

A *"Sampler"* of Challenges

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SPEC™

CHALLENGES

ACADEMIC CHALLENGES	SCENARIO CHALLENGES	REAL-LIFE PROBLEMS
<p>Work structured as a “problem to solve” which arises directly from the area of study. These challenges help students:</p> <ul style="list-style-type: none"> • acquire essential knowledge • develop specifically targeted outcomes • work cooperatively or collaboratively in a team setting • work toward specified standards of quality 	<p>Work structured as a “problem to solve” which seeks to increase the authentic nature of the area of study by casting students in a real-life or fictive role (current, historic, futuristic). These challenges help students:</p> <p>All from Academic Challenges, plus:</p> <ul style="list-style-type: none"> • exercise imagination and creativity in simulating the conditions of the role or scenario • understand a more authentic context for their work 	<p>Work that is necessitated by a real problem in need of a real solution that has the potential for actual implementation at the class, school, community, regional, national, or global level. These challenges help students:</p> <p>All from Academic Challenges, plus:</p> <ul style="list-style-type: none"> • solve real problems • receive authentic feedback from parties outside the classroom who have a vested interest in receiving a solution of quality. • use a broad range of skills, knowledge, and strategies identical to those used by adults to solve challenges in the real world.

Knowledge "Standard":
ELA#1 - Reads, writes, listens, & speaks for information and understanding.

Elementary - gathers and interprets information from magazines...and forms diagrams

ACADEMIC CHALLENGE

Kindergarten

Cooperation Poster

Skill/Disposition "Standard":

Cooperation - contributes toward a common goal

Essential Question/Issue:

What does cooperation look like/sound like?

Challenge:
 (Script for teacher)

Teacher: What is cooperation? [Brainstorm with children for 3 minutes - write ideas/statements on chart paper.]

Read: *Ernie and the New Kid in School*

Teacher: "Were there children in Ernie's class who were cooperating? What were they doing? Compare their behavior to our list. Were there children in Ernie's class who were **not** cooperating? What were they doing? What if you were in Ernie's classroom..... what would you do differently? What would you do the same? Would you rather be a member of a class that cooperates or a class that doesn't cooperate?"

Teacher: "We are going to work together (cooperate) to make a poster that shows what cooperation looks like."

Directions: Help students form groups of four. Each group will have the challenge of finding three to five pictures in old magazines that show people cooperating with each other. One person has the role of getting magazines and bringing them to the group; one has the role of discussion leader (is this picture OK?); one has the role of getting scissors and cutting the pictures out; and the fourth person will glue the pictures to the chart paper. The groups will have fifteen minutes to complete their task.

Debrief: Gather together as a whole group to see if the pictures selected for the poster match the ideas from the original brainstorm list. Identify three to five statements and pictures which match closely. Post the statements and the poster in the classroom for future reference.

Product criteria:

Poster

Rule criteria

- Pictures are taken from old magazines
- Pictures selected and put on poster in 15 minutes

Form criteria

- Neat - pictures are glued on chart paper without being torn or ripped

Content criteria

- Pictures accurately illustrate some of the brainstorm ideas about cooperation

- **Evidence of: Knowledge**
- **Skill**
- **Disposition**

Targeted Standard/Indicator(s):

Knowledge - interpretes information and applies appropriately

Cooperation - does a fair share of the work

Specific Observable Behaviors to Look

/Listen for:

- child can match picture to brainstormed idea about cooperation
- child can explain match
- child does task/job assigned

This challenge was developed by Cyndi LaPierre and used with her kindergarten class at Windham-Ashland-Jewett C.S., Windham, NY.

Knowledge "Standard":
Health, PE, Home Ec. #1 - Have essential knowledge and skills to establish and maintain physical fitness, participate in physical activities....

Elementary - Students will understand the elements of good nutrition to plan appropriate diets for themselves and others.

ACADEMIC CHALLENGE

Primary

Healthy Diet

Skill/Disposition "Standard":

Decision-making - Considers the advantages and disadvantages of more than one option

Essential Question/Issue:

What foods should a person eat to stay healthy?

Challenge:

Working in pairs, look at the nutrition chart and discuss what you think the pictures and numbers mean. When you think you understand, explain your ideas to an adult in our room.

Make a poster which shows the foods one (1) person could eat in one (1) day to stay healthy. Your poster should be neat, accurate, and easy to read. You may use pictures from a magazine or drawings of your own. Each pair may take only one magazine at a time. Give your poster a title.

When you are finished we will ask you to explain your poster to the class. Each team member should be ready to select one (1) food group and show how it is represented in the poster. Each team member needs to be ready to answer questions.

Product criteria:

Poster

Rule criteria

- Pictures should be taken from a magazine or drawn by hand.

Form criteria

- Neat - Pictures are glued on chart paper without being torn or ripped. Coloring of pictures is within lines.
- Accurate - The information on the poster is true.
- Easy to read - Lettering and pictures are clear & large enough for others to see.

Content criteria

- Poster must show one days worth of food.
- The amount of food chosen must match the amounts given on the nutrition chart.

Evidence of:

Targeted Standard/Indicator(s):

Specific Observable Behaviors to Look

/Listen for:

▪ **Knowledge**

Knowledge - understands elements of good nutrition and food planning

- appropriate food groups are represented on the poster

▪ **Skill**

- child can explain why different foods were chosen

▪ **Disposition**

Decision-making - considers the advantages and disadvantages of more than one option

- children discuss a range of possible foods and pictures for inclusion on poster

This challenge was developed by Sue Davis and used in her first grade classroom at Riverside Elementary School, Oneonta, NY.

Knowledge "Standards":
Lang. Arts #1 - Read, write, speak for information & understanding.
Indicator #2- speaking/writing - includes relevant information, excludes extraneous material

MST #4 - Students will understand and apply scientific concepts to living environment

ACADEMIC CHALLENGE
Elementary
Language Arts/Science

Skill/Disposition "Standard":

C-DOS Basic Skill #1 (Elem)- ability to....read the ideas of others and express themselves both orally and in writing

Question/Issue:

How and why do animals use disguises and surprises for survival?

Challenge:

With a partner, read the story *Amazing Animal Disguises* by Sandie Sowler, (Alfred A. Knopf, New York.) Agree on one land animal, one sea animal, and one sky animal that interests you both. Create a display for our room which shows how the three animals you have chosen use surprises or disguises to help it survive in the world. When you prepare your display be sure it includes the following:

- An explanation for each animal of "how" and "why" it uses surprises or disguises to survive. This explanation should be written out somewhere on your display;
- The most important, accurate information about each of your animals. This information should be taken from the reading or other reliable sources;
- Illustrations or models showing what the animal looks like when it is disguising or surprising.

To help make your display as attractive as possible, please try to make it compact, interesting, and informative (see criteria)

Once all of our displays are set up, we will ask you to explain your display to the class and answer questions about it. Be prepared to explain why you included the information in your display that you did. Both partners should expect to do their fair share of both creating and explaining the display.

Product criteria:

Display

Form criteria

- Compact - takes up no more space than the size of a desk top and is no taller than one sheet of poster board
- Interesting - catches the eye by using colors, lettering, pictures/ models, etc.
- Informative - helps viewer immediately understand the most important, accurate information. Easy to understand.

Content criteria

- Contains accurate information about each of the animals. Information is taken from the reading or other reliable sources;
- Contains an explanation for each animal of "how" and "why" it uses surprises or disguises to survive. Explanation is written out somewhere on your display;
- Contains illustrations or models showing what the animal looks like when it is disguising or surprising.

Evidence of:

▪ **Knowledge**

▪ **Skill**

▪ **Disposition**

Targeted "Standard(s)"/Indicator(s):

- **Knowledge** - understands scientific concepts

LOOK FOR/LISTEN FOR> Child can explain how/ why animal uses disguise or surprise to aid in survival

- **Communication** - includes important and excludes unimportant information in speaking and writing (ELA Strd#1, Ind.#2 - Speaking/Writing)

LOOK FOR /LISTEN FOR> Child provides adequate reasons for including/ excluding information in display when questioned.

Knowledge "Standard":
MST #4- understand and apply scientific concepts, principles, & theories pertaining to the physical setting and living environment...
Intermediate.- Living Environment #5 - organisms maintain a dynamic equilibrium that sustains life

ACADEMIC CHALLENGE

Middle School

Science

Skill/Disposition "Standard":
C-DOS Standard 3a - mastery of a foundation skill essential for success in the workplace
Managing Resources
/Intermediate #7 - applies financial, and human factors, and the elements of time and materials to successfully carry out a planned activity.

Question/Issue:

How are whales *adapted* to their environment?

Challenge:

With the help of your teacher, arrange yourselves into well balanced teams of three (3). Plan and create a colorful, informative, easy-to-understand bulletin board display of your own unique design about a particular whale species that interests you. Your display should reveal accurate information in response to each of the following focus questions:

- (1) What is your whale species "like" (its unique *physiology*)?
- (2) What does your whale species "do" (its different *behaviors*)?
- (3) Where in the ocean does your whale live; what *environmental conditions* exist there?
- (4) How do you think the three questions above might be related?

To assist in your planning of this project, please turn in a project planning sheet at the end of today showing the work schedule for each member of the team for the remainder of the week. You are expected to implement this plan.

Your team will have three class periods to prepare your bulletin board. Be prepared to present your final product on Friday, 2:00 PM. All members of the team will be expected to be able to answer questions about your bulletin board and whale species.

Product criteria:

Bulletin Board

Form criteria

- Colorful - 3-5 different colors are used effectively
- Informative - gives viewer important information about the subject
- Easy-to-understand - audience can accurately interpret information
- Design of the bulletin board is unique - does not look exactly like that of any other team

Content criteria

- Each focus question is addressed directly
- All information about the whale species is accurate
- Focus "concepts" (*behavior, physiology, environment, adapted, etc.*) used appropriately
- Reveals "connections" among physiology, behavior, and environment of whale.

Evidence of:

▪ **Knowledge**

▪ **Skill**

▪ **Disposition**

Targeted "Standard(s)"/Indicator(s):

- **Knowledge** - understands and applies scientific concepts
LISTEN FOR > appropriate use of *focus concepts* in response to questions
- **Organization** - rations resources (time, people, materials) effectively
LOOK FOR > each team will submit and implement a project planning sheet detailing the work schedule for each member during the week

Knowledge “Standard”:

MST #3.5-Intermediate-estimate, make and use measurements in real world situations

ACADEMIC CHALLENGE
High School
Regents Earth Science

Skill/Disposition “Standard”:

A. Managing Resources – identify, organize plan and allocate human resources to accomplish goals

Earth Science Curriculum –

topographic map reading, profile construction, gradient calculation

Question/Issue:

How are topographic maps important to hikers?

Challenge:

The Whaupanaucan State Forest Department of Environmental Conservation (DEC) Rangers are asking you to create a trail guide of the trails for hikers and cross country skiers to use. Use model trail guides like the Adirondack Mountain Club series as models of quality. Besides the elements that standard trail guides provide, the DEC has requested 1) calculations of maximum gradient for each trail to assist people in making the best decision of trail difficulty 2) a profile of each trail and 3) any other improvements that you might deem helpful.

Should you choose to accept the challenge, we will have two half days (three hrs. each) in which to collect all necessary data for the guidebook. Upon returning you will have an additional two days for production of the final draft of the trail guide.

Product Criteria:

Profile

Form Criteria:

- Horizontal scale given
- Elevation axis labeled with units
- All points plotted and visible on graph
- Tops of hills and bottoms of valleys have pairs of points
- Points are connected with a smooth line

Narrative Trail Description

Content Criteria:

- Includes directions by car to trailhead
- Includes directions to beginning of trail from parking lot
- Describes trail surface (material, roughness)
- Mentions landmarks at appropriate trail location (lean to, parking lot, swamps, brooks, ponds)
- Describes topography along trail (hills, dips, inclines, turns)
- Provides distances between points along trail
- Includes compass directions of travel along trail
- Includes maximum change in elevation
- Includes maximum gradient from each trail
- Provides total distance traveled along trail

Scientific Labels

Form Criterion:

- All directions, numbers, quantities and distances are labeled with the correct units (North, km, ft, °)

Evidence of:

Targeted Standard/Indicator(s):

- **Knowledge**
- **Skill**
- **Disposition**
- Develops a plan with roles for each and every person during both the data collection & production phases
- Quiz on gradient
- Test on nine topographic map reading skills
- Test on profile construction

Knowledge “Standard”:

MST #4.1-living things are both similar to and different from each other and nonliving things

ACADEMIC CHALLENGE
High School
Regents Biology / Earth Science

C-DOS Essential Skill/Disposition “Standard”:
A. Managing Resources – identify, organize plan and allocate material resources to accomplish goals

Biology/Earth Science Curriculum

Observation, variation, skill in classifying, modern classification scheme

Question/Issue:

How do scientists classify organisms? What is a species?

Challenge:

During a recent geologic expedition to the North Slope of Alaska, geologists discovered a new geological formation, the Pretembrian. As of yet, the rocks are undated, but are shocking to geologists and biologists alike for the peculiar fossils they contain. We, at the American Museum of Natural History, are enclosing one set of the 27 fossil replicas for budding biologists and paleontologists like you to help us classify each fossil and place it into its proper Kingdom, Phylum, Class, Order, Family, Genus, and Species.

Should you choose to accept this challenge, representatives from the Museum’s fossil collection will arrive to see presentations of your classifications.

Product Criteria:

Scientific Presentation

Rule Criteria:

- 5-7 minutes in length
- each team member is involved in the explanation

Form Criteria:

- Oral narration
- Uses visuals, handouts, and demonstrations to convey message

Content Criteria:

- Explains what the presentation will be about
- Introduces team members
- Explains the background information/history of the research
- Explains the procedure that was used
- Explains all the findings (results) of the study
- Shows representative examples of the data
- Explains any big implications, breakthroughs, or conclusions that come from the research
- Explains any suggested improvements that could be made in the study
- Explains what needs further study
- Makes references to the work of other scientists

Physical Presence

Form Criteria:

- Remains visible throughout the presentation
- Speaks loudly and clearly
- Makes eye contact with the audience (camera)
- Dresses appropriately
- Faces audience
- Uses a pointer when referring to visuals

Evidence of:

Targeted Standard/Indicator(s):

- Knowledge
- Skill
- Disposition

- Develops a plan for all groups to coordinate, share, and have equal access to the one set of fossil replicas
- Quiz on classification scheme
- Journal entry: “How many species did you have? What criterion(a) did you use to label species as distinct?”

Knowledge “Standard”:

MST #3.4-Intermediate—students use mathematical modeling/multiple representation to provide a means of processing, interpreting, communicating and connecting mathematical information and relationships

- ◆ Use the coordinate plane to explore geometrical ideas

Course II Curriculum – distance formula, midpoint, area formulae

ACADEMIC CHALLENGE High School Regents Course II

Skill/Disposition “Standard”:
C-DOS – Developing interpersonal and citizenship competence – Teaches others. Helps others to learn

Question/Issue:

How do we determine dimensions of objects plotted on the coordinate plane?

Challenge:

Using classroom and library resources, develop a manual from which the rest of the class will learn the following techniques:

- Calculating distances between points
- Calculating mid point of two points
- Finding area of various common geometric shapes

It is important to remember that a manual is a specific type of book. Always keep in mind the purpose of a manual and why people will be reading it.

Product Criteria:

Book

Rule criteria

- Includes at least one example of each of the three techniques

Form criteria

- Cover
- Author page
- Table of contents
- Index

Content criteria

- Finding area of various common geometric shapes
- Calculating distances between points
- Calculating mid point between points
- Important vocabulary
-

Evidence of:

- Knowledge
- Skill
- Disposition

Targeted Standard/Indicator(s):

- **Knowledge** – Understands and applies targeted concept(s)
Look for/Listen for> Student can successfully complete homework problems on the three calculations. Student can pass a quiz on the three calculations
- **Interpersonal/Citizenship Competencies** – Teaches others. Helps others learn
Look for/Listen for> Student answers other’s questions about something mathematical they don’t understand. Student takes time to explain something new to someone else. Student creates an example to show someone something about mathematics.

Knowledge "Standard":

Arts #1 - Students will actively engage in the processes that constitute creation and performance in the arts...

Music #1 - Students will compose original music and perform music written by others. They will understand and use the basic elements of music....

Skill/Disposition "Standard":

Decision-making - Considers the advantages and disadvantages of more than one option

ACADEMIC CHALLENGE
High School
Music in our Lives

Question/Issue:

How is theme and variation used as a form of musical expression?

Challenge:

Please divide into performance teams as organized by your teacher. Read the text "Theme and Variation as a Musical Form" and follow your instructors' directions for processing this information.

Using the musical instruments provided to your team as well as any you may design or borrow, create and perform a musical composition which accurately illustrates the musical form of theme and variation. Your composition and performance must clearly state a theme/subject and include at least two variations of the theme. The composition and performance should also include a musical introduction and bridges where appropriate. Your complete performance should be at least 45 seconds in length.

Following your performance, a group member will be chosen at random to analyze your work for the audience by accurately describing the theme and variations you employed. To avoid repetition, please make sure that none of the performances in this class involve the development of the same theme or subject.

All members of the performance team are expected to help each other design their composition and participate actively in its performance.

Product criteria

Performance

Rule criteria

- No two performances develop the same theme or subject
- Performance lasts at least 45 seconds
- Performance includes a stated theme and at least two variations of the theme

Form criteria

- Accurately and clearly illustrates the development of a theme and the variations
- Inclusive of an introduction and bridges where appropriate

Content criteria

- Inclusive of an accurate analysis/explanation of the structure of the composition in terms of theme and variation

Process criteria

- All group members participate actively

Evidence of:

- **Knowledge**
- **Skill**
- **Disposition**

Targeted Standard/Indicator(s):

- **Knowledge** - Understands & applies targeted concept(s)
Look for/Listen for> can explain theme and variation in performance accurately
- **Decision-making** - Considers the advantages and disadvantages of more than one option
Look for/Listen for> group members actively discuss the possible pieces they could perform; list and consider alternatives

Knowledge "Standard":

Skill/Disposition "Standard":

To be identified - dependent upon topic

To be identified - dependent upon needs of class

ACADEMIC CHALLENGE
High School
Automotive Technology

Question/Issue:

What is the critical information we "need to know" as automotive technicians regarding (topic)?

Challenge:

In groups of 3-4 chosen at random, determine the critical information an automotive technician "needs to know" regarding the topic assigned. Research the topic using reliable and authoritative sources. Develop a 5-10 minute lesson suitable for presentation to the rest of the class in which you share your information and understanding of the topic.

In preparation for your lesson, please adhere to the following guidelines:

- You are expected to use your textbook as one of the resources. In addition, you must document at least four (4) other reference resources to confirm your decisions about the critical information you share;
- You may use overheads, handouts, and display materials of your choosing to support your lesson. No videotapes may be used;
- You should be prepared to answer appropriately any questions regarding your material;
- You will be expected to administer a five question review quiz to your audience at the conclusion of your lesson. All of the quiz questions must be approved by your instructor.

All members of your group are expected to be equally involved in the preparation and presentation of your lesson. Be sure to assign a timekeeper, taskmaster, and recorder to help move your process along. You have _____ class periods to complete this challenge.

Product criteria:

Lesson

Rule criteria

- Lesson is 5-10 minutes in length
- All members of the group equally involved

Form criteria

- Engaging - presenters maintain eye contact with audience, speak clearly and loudly, illicit response/questions from the audience.
- Informative - communicates accurate information regarding topic

Content criteria

- Contains information on topic which is critical to automotive technicians;
- Contains documented materials taken from a minimum of 4 resources in addition to the text;
- A valid 5 question quiz is developed from the lesson.

Evidence of:

- **Knowledge**
- **Skill**
- **Disposition**

Targeted "Standard(s)"/Indicator(s):

- **Knowledge** - understands automotive terms and concepts
LOOK FOR/LISTEN FOR> Presenters can thoroughly and accurately respond to questions regarding the topic covered by their lesson
- **Skill** - to be targeted as appropriate
LOOK FOR /LISTEN FOR> To be negotiated with students

Knowledge "Standard"

Skill/Disposition Standard

- Staff develops sound strategies to solve specific problems facing the school

Administrator's Challenge

Problem - solving - constructs a problem solving strategy

Addressing our major concerns

Question Issue:

How can we address some of the major concerns that face us at the beginning of each school year?

Challenge:

We have listed a number of problems that we face as we begin the new school year. We have discussed some of them with each other and brainstormed possible solutions to those problems. We must now narrow down those possibilities and devise a specific strategy to use for the start of school in two weeks. Working in your "home" teams, devise a strategy (i.e. a clearly described sequence of steps to be taken) to solve your problem or concern.

Your strategy should:

- Clearly describe the problem/concern you want to address
- List the steps you recommend we take to solve this problem. These steps should be reasonable
- Lay out a time line for the completion of your strategy and identify who is responsible for completing the various steps
- Describe your plan for involving the rest of the faculty in the solution to the problem so that they "buy in"
- Include some graphic image of your strategy which succinctly communicates the essence of your plan

Please be prepared to present your team's ideas to the whole staff in 45 minutes. We ask that each of your presentations take no more than five minutes.

Product criteria:

Problem Strategy

- Problem is described clearly
- Steps for a solution are reasonable and described clearly
- Staff accountability for each step of the strategy is described and will contribute to likely success
- Solution invites faculty involvement
- Graphic image is clear and supports an understanding of the strategy

Evidence of:

Targeted Standard/Indicator(s):

- **Knowledge**
 - Knowledge - staff develops sound strategies to solve problems facing the school
Look for/Listen for > vigorous discussion regarding the advantages and disadvantages of various solutions
- **Skill**
 - Problem Solving - construct a problem solving strategy
- **Disposition**
 - Look for/Listen for** > debate regarding the appropriate sequence of steps to be implemented as part of a given strategy

Knowledge "Standard":

ELA #2 - Students will read, write, listen, and speak for literary response and expression

Elementary - present personal responses to literature that make reference to the plot, characters,

CHALLENGE SCENARIO

Primary

English Language Arts

Skill/Disposition "Standard":

C-DOS Standard #3a - Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace

Elementary - Interpersonal Skills

- relate to people of different ages and from diverse backgrounds

The Setting:

You woke up this morning and had a wonderful idea for an adventure. You thought that it would be great if you and all of your classmates could visit a museum where you could see objects that belong to characters in your favorite story books. The only problem is that no such museum exists. That made you think a whole lot harder. Maybe you and your classmates could make a museum like that.

All the way to school you smiled to yourself as you thought of your idea for a museum. You told your classmates about it and they got excited. You then decided to go to your teacher with the idea. She got excited too! Everyone agreed to help. Soon "YOUR" idea became "OUR" idea because now it could be shared with your classmates.

Your Challenge:

At first, it seems like our biggest challenge is to create a story book character museum for our classroom. We all agree that it is a good idea. Some of us already know characters we might want to put in the museum. However, soon we realize that there might be some disagreements about what is the best way to make the museum. So really, our challenge has two parts:

- (1) Create a museum of story book characters using objects that will help visitors understand something about the characters. Make sure everyone can explain his/her character and object to any visitor.
- (2) Work together in a way that makes everyone feel that they have been treated fairly.

We know there are many questions that have to be answered before we begin. However, we know that with our teacher's help we will make the best story book museum possible.

This challenge was developed by Jane Fox, a teacher at Gilboa-Conesville C.S., Gilboa NY.

Knowledge "Standards":
ELA #1 - Speak and write to transmit information....

Social Studies #2 - World History- using a variety intellectual skills to demonstrate an understanding of major ideas, eras, and themes...

CHALLENGE SCENARIO

A Roman "Dig"

Middle School
ELA/Soc. Studies

Skill/Disposition "Standard":

Problem Solving - constructing and employing problem solving strategies

The Setting:

You are a team of highly trained archaeologists. You've recently made an amazing discovery and have "uncovered" an ancient Roman town close to the city of Rome itself. Immediately upon discovering the site, you contacted your employer, the curators at the famous Delaware County Museum located in Delhi, NY., and told them the good news via a satellite link.

Since your employers had been looking to expand their museum in order to promote more tourism in Delhi, they were very excited about your find.

Your sponsors requested that you make an excavation of the site and return home with artifacts and other knowledge about life in ancient Rome.

The Challenge:

Your challenge is to present your findings to a panel from the museum. Your job is to clearly describe the culture of the time period you have excavated. Your sponsors want to know how people of this time period lived, and how their lives were similar or different from ours. Your sponsors know that visitors to museums are most interested in the topics listed below. If your sponsors are going to be at all interested in what you have, you should address all of these topics in your presentation.

- **home life:** roles of family members, what homes looked like, contents of a home, marriage customs, religious beliefs;
- **the military:** how it was run, weapons used, who conquered whom;
- **technology:** what inventions of the time helped make life easier or more comfortable for the people;
- **the land itself:** what land forms affected them (helped them or hurt them);
- **rulers or government:** how the people interacted with the rulers or government, how much did it affect the people's every day lives;
- **entertainment:** what did these people do for enjoyment

As part of your presentation, please be sure to include:

- a "blueprint drawing of the town you've uncovered;
- at least two artifacts from each area of discovery;
- a 3-5 minute explanation of the findings from each of the areas. Please indicate what the artifacts are, what they were used for, and how people of today might see a connection to their own lives;
- a projection of funds needed to continue research for next year.

This presentation will determine whether grant money of \$1,000,000 will be given to you. This money will be used not only to continue your research in Italy, but to oversee the building of a new wing at the museum where your artifacts will be displayed.

This challenge was developed by Ro Pudney and was used with her 6th grade class at Delhi Academy, Delhi, NY.

Knowledge "Standard":

Social Studies #1 - Students will use a variety of intellectual skills to demonstrate their understanding of major ideas, themes.....of history of US & NY.

Intermediate #1 - analysis of development of American culture...

Skill/Disposition "Standard":

C-DOS Standard #3a- demonstrate mastery of a foundation skill & competency essential for success in the workplace

Intermediate - Interpersonal Skill - demonstrate the ability to work with others...

CHALLENGE SCENARIO

Historical TV Series

Middle School

Social Studies

The Setting:

You are teams of writers who have been hired by Ted Turnip Broadcasting Co. (TTB). Ted Turnip himself has asked that you create a Saturday morning program that kids (ages 6-10) will watch instead of cartoons. He wants the program to be very creative and interesting so that children will learn from it. The name of the program is "Time Travelers". It is supposed to be about a group of kids who travel back through American history to learn what really happened.

Mr. Turnip has asked that the first series of programs be stories about the different Native American people who lived in America. The programs should show the audience how these Native people lived and what happened to them once they met white people from Europe.

A committee of TV program reviewers will be visiting you in seven days to see and hear your ideas for the first series of programs. They will be expecting a high quality job.

The Challenge:

To give us some good ideas for creating this series we want you to do the following:

- Divide yourselves into groups of 3-4 and choose a tribe of Native Americans from the list on the blackboard.
- Look up information about your tribe. Be sure to write down the names of the sources you use so we can check for accuracy.
- Create a "story board" about your tribe that can be used to illustrate an idea for a *Time Traveler* program. Your "story board" should briefly outline the major "scenes" you want to show in your program. It is important that the story be interesting and that it contain accurate information about each of the following questions:
 - Where and when did your group of Native American people live in America?
 - What was their life like before contact with white Europeans?
 - How did their life change after contact with white Europeans?
- Make sure your story board contains colorful, eye-catching illustrations that will help us get an idea of how the story might look on TV.
- Be prepared to explain your storyboard to the panel in a presentation which is logical, to the point, and lasts no more than 5 minutes.

Everyone on your research team should do a fair share of the work by having a specific job or task that is his/her responsibility to complete. Tell (teacher name), your department head, what these jobs are as soon as you have chosen them. Please create a "Job Responsibilities Log" for each member of the group. Each person should record a detailed description of his/her daily job performance and submit the completed log to your department head at the end of this project.

Good luck!

Knowledge "Standard":
MST#3 - understand mathematics by...applying mathematics in a real-world setting....

Commencement #4 - choose appropriate representations to facilitate the solving of a problem.

CHALLENGE SCENARIO

Demographic Study

High School Mathematics

Skill/Disposition "Standard":
C-DOS Standard #3a- demonstrate mastery of a foundation skill

Commencement #2 - Use thinking skills to demonstrate ability to solve problems in new and unfamiliar situations

Mrs. Curtis' CII Class
Morrisville-Eaton Central School
Box 990 Fearon Rd.
Morrisville, NY 13408

Dear Course II Students:

As you may already know, our community has been experiencing many demographic changes over the past 20 years. We hear our parents talk about them. We hear teachers and business leaders talk about them. To what extent are these changes really happening? There seems to be a lot of talk, but little data.

My social studies classes have been investigating this very issue. We have recently conducted a large scale survey of our community to investigate various demographic factors. We have compiled a rather large computer database of our surveys. But the surveys will not answer our questions by themselves: What is the nature of the demographic changes (if any)? To answer this question we need to analyze our survey data using adequate statistics.

This is where you come in. We would like you, statistical experts, to analyze our data and tell us some of the basics. What statistics would be valuable when studying this data? (I have spoken with Mrs. Curtis and she has suggested mean, median, mode, and range would be appropriate.) What does the data show? How do we visually represent our data?

We would like you to analyze our data and write a booklet what 1) graphically represents the data and 2) describes patterns in our survey data. We will then use your statistical analysis to continue our study. We request that we receive your booklet no later than May 20.

Thank you for assisting us in our investigation. We look forward to hearing from you.

Sincerely,

Ms. Nowon
Ms. Nowon's Social Studies Classes

This challenge was developed by Lorren Hotaling, a science teacher at Norwich City Schools, Norwich, NY.

REAL LIFE PROBLEM

(read to students)

Primary (K-2)

Dear Students,

I am Miss Dottie from the Cackling Hen Nursery School. I care for small children who could really use the help of some bigger kids like you. I was speaking to your teacher, Ms. Penny, and she tells me that you are a very caring class with many good ideas. I sure hope so because I have a problem that I would like you to help me solve.

In my nursery school I have 15 children who are only 3 or 4 years old. They need help in learning about our community. I want my students to learn something about the people in our community who have important jobs. We need to learn how these people help us to have better lives.

I know that I cannot take my children to see all those people in our community who have important jobs, and I can't think of any way to have all those people come to one place to meet my children.

I do have one idea that might work. That is why I need your help. I would like to bring my children to your classroom for a visit. I would like each of you to find out about a person in our community who has an important job which makes our lives better. When my class and I come for our visit, I would like you to teach my children about the people and the jobs you have learned about.

Please remember that the children in my class are very young. They learn best when they can see, touch, smell, or taste things. If you could find a way to let them play with something that will teach them about the person and the job that you select, I am sure my kids will really enjoy themselves.

Will your class help me out?

Sincerely,

Ms. Dottie
Teacher, Cackling Hen Nursery School

REAL LIFE PROBLEM

Elementary School

Dear Students in Mrs. Rowe's class:

The permanent art collection in the halls of Riverside School is ready for an addition. I am asking you to help select a new print to add to our collection.

Many black artists have made a significant impact on American Art History. Since February is Black History Month, we think it would be appropriate to choose a piece of artwork by an African-American.

Please have your suggestions ready by February 16. At that time I will bring a panel to your classroom to make the choice that day. The panel will consist of an artist, an expert in Black History, two members from the Board of Education, our P.T.O. president, and Mr. Picolla.

To help us understand the reasons for your selections, we would appreciate it if you would prepare a series of presentations each of which tells us about one of the paintings you think we should consider. All of these presentations should include information about the life of the artist and the spirit that motivated him or her. Give us some insight into the historical and cultural context of the artist, and information about the painting itself; its content, meaning, story, and technique. Please also include any other information that you feel would be significant to our decision to purchase the painting for Riverside School.

The painting we choose that day will be framed for our permanent collection.

I look forward to this adventure in art.

Sincerely,

Joanne Necrasson
Principal

REAL LIFE PROBLEM

HIGH SCHOOL

English/Social Studies

Dear 11th Grade English/Civics Students,

Censorship of literature is a serious issue. The school board has received petitions demanding that certain books be pulled from the library shelves of your school. One of those books is “The Lord of the Flies” by William Golding – a piece of literature that has been a part of the regular high school curriculum for many years. There are several other books on the list.

We are seeking your help in preparing a student perspective on the issue. We would like you to investigate and analyze the claims made against the works on the list, to make appropriate recommendations in a written report, and to prepare a presentation of findings to the school board. If your work is of sufficient quality, we may invite you to make a subsequent presentation to the group that originated the petition.

We would appreciate it if you would be prepared to present your work to the board at its meeting on Thursday, May 19 at 7:00 PM.

Regards,

William Downs
School Board President