper, monuments, palace, museum.) Your client wants it to resemble architecture built sometime before 1800, but with contemporary elements in the façade. What is your task?

Recycling: Students are throwing away too many paper products. How can we help students understand which materials to put in the recycle bin and which to throw away? What is our task?

Music: The second grade is going to the orchestra. They don't know anything about it. Since we are about to study it, what can we do to help them?

Impact of the American Civil Rights movement: I just found this in the paper the other day. (Read current newspaper article on race relations such as the trial of the New York policemen accused of unjustly killing the unarmed man who was reaching for his wallet. Or, the men accused of killing James Byrd in Jasper, TX.) What do you think? How does this affect you? (Let students take time for discussion.) How do you think African Americans in 1860 would have reacted to this? Would they have the same rights as African Americans today? Why, if there are laws and amendments to our Constitution protecting people of all races, does something like this happen today. Why might knowing about the civil rights movement help one become more accepting and compassionate? What could we do to intelligently convince lawmakers to pass hate crimes acts to atrocities against people of color will not occur?

U.S. Government: In your future each of you has been elected to the United States Senate. The state that has elected you wants bills submitted that match its needs. The party you belong to also wants bills submitted or supported that match its needs and programs. You

have only two election cycles, as term limits have been enacted. Your record will be judged by your ability to meet the needs of both groups' demands. What is your task?

Art: You are the education director of an art museum. You are starting classes for young children to teach them to paint in the styles from the various artistic movements. What is your task?

► **Fail-safe strategies for any subject content:** Giving students a reason to teach younger students or to present their findings to each other, works in any case. Tell your students that a younger class is interested in and does not have materials that they can understand about (subject content) and need the help of our class since we study that subject. What can we do to help?

Or, talk about the textbook having to condense the content to fit on a page or in several paragraphs. Tell the class how interesting the content is and how much is left out of the textbook. What can we do to learn more than the text is presenting? You can have groups of students become “experts” in subtopics and present to one another. They can rewrite the textbook.