

RISK MANAGEMENT

HEALTH CARE

Level:

Grades 9-12.

Purpose:

The purpose is to identify and investigate health care issues so that students maintain good health.

Content Standards:

This unit covers Science Standards Unifying Concepts and Processes, and Science in Personal and Social Perspectives.

Major Concepts:

Systems, order and organization, Evidence, models, and explanations, Change, constancy, and measurement, Personal and community health.

Overview:

This lesson focuses on health care using four learning activities regarding diagnosis, preventative maintenance, quality health care providers, and government health care plans. All the learning activities will take from 4 to 12 class periods to perform. Each activity has a performance task that assesses the applied skills in individual or group ways. All tasks and assessments may be scored by rubrics for diagnostics and reporting. (See Graphic Organizers-Teachers in Teacher Resource Center.)

Introducing the Unit:

Preview the lessons on Health Care by introducing the skills and concepts to be learned and how these skills will be used in the lesson activities. Concepts/terms we will encounter as we learn about health care are differential diagnosis, preventative maintenance, health care providers, rationing, and HMO's.

Basic Skills Applied In This Lesson

MATHEMATICS SKILLS	ACT 1	ACT 2	ACT 3	ACT 4
probability	X			
logic	X			
statistics	X	X	X	
represent situations that involve variable quantities with expressions, equations, inequalities, and matrices	X			
represent and analyze relationships using tables, verbal rules, equations, and graphs		X		

LANGUAGE ARTS SKILLS	ACT 1	ACT 2	ACT 3	ACT 4
summarizes		X		X
applies technical information	X	X	X	X
identifies faulty logic				X
distinguishes between fact and opinion				X
identifies bias				X
matrix	X			
questionnaire	X			
report	X			
letter		X		
collage		X		
speeches			X	
evaluation			X	
debates				X

LEARNING ACTIVITY 1

Diagnosis

You Be the Doctor

Objectives:

Students will apply the Language Arts skills of research, making matrices, questionnaires, and writing reports to diagnose illnesses of body systems.

Performance Task:

Students will use research, observation and logic skills to diagnose illness given various symptoms. They will make diagnosis matrices and use them to create a patient questionnaire. They will write reports on their diagnosis and recommendations. They will program an expert system to diagnose illnesses.

Structures for Learning:

Organizing for the Task:

- Students will work in small groups to do research and diagnoses on the Internet and program the expert system. Each student will make a diagnosis matrix, create a patient questionnaire, and write a report.
- The Medscape Web Site is at
 - <http://medscape.com/Clinical/Medscape/pictures/public/pictures.toc.html>

Creating Curiosity:

Tell students to work in small groups to do the following:

Try being a doctor. On the Internet, go to the Medscape World Wide Web Site and take a “pictour”. At the Medscape site, descriptions of symptoms and pictures of x-rays and other clinical tests let you diagnose the patients’ illnesses. If you need help, just click for an explanation.

Choose a system of the body and find out about five illnesses that commonly affect it. Make a diagnosis matrix of illness vs. symptoms to help you with a differential diagnosis. Using the matrix, make a questionnaire for a patient who seems to have an illness affecting the system you have chosen. Ask a partner to play the role of patient and fill out the questionnaire, then use it to attempt a diagnosis.

Write a report answering the following questions:

What additional information do you need to know about the patient?

If this patient called on the telephone, which symptoms would you consider serious enough to send the patient to the emergency room. To the doctor’s office? What lab or office tests would you give the patient? What advice would you give to the patient?

If you have access to an expert (artificial intelligence) computer system, program it to diagnose the illnesses you chose.

Selecting/Developing Rubrics:

Conducting the Investigation/Inquiry:

Presenting and Discussing the Findings:

Applying the Rubrics:

Reflection/Evaluation:

- Use the following question during whole class or small group discussions.
- If you were threatened by a malpractice suit from the patient, how would it affect your recommendations?

LEARNING ACTIVITY 2

Preventive Maintenance

How Can You Stay Healthy?

Objectives:

Students will apply the Mathematics concepts of constructing and drawing inferences from charts, tables, and graphs that summarize data from real-world situations, and the Language Arts skills of research, making collages, and letter writing to investigate costs and benefits of preventative health care.

Performance Task:

Students will do research to compare costs and benefits of prevention vs. medicine in health care. They will make a chart on preventable diseases, write a letter to a company about health care benefits, make a collage and write a letter to a child.

Structures for Learning:

Organizing for the Task:

- Students will work in small groups to compare costs and benefits and to make a chart of preventable diseases. Each student will write letters and make a collage. The whole class will discuss the results.

Creating Curiosity:

- Tell students to do the following:
- Working in small groups, use the ACC resources to compare the costs and benefits of prevention vs. medicine in health care. Make a chart showing which fatal diseases are preventable, and how they can be prevented.
- Write a letter to a company, advising which health care benefits they should provide for their employees to be most cost effective (in money and employee productivity, for both short and long term benefits). Cite facts and statistics from your research in your letter.
- Make a collage showing the most effective things you can do to maintain a long and healthy life.
- Write a letter to a child you know explaining how to stay healthy.

Reflection/Evaluation:

- Use the following question during whole class or small group discussions.

Were any of the short term benefits you found harmful in the long run?

LEARNING ACTIVITY 3

Quality Health Care

Are You a Savvy Health Care Consumer?

Objectives:

The students will apply the Mathematics concepts of formulating problems from everyday and mathematical situations and the Language Arts skills of research, evaluations, summaries, and persuasive speech to compare different health care plans.

Performance Task:

Students research information about health plans from HMO's. They will design a method of comparing, evaluate the plans, and write a summary of their method. Using their evaluation method, they will choose the plan they feel is best and attempt to persuade other students to buy into their plan.

Structures for Learning:

Organizing for the Task:

- Students will work in small groups to do research, design an evaluation system, choose a health care provider. Each student will write a summary of the plan, and attempt to persuade others their plan is the best.

Creating Curiosity:

- Tell students to work in small groups to do the following:
- Use the ACC resources to get information about three different health plans from Health Maintenance Organizations (HMO's). Devise a strategy for comparing them, and choose the best plan. Write a summary of your strategy.
- Make a name tag with the name of the group you have chosen. Pair up with someone from a different group and health plan choice. Try to convince the person to buy into your plan. If he/she accepts, give him/her a name tag to wear for your health plan.

Selecting/Developing Rubrics:

Conducting the Investigation/Inquiry:

Presenting and Discussing the Findings:

Applying the Rubrics:

Reflection/Evaluation:

The Product

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The Process

- Which factors seemed to be valuable to the most persons? What factors other than value were used by individuals for choosing a health plan? Would these factors be the same in your neighborhood or state?

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LEARNING ACTIVITY 4

National Health Care

Are HMO's Better Than Private Doctors?

Objectives:

The students will apply the Language Arts skills of research, debate, and essays

Performance Task:

Students will research the advantages and disadvantages of private health care vs. government sponsored HMO's. They will debate the issue, and write an essay on fair health care rationing.

Structures for Learning:

Organizing for the Task:

- Student will work in groups to do research and prepare debates. Each student will participate in the debates, and write an essay.

Creating Curiosity:

- Tell students to work in small groups to do the following:
- Governments try to decide how to provide adequate health care for their citizens. Is health care more available and better if offered by private doctors and hospitals or by government sponsored HMO's. Use the ACC resources to find out about this vital issue.
- After you have carefully examined both alternatives, divide your group in half and assign one half to be in favor of private doctors and the other half to be in favor of HMO's. Debate the issue within your group. Then pick someone from the winning side to represent you in a class debate. The group should gather and supply information to their chosen representative.
- Hold a debate between the representatives of each group.
- Devise a fair system for rationing health care when the system becomes overloaded. Write an essay to explain your system including its advantages and disadvantages.

Reflection/Evaluation:

The Product

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The Process

- Did this activity give you any information you can use when you vote for public officials?