

# IISME Education Transfer Plan 2004

Team 2005  
Leland Academy Program  
(Introducing Interdisciplinary Lessons and Visibility to the Academy)

Sponsored by  
Applied Materials  
Santa Clara, California

Helen L. Arrington  
Leland High School  
San Jose, California

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## **Background:**

At Applied Materials my position was to work as a Global Operations Project Assistant. The eProject Directory (ePD) is a tool to capture key project information and determine progress toward meeting program goals. It is a web based and utilizes MS excel as the primary means for entering information to the web. I was also responsible for developing a training program to teach managers how to use the ePD tool and to help facilitate information gathering and initial population of the ePD Tool.

## **Underlying principle:**

I chose this topic because in order for Leland's Academy Program to progress toward meeting its goals, it will be necessary for the program to increase its visibility and to accomplish the program's course offerings.

## **Plan:**

Prepare a PowerPoint presentation for Staff Development which explains Team 2005, gives examples of interdisciplinary lessons and introduces writing Interdisciplinary Lessons. Activities to meet the course offerings have been developed which will be implemented during the 2004-2005 school year. Increased visibility will be accomplished by having students create and maintain an Academy Website and Billboard.



## Veteran Education Transfer Plan Cover Sheet

Title of ETP	<b>Team 2005 - Leland Academy Program</b>
Name of IISME Fellow	Helen L. Arrington
Fellow's year-round email	LA3S600@sbcglobal.net
Sponsor Company	Applied Materials
Name of Mentor	Jeff Barranti
National Board Certificate Area	Adolescence and Young Adulthood/Mathematics
<p>I, the IISME <b>Fellow</b> named above, affirm that the ETP I am submitting is my own work, that I acknowledged sources where appropriate, and that I avoided including any proprietary information of the Sponsor Company. By my submission I am assigning to IISME my entire copyright in the ETP. I understand IISME is simultaneously granting me a license to use the ETP for pedagogical purposes.</p>	
<hr style="width: 50%; margin: 0 auto;"/> Signature	<hr style="width: 50%; margin: 0 auto;"/> Date

Category	<p><b>Curriculum</b></p> <p>Subject: Math      Science      Technology      _____          Level:    Elem      Middle      <b>High x</b>      Other</p> <p><b>Staff Development</b></p> <p><i>Describe</i> <u>Academy Teachers will be able to view examples of Interdisciplinary Projects and see the actions needed to accomplish the course offerings.</u></p> <p><i>Other</i></p> <p><i>Describe</i> _ _____</p>
Objectives	<ul style="list-style-type: none"> <li>• To capture key academy information and determine progress toward meeting academy goals.</li> <li>• To inform anyone interested in learning about the academy through a web based site.</li> <li>• To promote a sense of community</li> <li>• To create a more personalized support system</li> <li>• To focus on critical and creative thinking</li> <li>• To provide Peer Tutoring</li> <li>• To offer a Team-oriented support structure to assist in the transition from middle school</li> <li>• To enhanced the parent/teacher communication process</li> <li>• To utilize a flexible time schedule to accommodate a student centered activity-based curriculum</li> <li>• To encourage a strong support system for students who seek university admission upon graduation</li> <li>• To focus on Technology in the classroom</li> </ul>

<p>Abstract (50 words or less)</p>	<p>Prepare a PowerPoint presentation for Staff Development which explains Team 2005, gives examples of interdisciplinary lessons and introduces writing Interdisciplinary Lessons. Activities to meet the course offerings have been developed which will be implemented during the 2004-2005 school year. Increased visibility will be accomplished by having students create and maintain an Academy Website and Billboard.</p>
<p><b>Describe how your ETP aligns with the National Board Standard stated in your proposal.</b></p>	<p><b>IV. Knowledge of students</b>  Accomplished mathematics teachers care about their students. They use their knowledge about adolescents and adolescent development, and their knowledge about how this development affects the learning of mathematics, to guide their curricular and instructional decisions. They understand the impact of home life, cultural background, individual learning differences, student attitudes and aspirations, and community expectations and values on student learning.</p> <p><b>VII. Learning Environment</b>  Accomplished mathematics teachers help students learn math emetics by creating environments in which students are active learners, show willingness to take intellectual risk, develop confidence and self esteem, and value mathematics. This environment fosters student learning.</p> <p><b>XI. Families and Communities</b>  Accomplished mathematics teachers support and promote the involvement of families in their children’s education. They help varied communities understand the role of mathematics and mathematics instruction in today’s world, and – to the extent possible-they involve these communities in the support of instruction.</p> <p><b>XII. Contributing to the Professional Community</b>  Accomplished Mathematics teachers collaborate with peers and other education professionals to strengthen their school’s program, advance knowledge, and contribute to improving practice within the field.</p>
<p><b>Describe the connection between your ETP and the Summer Fellowship.</b></p>	<p>At Applied Materials I was assigned the position of <b>Global Operations Project Assistant</b>. The eProject Directory (ePD) tool was developed to capture key project information and determine progress toward meeting program goals. ePD is web based and utilizes MS excel as the primary means for entering information on the web. I was also responsible for developing a training program to teach managers how to use the ePD tool and to help facilitate information gathering and initial population of the ePD Tool. My ETP will capture key Academy Program offerings and provide activities to meet course offerings.</p>

<b>Growth-Measurement Devices</b>	Evaluation Rubrics
<b>Resources Needed</b>	<ul style="list-style-type: none"> <li>• Four teachers working on Interdisciplinary Lessons</li> <li>• Examples of Interdisciplinary Lessons</li> <li>• Suggested Cooperative Projects</li> <li>• Computers</li> <li>• Academy and Individual Teacher Websites</li> <li>• Billboard</li> </ul>
Evaluation/Assessment Measurements Used	Evaluation Rubric to determine progress in meeting course offerings PowerPoint Evaluation Rubric
Formatting specifications	<b>PC _X_ or Mac ____ (Must be in Word or Text Format)</b> Software used _Microsoft Word_____
Submitted Copy	Soft and hard copy due to peer coach by the end of the summer fellowship. Also, a copy of the cover sheet signed by a school site administrator submitted to IISME Oct.3, 2004 to receive \$300 grant.
<p>I, the <b>Mentor</b> named above [please select one of the following],</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> have read the attached ETP, and my comments, if any, appear below.</li> <li><input type="checkbox"/> have read the attached ETP, and, as outlined in the IISME-Company Fellowship Agreement, have reviewed it on behalf of the Sponsor Company, and have determined that the ETP does not contain any Sponsor-proprietary information. My additional comments, if any, appear below.</li> </ul> <p>Comments:</p>          <hr/> <p>Signature _____ Date _____</p>	
<p><b>Administrator's</b> comments:</p>          <hr/> <p>Signature _____ Date _____</p>	

## **Team 2005**

### **Leland Academy Program**

Since transition from middle school to high school is often difficult, and since a solid start in the 9<sup>th</sup> grade is essential to high school success, Leland High School has a long range goal to develop interpersonal support for incoming freshmen and strategies to meet this goal. A major step toward this goal is the development of an integrated 9<sup>th</sup> grade program.

For the coming school year, Leland High School continues an exciting program which is supported by the best educational research today and is based on the principles of Aiming High and New American High School. A team of interdisciplinary teachers is offering a unique educational experience for incoming freshmen. The program is known as Team 2005, and it offers an emphasis on higher order thinking skills with increased expectations as applied to a traditional core curriculum. In addition, the program offers:

- ❖ A sense of community
- ❖ A more personalized support system
- ❖ A focus on critical and creative thinking
- ❖ A program set to meet all University of California A-F requirements
- ❖ Peer Tutoring
- ❖ Team-oriented support structure to assist in the transition from middle school
- ❖ Enhanced parent/teacher communication process
- ❖ Flexible use of time to accommodate a student centered activity-based curriculum
- ❖ Strong support of students who seek university admission upon graduation
- ❖ Focus on Technology in the classroom

Academy Staff: Jennifer Touchton- English  
Michelle O' Shea- Science  
Scot Gillis- Social Science  
Helen Arrington- Math

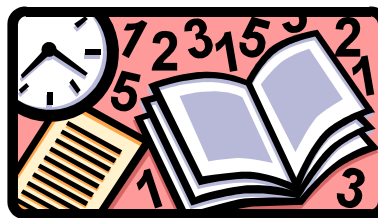
## Action Items

<b>Team 2005</b>		
<b>Action Item</b>	<b>By Whom</b>	<b>Estimated Completion Date (ECD)</b>
1. Staff Development	Arrington	TBD
2. Evaluation Rubric	Arrington	TBD
3. Student Website	Student	TBD
4. Academy Newsletter	Students/Arrington	TBD
5. Back to School Night/Newsletter	Arrington	TBD
6. Parental contacts i.e. e-mails, phone calls, conferences, notes to teacher	Arrington/Parents	TBD
7. Signed slip from at least two teachers	Students/Staff	TBD
8. Election of Team Officers	Students	TBD
9. First Interdisciplinary Lesson	Staff	TBD
10. Activities to accomplish course offerings	Students/Staff	TBD
11. Update Website	Students/Staff	TBD
12. Activities to increase visibility	Students/Staff	TBD

## Activities to accomplish Course offerings

### ❖ **A sense of community**

1<sup>st</sup> week Team Building Activities  
Interdisciplinary Lessons/Projects  
Academy Officers  
Holiday Gathering in December  
Field Trips  
End of Year Party



### ❖ **A more personalized support system**

Second Period teacher will serve as the unofficial Advisor for this group of students

### ❖ **A focus on critical and creative thinking**

Offer an interdisciplinary curriculum which will promote content, skills and thinking processes, and assessments through exploring connections among the disciplines

### ❖ **A program set to meet all University of California A-F requirements (Already in Place)**

### ❖ **Peer Tutoring**

Peer tutors will be assigned by contacting Meghan Bertgantz.  
Student will be required to sign up for the appropriate Homework Center or to see the teacher for help.

### ❖ **Team-oriented support structure to assist in the transition from middle school**

Weekly meetings to be held on Thursday morning with an agenda of items to be discussed

### ❖ **Enhanced parent/teacher communication process**

Updated Teacher Websites  
Academy Happenings Website  
Student space on website

### ❖ **Flexible use of time to accommodate a student centered activity-based curriculum**

Block Schedule in place for Thursdays and Fridays  
Revised daily schedules as needed

### ❖ **Strong support of students who seek university admission upon graduation**

Second Period and all teachers  
Encourage students to utilize the Career Center/Schedule a block of time for students to interface with the Career Center Teacher

### ❖ **Focus on Technology in the classroom**

Use of Computers for multimedia Presentations  
Computer based Projects  
Computer based assignments

## \*SCHOOL LIFELONG LEARNING STANDARDS

This year we will focus on Lifelong Learning Standards. **TBD**

1. Effective Communicators: By focusing on listening, speaking, reading and writing effectively in mathematics we will be more effective communicators.
2. Informed Thinkers: By explaining our thought processes in arriving at outcomes and by applying problem solving and decision-making skills to real life situations, we will be more informed thinkers.
3. Collaborative Workers: By acknowledging and respecting other's contributions and by performing a variety of roles within groups we'll be better collaborative workers.
4. Self – Directed Learners: By assessing and reflecting on their attitudes, skills and behaviors, by setting priorities, planning and taking action to accomplish goals, by managing time and resources efficiently, by applying what we learn to other situations, and by exploring and preparing for academic, extracurricular and career opportunities, we'll become Self – Directed Learners.
5. Responsible members of society: By recognizing diverse ethnic, linguistic, cultural and economic backgrounds, by recognizing the rules and processes that govern societies, by demonstrating and exercising the skills required to be a contributing member of a society, and by applying practices that preserve the safety and health of one's self, others and the environment, we will be more Responsible members of society.
6. Information processors: By identifying, accessing, gathering and evaluating relevant data, by converting data into usable information related to needs, and by building knowledge by using a variety of information resources and tools including technology, we will become better Information processors.



\*These standards need to be met in our Interdisciplinary Lessons.

# Letter to the Teachers

Dear Colleague:

During the summer of 2004, I was an IISME fellow at Applied Materials in Santa Clara. I was assigned the position of a Global Operations Project Assistant. The eProject Directory (ePD) tool was developed to capture key project information and determine progress toward meeting program goals. ePD is web based and utilizes MS excel as the primary means for entering information on the web. I was also responsible for developing a training program to teach managers how to use the ePD tool and to help facilitate information gathering and initial population of the ePD Tool.

As an IISME Fellow I was also responsible for creating an Educational Transfer Plan. The purpose of the Educational Transfer Plan is to transfer the IISME experience back to the classroom. My Educational Transfer Plan (ETP) will capture key Academy Program offerings and provide activities to meet course offerings. My ETP also involves determining our progress toward meeting the program offerings and increasing the visibility of the Academy. With your help we can put together an Academy Program that will measure up to the expectations of Team 2005.

I would like each of you to look over the proposed Academy action items<sup>1</sup>. We will view the Interdisciplinary presentation and begin writing one interdisciplinary lesson.

Attached are a few interdisciplinary lessons that we might consider using.

Thank you in advance for your cooperation.

Respectfully,

Helen L. Arrington  
Helen\_Arrington @sjusd.k12.ca.us  
408-535-6290 ext. 359

<sup>1</sup> Additional action items may be added to the list during the school year. Your input is valuable and will be greatly appreciated.

# Examples of Interdisciplinary Lessons




## Interdisciplinary Unit 1: "Getting to Know You"


**Our Ninth Grade classes have developed composite sketches of themselves that they have posted to this web site. They hope you and/or your classes will review their work and send a return message by e-mail that tells us about yourself, your environment, and your views on issue that are important to you.**


Our student-authors will include some or all of the following elements in their introduction. Feel free to use the same template in your greeting to us!


- Tell us some of the "vital statistics" about yourself: name, age, local community, state, and country.
- Relate some of your non-academic interests: music, sports, favorite TV shows or movies, and recreational activities.
- Discuss what your favorite subject is in school and why.

### Try to touch on one or more of the following school-related topics:

 Social Studies: What issues in the news do you feel are important and why? What type of government do you live under? Who are the leaders of your government? Are they doing a good job (US writers: Feel free to evaluate the job of the current President and Congressional leaders. Also, tell us something about your state leaders and local government. Have they had an affect on your lives? In what way?)

 Science: What interests do you have in the scientific field? How does science improve your lives (technology, agriculture, medicine)?

 Language Arts: Do you enjoy reading, poetry, or writing? Who are some of your favorite authors? What magazines do you like to read?

 Mathematics: Calculate how far you are from us in Hagerstown, Maryland, USA. How long would it take for us to visit you by plane? By car? By foot? What is the population of your state/region/nation? Is your area densely populated or sparsely populated? What is the population density? If you have other mathematical applications to getting to know you, be sure to let us know? We are looking forward to reading your submissions!

Source:

<http://www.cyberlearning-world.com/nhhs/html/get2no.html>

# Numbers at Work

## ***Math /Language Arts Activity***

In this activity students will research what kinds of math skills are used in their community.

### **BACKGROUND**

Tell students that there are many facets to community life. People are not only connected by culture and geography, but also by the work that they do. People bring a variety of valuable and helpful talents and skills to their work in any given community.

### **WHAT YOU NEED**

- Writing materials
- [Numbers at Work](#)
- Large sheets of newsprint

### **WHAT TO DO**

1. Explain to the students that they will each be conducting an interview with someone working in their community. The purpose of the interview will be to determine the kinds of math skills that are needed for the job, how math is applied in the job, and the kind of preparation needed for this person to do the math required for the job. Distribute the "Numbers at Work" worksheet and explain how to fill it out.
2. Have the class brainstorm possible candidates for the interviews. This list might include local business people, community workers, professionals, artists, service people, etc. Then have the class list possible questions that will help them get the information they need regarding math preparation, skills and applications. Questions might include "How often do you use math in your job?" and "What types of mathematical operations do you use in your job?"
3. Assign the interviews for homework. These may be done in person or on the phone. Have students take notes to remember pertinent information. After the interview is complete, students should fill in the "Numbers at Work" worksheet.
4. When students return to class, divide them into groups of 4 - 6 students. Have them share their research. Have each group compile a summary of their findings regarding math skills, applications and preparation on large sheets of newsprint to discuss with the class.

### **TEACHER OPTIONS**

- Students may invite community members with particularly interesting math- related careers to come into the class to share their work.
- Students may visit community sites to observe, firsthand, how math is applied.

# Numbers at Work Worksheet

Interview conducted by: \_\_\_\_\_

Person interviewed: \_\_\_\_\_

Job: \_\_\_\_\_



Set this section up like a chart.

Math Skills Needed	How Math is Applied	Preparation Needed

Source:

<http://www.eduplace.com/rdg/hml/gold/gether/numbers.html>

# Rating the Presidents

## ***Mathematics, Social Studies, and Language Arts Activity***

Students create a rating system for evaluating nineteenth-century Presidents based on important issues of the times.

### **WHAT YOU NEED**

- Reference materials on Presidents and issues of the nineteenth century
- Poster board
- Felt-tip markers



### **WHAT TO DO**

1. On the chalkboard, list the Presidents of the nineteenth century up to 1865. Have students use an almanac or other reference sources to locate the name of each President's party.
2. Explain that the political parties took different positions on important social issues of the time. Have students work in teams to list what those issues were. Possibilities would include the abolition of slavery, women's civil liberties, western expansion, and war with Mexico, the treatment of Native Americans, voters' rights, and industrialization.
3. Tell students that they are going to rate each President on the issues they listed. Have each team choose one president and research his position on the important issues. Ask them to discuss and evaluate those positions, using their own judgment. Then have the students create a poster with a graphic organizer (such as a chart or graph) that shows how they rate that President's administration.
4. Have each team present its poster and explain how the group came up with the evaluation. Each team should be prepared to explain its thinking.

### **TEACHING OPTIONS**

You might wish to choose Presidents over a shorter span of time. Also, you might have two teams work separately to evaluate a President, then have the students compare their conclusions.

Some students within each team might research a President's opponents to learn what issues they brought up during a campaign. They could then write a persuasive argument for electing the candidate whose views were closest to their own.

If there are differences of opinion among team members, have those students who differ prepare and deliver oral arguments for their positions.

Source:

<http://www.eduplace.com/ss/act/rating.html>

## Grade Expectations

*Critiquing Ways in Which Education Initiatives Promote Diversity and Other College Admissions Criteria Related New York Times Article "The 10 Percent Solution"*, By JIM YARDLEY, April 15, 2002

### Author(s)

Rachel Klein, The New York Times Learning Network

Tanya Yasmin Chin, The Bank Street College of Education in New York City

**Grades:** 6-8, 9-12

**Subjects:** Civics, Language Arts, Social Studies

**Overview of Lesson Plan:** In this lesson, students learn about how the ten percent plan and other education initiatives promote diversity, as well as about their practical effects on students from different types of educational and economic backgrounds. Students then discuss and come to conclusions about their own opinions on the relative importance of college admissions criteria.

**Suggested Time Allowance:** 45 minutes

### Objectives:

Students will:

1. Consider and rank a variety of criteria often used in the college admissions process; defend their rankings.
2. Learn about the effects of the 10 percent rule on higher education by reading and discussing the article "The 10 Percent Solution."
3. Research college admissions criteria in groups to examine the traditional roles of the criteria and the debates surrounding them; participate in a round-table discussion in which they share their groups' findings.
4. Develop college mission statements reflecting a commitment to diversity.

### Resources / Materials:

- student journals
- pens/pencils
- paper
- classroom board
- copies of the article "The 10 Percent Solution" (one per student)
- computers with Internet access (one per group)

### Activities / Procedures:

1. WARM-UP/DO-NOW: Prior to class, create a chart on the board comprised of six columns, each labeled with one of the following: Standardized Test Scores, Academic Achievement, Extracurricular Activities, Family Income, Race/Ethnicity, State of Origin. Write the following prompt on the board for students to respond to in their journals upon entering class: "On the board are six criteria that colleges often use to determine their admissions. In your journal, rank these criteria according to the importance that you think they should have in determining whether a person should be admitted to a college (1 being most important, 6 being least important). Then, write a paragraph explaining your ranking system." After a few minutes, ask students to come up to the board and enter their ranking numbers on the board in the appropriate columns. Then, discuss why students ranked the college admissions criteria as they did.
2. As a class, read and discuss the article "The 10 Percent Solution," focusing on the following questions:
  - a. What are the academic backgrounds of Cecilia Lara, Reberto Farias and Debbie Rosen?
  - b. What is the 10 percent law?
  - c. How did Ms. Lara and Mr. Farias do their first semester in college?
  - d. What is the academic environment at Bellaire High School like?
  - e. What was the general response to the 10 percent law?
  - f. Has the 10 percent plan restored minority enrollment and improved access to the educational system, according to this article?
  - g. What is the "Keep Texans in Texas" plan?
  - h. Why has the SAT been de-emphasized recently?

- i. What are the two major complaints of the critics of the 10 percent plan? What are the responses to these complaints offered in the article?
- j. What is the false premise of the 10 percent plan, according to George Scott?
- k. What is Texas A & M's "Aggie Access" program?
- l. What are the problems with a student receiving provisional admission, according to the article?
- m. What does Jesse H. Jones High School plan to do to give students better chances of making the top 10 percent?
- n. What is the "gamesmanship" conducted at Bellaire High School?

3. Explain to students that they will be further exploring the six college admissions criteria considered in the initial class activity. Divide students into six groups, and assign each to one of the criterion. Using Web sites such as individual college sites, news resources and other education destinations on the Internet, each group finds the following information about their criterion (written on the board for easier student access; ensure that each student in a group writes down the group's findings for use later in class):

- What is the traditional role that this criterion has played in college admissions?
- How has thinking about this criterion changed in recent years?
- What are the debates regarding the use of this criterion in the college admissions process? (Include the views presented by supporters and refuters of the criterion.)
- What statistics are offered to support and refute the use of this criterion?

After research is completed, reconvene the class for a round-table discussion on college admissions. Students should act as "experts" in their specific criteria in the discussion. Some suggestions for questions that can be used to shape the discussion include:

- What is the value of ethnic diversity on a college campus?
- Does academic achievement in high school directly correlate to college performance? Why or why not?
- Which is a more accurate reflection of intellectual ability and success in college: grade point average or class rank? Why?
- Should athletic ability or other talents aid a person in being admitted to a college if his or her academic scores are not up to the standards of the school?
- Should one's ability to pay tuition affect one's admission to college? Why or why not?
- Do you support need-based, academic or other types of scholarships for students who cannot afford college otherwise? Should students get scholarships even if they are able to pay? Why or why not?
- How might standardized tests reflect cultural biases? What is being done to try to remove cultural biases from such tests?

4. WRAP-UP/HOMEWORK: Considering the six college admissions criteria explored in class, each student develops a mission statement for a college that reflects a commitment to any one or all of these various types of diversity. Students may wish to read mission statements of colleges in their state or across the country to compare the formats and concepts of them. In a future class, students should share their mission statements and discuss their decisions.

#### **Further Questions for Discussion:**

- What is diversity? What is the value of diversity? Is diversity an important factor for you when you consider where you will go for college? Why or why not?
- Are you concerned that you might not get into college or the college of your choice? What factors might stop you? How might you overcome these factors?
- Do you think that students should be considered for college admission on different scales depending on the opportunities offered to them in high school? Why or why not? How might such a system work?
- Do you feel that you need a college education to succeed in life? Are there other ways to lead a "successful" life that may not involve attending college?

--Are you expected to go to college by your family and community? What factors do you think play a role in whether or not attending college is an expectation?

**Evaluation / Assessment:**

Students will be evaluated based on initial journal response, participation in class discussions, participation in group research, and thoughtful completion of mission statement's

**Vocabulary:**

salvation, grant, valedictorian, salutatorian, disheartening, scurrying, devise, criteria, trailblazer, beneficiaries, byproducts, nascent, marginal, rigorous, rationing, gregarious, inequities, complement, interdisciplinary, rampant, speculation, mollified, exempted, gamesmanship

**Extension Activities:**

1. Learn about legislation that has been passed in an effort to promote diversity and opportunities in education and the workplace, such as affirmative action, the Americans with Disabilities Act, and equal opportunity. Create a timeline of these various laws. Stage a class debate on one such law.
2. Research a single-sex institution or historically black colleges and universities. Create a brochure of the school geared towards possible applicants, including information about how the school was founded, the role it has played in its community and the education community as a whole, the changes that it has undergone since it was founded, and the opportunities that the school affords its students.
3. Consider how the college admissions process can best reflect the reality of America's diversity. Create an application for a college that celebrates and encourages diversity. Consider the type of information that the college might require from its applicants, including letters of recommendation, essays, and other supplementary materials.
4. Poll your school community regarding issues of diversity in your school. Some suggested questions include: Would you consider your school community to be "diverse," and why? What types of communities do you notice a lack of in your school? How well do you think the school addresses issues of diversity? Using the information from the poll, create a "diversity assessment" of your school, including suggestions to make the community more diverse and/or more aware of diversity issues.
5. Compare the admissions statistics for a college or university that you may want to attend with your own profile, including your grades, test scores, activities, and ethnicity. Then, discuss the information with your school guidance counselor and determine your chances for getting into this school given your profile and how you can increase your attractiveness to this school given the criteria it seems to value. After doing this, re-evaluate your interest in the school.
6. Many colleges and universities require a personal essay to be submitted along with the standard application information. Obtain several college applications. What do the questions seem to indicate the college wants to know about its applicants? Select what you think is the most interesting essay question and answer it.

**Interdisciplinary Connections:**

Geography- Create a map depicting the ethnic make-up of one state from each of the United States' time zones. Compare these statistics with the ethnic population at a large public university in each state. Compare the two sets of statistics. Include a reflection on what you think might be the cause for any similarities and/or disparities in populations across the states and in the colleges.

Global History- Research the education system in another country. Write a short paper or create a classroom poster describing this system. Also include your opinion as to whether this is an effective way to educate. Support your ideas with facts, examples and details.

Media Studies- Watch the movie "Finding Forester," "School Ties," "Stand and Deliver," or another film that addresses the difficulty that students often face in getting into and/or succeeding in competitive schools or academic programs. Then, write a journal reflecting on the issues raised in the film.

### **Academic Content Standards:**

**McREL** This lesson plan may be used to address the academic standards listed below. These standards are drawn from [Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education: 2nd Edition](#) and have been provided courtesy of the [Mid-continent Research for Education and Learning](#) in Aurora, Colorado.



In addition, this lesson plan may be used to address the academic standards of a specific state. Links are provided where available from each McREL standard to the [Achieve](#) website containing state standards for over 40 states. The state standards are from [Achieve's National Standards Clearinghouse](#) and have been provided courtesy of Achieve, Inc. in Cambridge Massachusetts and Washington, DC.

# Stories That Really Add Up

*Exploring Ways in Which Children's Stories Can Be Used to Teach Math and Other Subjects*  
**Related New York Times Article** "Family Fare", By LAUREL GRAEBER, October 12, 2001

## Author(s)

Alison Zimbalist, The New York Times Learning Network

Javid Khan, The Bank Street College of Education in New York City

**Grades:** 6-8, 9-12

**Subjects:** Language Arts, Mathematics

**Overview of Lesson Plan:** In this lesson, students work in groups to develop math lessons for younger students that each stems from a popular children's story. Group members then individually develop lessons for other subject areas based on their group's story, creating interdisciplinary units.

**Suggested Time Allowance:** 45 minutes

## Objectives:

Students will:

- b 1. Consider ways in which the story "Goldilocks and the Three Bears" can be used to teach math, science, social studies and language arts concepts; evaluate how using children's stories in different curricular areas can help children learn.
2. Explore how a traveling children's museum exhibit uses children's stories to teach math lessons by reading and discussing "Family Fare: Great Books to Count On."
3. Develop math lesson plans that use children's stories as a springboard to teaching basic concepts.
4. Develop lesson plans for other subject areas using the same children's stories; present their interdisciplinary units to other groups for evaluation.

## Resources / Materials:

-copy of "Goldilocks and the Three Bears"

-pens/pencils

-paper

-copies of "Family Fare: Great Books to Count On" (one per student)

-copies of various popular fairy tales and/or other children's stories (a different story for each small group, one copy of the story for each student in the group; suggested stories include Grimm's and Anderson's fairy tales and Aesop's fables)

-several basic level math textbooks

-simple art materials for student-created math lesson manipulatives (poster board, construction paper, markers, colored pencils, math instruments like compasses and rulers, glue, glitter, etc.) (enough for the class to share)

## Activities / Procedures:

1. **WARM-UP/DO-NOW:** Prior to class, draw a square on the board that is divided into quadrants, and label each quadrant with one of the following titles: math, science, social studies, language arts. Write the following prompt on the board next to it, and instruct students to read it and follow the directions upon entering class: "Today we are going to be exploring ways in which children's stories can be used to teach different concepts in school. Fold a piece of paper into quadrants, and label the quadrants as pictured on the board." Then, explain to students that you are going to read a children's story to them, and as you read, they should jot down math, science, social studies and language arts concepts that arise in the story (at least one of each). Students should think very carefully and creatively about the story as you read it, as some of these concepts will be "hidden." Concepts can be very basic, such as "ratios" or "human impact on nature." Read "Goldilocks and the Three Bears" aloud, making sure that students are jotting down ideas. After finishing reading the story, give students a few more minutes to write down their ideas. Then, encourage students to share their ideas, explaining them as needed, and write them in the appropriate places on the quadrant on the board. Are students surprised by how many ideas they have listed? Do they think that using children's stories is a good way to teach young students about basic concepts?

2. As a class, read and discuss "Family Fare: Great Books to Count On," focusing on the following questions:

- a. What children's stories are involved in the "Go Figure!" exhibit, and what math concepts do their related exhibits teach, according to the article?
- b. Do you agree with Maxwell Felder's statement that "if there's one thing adults are afraid of more than kids are it's math"? Why or why not?
- c. What other exhibit is currently at the Children's Museum of Manhattan, and what is special about it?

3. Explain to students that they will be creating math lessons based on popular children's stories. First, as a class, brainstorm on the board some very basic math concepts (suggested topics include addition, subtraction, multiplication, division, fractions, percentages, angles, circles and decimals.) Then, divide students into groups of four or five, and give each group copies of one children's story (such as a Grimm's fairy tale or Aesop's fable). Have groups read their stories quietly as a group, and then determine what basic math concept can be taught well using this story. Next, each group should develop a lesson around this concept, using their story as a main focus. To do this, groups should carefully think about the answers to the questions below, written on the board for easier student access. One student in each group should write down the group's decisions, and basic math textbooks should be available for student reference.

-What basic math concept will you teach in your lesson?

-In one sentence, what is the objective of your lesson? In other words, what do you want students to learn? (The sentence should begin "In this lesson, students will learn...")

-What prior knowledge will students need to know before this lesson can be taught? What math concepts will they need to know in order to learn this new concept?

-How will you use your group's children's story to teach this math concept? (You can be as creative as you wish - make a game, develop word problems, etc.)

-What visual aids or manipulatives (items that students can manipulate with their own hands, like rulers or playing cards) do you need in order to develop and teach this lesson?

-How will you know if students understand the concept? Do you need to create a test, or will students demonstrate their understanding through some different method or methods?

-What problems can you anticipate in using this lesson to teach this concept, and how might you eliminate those obstacles before or while teaching the lesson?

After each group's lesson ideas are solidified, the group should proceed with developing any materials that will be needed to teach this lesson (worksheets, visual aids, manipulatives, etc.)

4. WRAP-UP/HOMEWORK: Each group completes the development of their math lesson. Then, each student in the group selects a different subject area (science, social studies, health, etc.) and creates a lesson that teaches a concept in that subject area, based on his or her group's assigned story and using the guiding questions that the group used to create the math lesson. In a future class, each group should compile their materials into an "interdisciplinary unit" - a collection of lessons that teach concepts in different subject areas that all revolve around one central topic or theme (in this case, their children's story). Each group should then "teach" their lessons to another group using their materials. The "student" group members evaluate the lesson plan unit and its individual lessons based on accuracy and clarity of information, usefulness of visual aids and manipulatives, successful problem creation, creativity and other elements that might be assessed. Groups might then revise their interdisciplinary units and use them to teach these concepts to local elementary school students.

#### **Further Questions for Discussion:**

--Why do you think math is such an intimidating topic to so many people? How does math make you feel?

-What different types of children's stories can you name? What differences exist among these types of stories?

--What are some common themes of children's stories? What lessons do these stories hope to relay?

--What purposes do children's stories serve in different cultures around the world?

--What is your favorite or most successful way to learn? Do you learn best by seeing, hearing or doing?

**Evaluation / Assessment:**

Students will be evaluated based on participation in class discussions and activities, thoughtful participation in group development of math lesson stemming from a children's story, and individual creation of a lesson for another subject area based on that story.

**Vocabulary:**

psychoanalysts, subtext, chez, foundations, exhibition, marketing, saluting, inquisitive, auctioned, earmarked

**Extension Activities:**

1. Select a basic math topic (addition, multiplication, angles, proportions, etc.) and create a "textbook unit" for this topic in which you use children's stories to teach the subject. Select at least three different stories to use, and for each, provide a set of word problems that tests students' understanding of the math topic. You might also provide other types of problems so that students can practice the math skill. If you wish, each story can be used to teach a different aspect of the topic. (For example, if the topic is angles, one story might be used to teach right angles, one to teach complementary and supplementary angles, and one to teach how to use a protractor or compass.) At the end of your chapter, provide a final "test" to assess student learning.

2. Choose a favorite fairy tale and "modernize" it (in other words, place the characters and plot in a modern setting and revise as necessary). Alternately, identify the moral lesson that the original version of the fairy tale teaches, and rewrite the story so that it teaches a different moral lesson.

3. Choose a moral lesson that you think is important for children to learn. Then, write your own fairy tale that teaches this lesson.

4. What differences exist among fairy tales, folk tales, legends and fables? Define each term. Then, find an example of each that you feel epitomizes that type of children's story. For each story, write a paragraph or two explaining why this story is a perfect example of this story type. "Bind" your storybook, including your explanations.

5. Read one of the children's books mentioned in the New York Times article read in class, keeping in mind the math topic associated with it in the article. Do you think that children would understand this math idea from this book? If yes, how? If not, why not? Is children's literature useful in teaching math concepts? Write a persuasive essay supporting or refuting this method, using your experience with this children's book for anecdotal support.

6. There are many different methods for teaching math. Interview math teachers in your school or community about the methodologies that they employ and why they think these methods work. Then, choose one type of math concept (such as fractions or ratios) and develop one math problem modeling each methodology discussed. Which method or methods do you think you would most likely use if you were a math teacher or tutoring a friend in math, and why? Do some methods seem better suited for certain math concepts? How do you best learn math?

**Interdisciplinary Connections:**

Any Discipline- The basic idea of this lesson plan (developing a lesson to teach a concept, stemming from a children's story) can be employed in any course.

American History- Several periods in American History, such as the Revolutionary War and the expansion of the West, have left a rich legacy of folk tales to supplement history books. Compile several folk tales from one period in United States history and explain, in an introduction to the collection, what lessons the tales impart.

Fine Arts- Illustrate a scene from a favorite children's story, employing artistic elements and techniques learned in class.

Geography/Global History- Choose a fairy tale, such as "Little Red Riding Hood" or "Cinderella," and find as many different versions as possible of this story from different cultures. Compile a book with these stories, and write an introduction explaining the variations and how they reflect the cultures from which they come. Alternately, compare folk tales or fairy tales from one particular culture, and write an essay exploring how those children's stories reflect the culture from which they come and how they compare to such stories in your culture.

Health- Choose a social issue that children encounter, such as peer pressure, bullying, shyness or fears. Create a children's book addressing that issue.

Media Studies- Many criticisms have been made of Disney films, making accusations of gender, racial and ethnic stereotypes. Try to locate some such criticisms on the Internet or in other sources, and then write a response to those criticisms.

Social Studies- The featured article begins by mentioning that "psychoanalysts... have long studied fairy tales and children's books, searching for hidden meanings." Choose a well-known psychoanalyst (Sigmund Freud is mentioned in the article) and learn about his theories. Then, choose a fairy tale and write an evaluation of it from this psychoanalyst's perspective, incorporating some of his theories in your analysis.

### **Academic Content Standards:**

**McREL** This lesson plan may be used to address the academic standards listed below. These standards are drawn from [Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education: 2nd Edition](#) and have been provided courtesy of the [Mid-continent Research for Education and Learning](#) in Aurora, Colorado.



In addition, this lesson plan may be used to address the academic standards of a specific state. Links are provided where available from each McREL standard to the [Achieve](#) website containing state standards for over 40 states. The state standards are from [Achieve's National Standards Clearinghouse](#) and have been provided courtesy of Achieve, Inc. in Cambridge Massachusetts and Washington, DC.

## Lesson Plans

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[Numbers at Work](#) Math /Language Arts Activity

[Changes and the Individual](#) Language Arts and Science Activity

[Rating the Presidents](#) Mathematics, Social Studies, and Language Arts Activity

[Friends of the Desert](#) Science, Language Arts, and Social Studies Activity

[Storytelling with Artists](#) Language Arts, Art, and Social Studies Activity

[From the Heights to the Depths](#) Math, Art, and Social Studies Activity

[Art Around the World](#) Art and Language Arts/Social Studies Activity

[Introduction to Shakespeare and the Elizabethan Era](#) English/Social Studies

[Harriet Tubman](#) English/Social Studies

["Macbeth"](#) English/Social Studies

[Understanding the Industrial Revolution](#) English/Social Studies

[Ocean Planet](#) The instructional approaches in Ocean Planet are **interdisciplinary**. Lesson plans will work in different classes, from biology and mathematics to geography and social studies. Many activities employ students' writing skills.

[Life in the Ghettos](#) English/Social Studies

[Antigone](#) English/Social Studies

[Arthur Miller](#) English/Social Studies

[Blues Exploration](#) Blues Song Project (poetry lessons) Study the history of blues music. Create songs and perform them using the audio and visual capabilities of PowerPoint. Promotes cognitive skills of synthesis, analysis, and evaluation. Encourages communication through small group discussion, online discussion web, peer conferencing on student-created blues songs, and publication of pieces on the discussion web for appraisal and/or enjoyment of students.

[Can Reaction Time Be Measured](#) Biology/Math

[Anne Frank: Nutrition](#) - Anne Frank and Me English/Social Studies/Nutrition

[How fast is the population growing?](#) Math/Statistics/Social Studies

[The Ancient Game of Nim](#) - The Hidden Sequence arithmetic sequences (recursive and explicit) Math/Social Studies

[B o n V o y a g e !](#) Math/Economics/Social Studies

[Animating Motion](#) space science, engineering, physics, math

[Roll'M](#) engineering, math

[Napoleon](#) Social Studies/English/Art

[Alexander the Great](#) Social Studies/English

[King Arthur](#) English/Social Studies

[You Can Find It](#) Social Studies/Math

[Geo-Trip](#) Math, language arts, geography and social studies skills are exercised in this assignment.

[PLOTTING A HURRICANE USING LATITUDE AND LONGITUDE](#) Social Studies/Science

[Ice Cream in a Bag](#) Chemistry/Math

[Pi Mathematics](#) This multidisciplinary project which includes math, history, English and thinking skills is designed for fifth through eighth graders.

[IMPROVING DEDUCTIVE REASONING SKILLS](#) Math/Science/English

[A STATISTICAL STUDY ON THE LETTERS OF THE ALPHABET](#) Math/English

[Water to the Max](#) Math/Science

[MAP OF SHIP TRAP ISLAND](#) English/Social Studies

[Returning to Nature Through Our Parks](#) English/Social Studies

[Business Ownership](#) Vocational/English/Social Studies/Math

[Career Exploration](#) Vocational/English/Social Studies/Math

[Sole Proprietorship](#) Vocational/English/Social Studies/Math

[Nutritional Value of Fast Food](#) Vocational/English/Science/Math  
[Preparing A Resume](#) Vocational/English  
[Geometric Art](#) Math/Art/Social Studies  
[Louisiana Labor Market](#) Vocational/Social Studies/Math  
[Time Zones](#) Social Studies/Math/English  
[Lesson Plans for "TVA: Electricity for All"](#) Social Science/English  
[BENJAMIN FRANKLIN: RENAISSANCE MAN SCAVENGER HUNT](#) Technology/Social Studies/English/Math/Science  
[Fettuccini Physics](#) Physics, Math, Construction  
[Projectile Motion Demonstration](#) Math, Science, Technology  
[The Leaning Tower of Straws Challenge](#) Math, Science, History, Construction  
[Can Races](#) Math, Science  
[Newton's laws of Motion](#) Math, Science, Vocational  
[The Weather Unit](#) All disciplines  
[NHHS Interdisciplinary Team Organization \(ITO\) Project Ideas](#)  
[Marketing a New Product](#) Vocational  
[C-SPAN](#) Teaching Resources and Lesson Plans  
[The Hot Tub](#) Interpreting Graphs  
[Mathematics Lessons](#)  
[PSU Lesson Plan Index](#) Indexed by Subject and Grade Level

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<http://www.geocities.com/Athens/Academy/7535/analog.htm>  
[Living with the Sun: Preventing Skin Cancer](#) Curricular Area: Health, Science Interdisciplinary  
Connections: Science, Marketing, Careers  
[BioDesigns, Inc.](#) Biology, Economics, Ethics, Law, Environmental Science  
[The International Symposium on Environmental Issues](#) Science, English-Language Arts, History-Social Studies, Health, Mathematics  
[Journey to Mars: Out of Thin Air](#) Chemistry, Earth Science, History, Math, Engineering  
[Science in Paradise: The Big Dish](#) Earth Science, Math, Physical Science, Psychology, Technology  
[Robotics: Will Robots Take Over?](#) Biochemistry, Chemistry, Biology, Computer Science, Math, Technology  
[Geometry Scavenger Hunts on the Internet](#) Geometry, Technology, History  
[A Tour of the Inner Workings of the Atom and the Tools for Discovery](#) Physics, Math, History  
[The Noon Day Project Measuring the Circumference of the Earth](#) Geometry, Trig, Science, History, English, Technology  
[Welcome to Online CIESE Curriculum Projects](#) The CIESE team sponsors and designs projects that teachers throughout the world can use to enhance their curriculum through compelling use of the Internet. We focus on projects that utilize real-time data available from the Internet, and collaborative projects that utilize the Internet's potential to reach peers and experts around the world. Below are the projects that are currently being sponsored by the CIESE staff. Each project has a brief description and links to the National Science Standards and NCTM math standards it supports. Math, Science, English, History, Technology  
[Egypt Unit](#)

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**The *New Your Times* puts out a lesson plan each day using an article in the paper. All lesson include Interdisciplinary lessons.**

**The following are some of the lessons in the archives:**

[The Threat of Bioterrorism](#) Science/Social Studies

[Treading on Thin Ice A Lab](#) Experience About the Effects of Global Warming on Icecaps  
Science/English/Health/Technology/Social Studies

[Stellar Discoveries That Are Out of This World](#) Science/English/Math/History/Technology  
[Straining to Understand Viruses](#) Examining How Scientists Differentiate Among Strains of a Virus: A Science and Health Lesson with interdisciplinary connections  
[Doing Things the "Wright" Way](#) Investigating Influential Inventions of the 20th Century Language Arts, Science, Social Studies, Technology with Interdisciplinary Connections  
[Peace Above Earth](#) Exploring the International Space Station on the Web Current Events, Science, Technology with Interdisciplinary Connections  
[Petrified of Bacteria](#) Examining Bacteria Growth in Samples from the School Environment Health, Science with Interdisciplinary Connections  
["Taking Shelter" Before the Storm](#) Tracking Hurricane Information in the Science Classroom Science, Technology with interdisciplinary Connections  
[Making Waves](#) Understanding Water Movement in the Science Classroom Science with Interdisciplinary Connections  
[Counting on the Havoc of Hurricanes](#) Comparing Statistics of Hurricane Floyd to Other Recent Hurricanes: Math with Interdisciplinary lessons  
[Capitol Gains](#) Using the Internet to Investigate Presidential Campaign Finances Mathematics, Technology, Civics Interdisciplinary Connections  
[New Kids in The Hall](#) Analyzing Baseball Hall of Fame Statistics in the Math Classroom Current Events, Mathematics Interdisciplinary Connections  
[Using Your Melon for Math](#) Applying Fraction Multiplication and Division to Recipes Mathematics Interdisciplinary Connections  
[Rockefeller's Revenge: Exxon and Mobil Unite](#) Learning About Company Mergers Through Interpreting and Creating Graphs Language Arts, Mathematics, Social Studies, Economics Interdisciplinary Connections  
[Campaign Trailblazers](#) Developing Résumés for the Presidential Hopefuls: A Civics Lesson Language Arts, Social Studies, Civics Interdisciplinary Connections  
[Altered Genes](#) Exploring the Economic Implications of Consumer's Worries About Genetically Engineered Foods Economics, Language Arts, Science, Social Studies Interdisciplinary Connections

**Source:**

<http://www.eduplace.com/activity/numbers.html>

# Unit Planning Document

## Introduction

1. Identify target population
  - a. Age - 9<sup>th</sup> Grade Academy
  - b. Class Title/ Curriculum
  - c. Size
  - d. Special needs
  - e. Targeted Standards
  
2. Identify Characteristics of the setting
  - a. Time to teach the unit
  - b. Daily schedule characteristics
  - c. Room
  - d. Team – taught or not?
  - e. Team schedules
  
3. Draft a Title for the Unit
4. Format an Organizing Center
  - a. Choose a format (check one)
    - i. Topic
    - ii. Theme
    - iii. Work
    - iv. Problem
    - v. Issue
  - b. Choose an organizing center
  
5. Using the Concept Wheel
  - a. Place your organizing center in the hub of the concept wheel
  - b. Draw spokes off the hub: one spoke for each discipline you intend to include in the unit
  - c. Brainstorm questions and lines of inquiry about the organizing center from the perspective of each discipline
    - i. By yourself
    - ii. With your students
    - iii. With your colleagues
  - d. List these questions under their perspective disciplines
  
6. Develop Essential Questions
  - a. Examine the questions generated during the brainstorming
  - b. Refer to the list of Targeted Standards
  - c. Choose essentials questions for the unit that will give the unit scope and sequence and will correspond with skills ad standards
    - i. Make a list:
      - a. Essential Question 1:
      - b. Essential Question 2:
      - c. Essential Question 3:
      - d. Etc.

## Essential questions should:

- frame the organizing center
- promote higher order thinking
- be complex enough to be broken down into smaller questions
- help link concepts and principles across disciplines
- correspond to the appropriate time frame
- require materials that are readily available
- be anchored in the lives of learners
- relate to real-world problems
- be meaningful
- be interesting to learners
- be relevant to learners' lives



Note: To write an essential question, you might change a standard into a question.

### Standard

The student will learn to recognize personal responsibility to the community.

### Essential Question

How does my community affect my life?  
What do I owe my community -- or do I?

## 7. Align Essential Questions with skills and assessments

### a. Essential Question 1:

Skills

Assessments

### b. Essential Question 2:

Skills

Assessments

### c. Etc.

## 8. Develop Step-by-Step activities

- a. From the Introduction section, refer to calendar/ time to teach/ teamed or not
- b. Create a page /calendar/ document for each period/ day/ week (etc.) of class time (depending on your personal preference in scheduling)
- c. Map out each segment of your curriculum using the following format:

# Formats for Content

Content can have one of the following five formats, each of which generates its own unique lines of inquiry and organizing center.

Format	Example of an Organizing Center
Topic	the Civil War
Issue	Is the Civil War still going on?
Theme	"conflict," with the Civil War as an example
Work	a historical work on the Civil War
Problem	What can we do to moderate the conflict over the Confederate flag in the South?

Source:

<http://www.thirteen.org/edonline/concept2class/month10/implementation.html#s3b>

## Unit Plan Information

Project Title

Name/Grade

Subject/Topics

### Establish learning objectives

Address content standards as you determine:

What is essential for students to know or understand about the subject?

If students remembered one thing about this study, what would it be?

### Determine acceptable evidence of understanding

What should students be able to do or express when they understand the learning objectives?

### Plan instructional procedures

Plan a sequence of instructional activities and assignments that address the learning objectives. Couch learning activities in simulations or authentic tasks that put students in charge of their learning. Plan work samples or performance tasks that allow students to express understanding of the learning objectives.

### Plan for technology

The realistic nature of project work naturally leads students to use technology as they collaborate, solve problems, and share their work with others. How can technology support learning in this project?

### Develop curriculum-framing questions

Essential, unit, and content questions spark interest and guide learning. Examples of each type are from a middle-school physical science unit.

- **Essential questions** are provocative and make students think about the lessons within a greater context. Example: *How can we explain the things that happen around us?*
- **Unit questions** focus attention on the important objectives of the project. Example: *Are there rules that affect the ways things move? What rules affect whether an object floats or sinks?*
- **Content questions** lead to fundamental and specific answers. Example: *How are density, buoyancy, and displacement related? How can you measure volume of irregular solids?*

### Plan assessment

Plan assessment that puts the learning objectives in operational terms. Build rubrics that identify what students must do or create to show evidence of understanding of each objective.

## Evaluate the unit plan

An example of a Unit Plan Guide: Use the Intel Innovation in Education [unit plan evaluation guide](#) to assess and improve your plan.

# Unit and Project Plans Unit Plan Evaluation Guide

Use this guide to evaluate unit plans you are thinking of using, or to assess and improve instructional plans you develop yourself.

## An Exemplary Unit Plan:

### Addresses important content

- The subject matter is fundamentally important and worthy of students' time and attention. Lesson objectives align with content standards.
- Learning objectives are explained through essential and guiding questions. These questions help to focus students' attention on meaningful activities that lead to desired learning.
- The plan promotes higher-order thinking processes (interpretation, synthesis, prediction, and evaluation).

### Is designed for success

- Teaching and learning activities, student products, and assessment tools directly reflect the learning objectives.
- The unit plan is structured yet flexible.
- Adequate structure ensures that learning objectives are addressed, while flexibility supports diverse interests and needs of students.
- The plan is student-centered. By design, it compels students to make choices as they plan their path to understanding.

### Is coherent, comprehensive, and usable

- The learning objectives in the unit act as a unifying thread tying together teaching and learning activities, student products, and assessment.
- The unit plan is a well-developed guide for implementation, describing the entire instructional cycle from concept introduction to final assessment.
- The plan includes supporting resources (such as comparative work samples, schedules, task outlines, scoring guides and rubrics) to guide both teacher and students.

### Uses technology effectively

- Technology use is engaging, age appropriate, beneficial to student learning, and supportive of higher-order thinking.
- Technology is integral to the success of the teaching plan and promotes greater engagement and deeper learning by:
  - Fostering new opportunities for interaction and collaboration with experts, peers, and people of different cultures or generations
  - Opening up unique learning opportunities, such as:
    - > online learning communities
    - > participation in real-time events beyond the classroom (example: National Geographic Society Jason Project)
    - > access to primary source materials (example: American Memories Project at the United States Library of Congress)
    - > access to rich databases (example: seismic data at the United States Geological Survey)
  - Supporting new opportunities for expression and sharing, through email, desktop and Web publishing, and multimedia

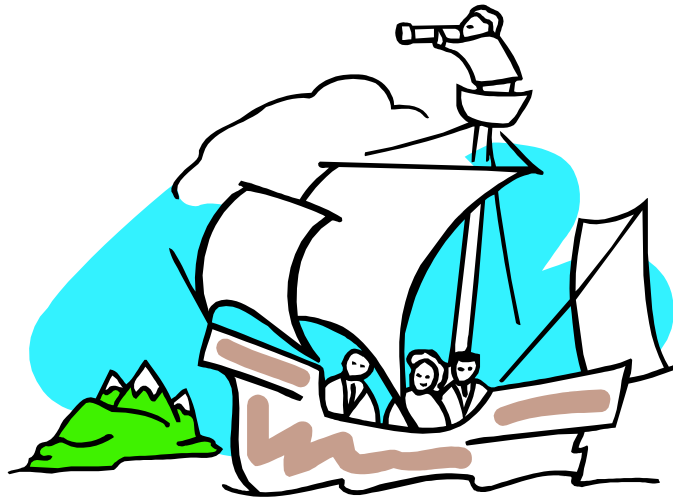
**Supports assessment**

- The assessment tool draws a clear relationship between learning objectives and the learning activities that address those objectives.
- Instruments for assessment describe specific qualitative and quantitative performance criteria. When shared with students, these criteria help guide students' efforts.

## **\*Evaluating Interdisciplinary Lessons**

What worked well and why?	What did not work and how can it be improved?	What did we not do?

\* This form is to be used to help the Team evaluate the effectiveness of interdisciplinary lessons.



## **Pre and Post Surveys**

Team 2005 staff, students, and parents will receive a survey to rank the course offerings. The purpose of the Pre-Survey is to determine if students and parents chose the Academy because of the Course Offerings. The Post-Survey will be used to measure our progress in meeting the course offerings..

**Team 2005 Pre-Survey on Program Offerings**  
**Mark the Applicable Response Scale: 9 is the highest ranking**

<b>We chose the Academy Program because of the following course offerings:</b>	<b>Agree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Rank all items from 1 to 9</b>
1. A sense of community				
2. A more personalized support system				
3. A focus on critical and creative thinking				
4. Peer tutoring				
5. Team-oriented support structure to assist in the transition from middle school				
6. Enhanced parent/teacher communication process				
7. Flexible use of time to accommodate a student centered activity-based				
8. Strong support of students who seek university admission upon graduation				
9. Focus on Technology in the classroom				

The purpose of this survey is to determine why parents and the student chose Team 2005 over the Traditional Program.

Comments:

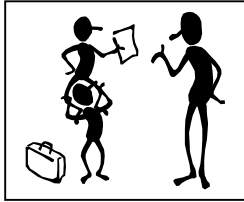
**Team 2005 Post-Survey on Program Offerings**  
**Mark the Applicable Response Scale: 9 is the highest ranking**

<b>The Academy Program offered my student the following course offerings:</b>	<b>Agree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Rank all items from 1 to 9</b>
1. A sense of community				
2. A more personalized support system				
3. A focus on critical and creative thinking				
4. Peer tutoring				
5. Team-oriented support structure to assist in the transition from middle school				
6. Enhanced parent/teacher communication process				
7. Flexible use of time to accommodate a student centered activity-based				
8. Strong support of students who seek university admission upon graduation				
9. Focus on Technology in the classroom				

This survey is an end of the year survey designed to help the teachers effectively identify and respond to areas that need to be improved or showed our progress toward meeting course offerings.

Comments:

**KPI**



**Team 2005**

Process Effectiveness Improvement **PEI**

**Organization Name:** Leland High School  
**Teacher:** \_ Team\_2005 Teachers\_\_\_\_\_  
**Report Date:** \_Fall 2004\_\_\_\_\_

**Most Significant Output(s):**

1. Instill a sense of community
2. A focus on critical and creative thinking
3. Enhanced parent/teacher communication process
4. Focus on Technology in the classroom

**Support for Team 2005 :**

1. Focus on Technology in the classroom
2. Core group of teachers meeting regularly
3. Interdisciplinary Lessons

**Key Academy Attribute(s) that Affect Output:**

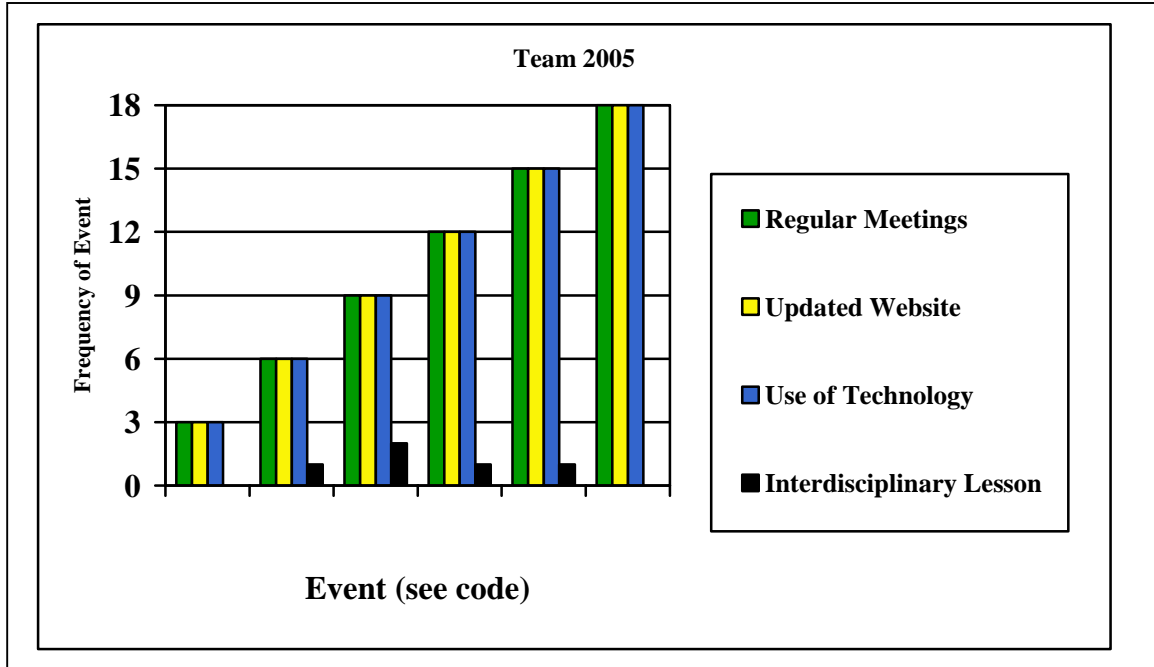
- Block Schedule
- Encourage monitoring Internet grades, absences, and comments
- Peer Tutoring

**Key Process Indicator(s) -KPI:**

- Increased sense of community
- Increased visibility of Academy

**KPI Performance Goal(s):**

Increase visibility of the Academy Program  
 Use of Interdisciplinary lessons



Key Actions to Address Identified Issues:	By Whom:	Completion Date:	Status:
1)			
2)			

**Power Point Presentation  
Team 2004  
Staff Development**







# **Staff Development**

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**Team 2005  
Leland Academy**

Helen L. Arrington



## Academy Staff

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- Jennifer Touchton- English
- Michelle O' Shea- Science
- Scot Gillis- Social Science
- Helen Arrington- Math



## **Goals of Staff Development:**

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- **Explore interdisciplinary Lessons**
- **Information on how to write essential questions**
- **Develop activities to meet the course offerings**
- **Increase Team 2005 visibility by having students create and maintain an Academy Website and Billboard**



## Team 2005

# Leland Academy Program

- Since transition from middle school to high school is often difficult, and since a solid start in the 9th grade is essential to high school success, Leland High School has a long range goal to develop interpersonal support for incoming freshmen and strategies to meet this goal. A major step toward this goal is the development of an integrated 9th grade program.
- For the coming school year, Leland High School continues an exciting program which is supported by the best educational research today and is based on the principles of Aiming High and New American High School. A team of interdisciplinary teachers is offering a unique educational experience for incoming freshmen.



The program will be known as Team 2005, and it will offer an emphasis on higher order thinking skills with increased expectations as applied to a traditional core curriculum. In addition, the program will offer:

- A sense of community
- A more personalized support system
- A focus on critical and creative thinking
- A program set to meet all University of California A-F requirements
- Peer Tutoring
- Team-oriented support structure to assist in the transition from middle school
- Enhanced parent/teacher communication process
- Flexible use of time to accommodate a student centered activity-based curriculum
- Strong support of students who seek university admission upon graduation
- Focus on Technology in the classroom



## Objectives:

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- **To capture key academy information and determine progress toward meeting academy goals.**
  - **To inform anyone interested in the learning about the academy through a web based site.**
  - **To promote a sense of community**
  - **To create a more personalized support system**
  - **To focus on critical and creative thinking**
  - **To provide Peer Tutoring**
  - **To offer a Team-oriented support structure to assist in the transition from middle school**
  - **To enhanced the parent/teacher communication process**
  - **To utilize a flexible time schedule to accommodate a student centered activity-based curriculum**
  - **To encourage a strong support system for students who seek university admission upon graduation**
  - **To focus on Technology in the classroom**



# Examples of Interdisciplinary Lessons

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- **Numbers at Work** Math /Language Arts Activity
- **Changes and the Individual** Language Arts and Science Activity
- **Rating the Presidents** Mathematics, Social Studies, and Language Arts Activity
- **Friends of the Desert** Science, Language Arts, and Social Studies Activity
- **Storytelling with Artists** Language Arts, Art, and Social Studies Activity
- **From the Heights to the Depths** Math, Art, and Social Studies Activity
- **Art Around the World** Art and Language Arts/Social Studies Activity
- **Introduction to Shakespeare and the Elizabethan Era** English/Social Studies
- **Harriet Tubman** English/Social Studies
- **"Macbeth"** English/Social Studies
- **Understanding the Industrial Revolution** English/Social Studies



# Unit Planning

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## **Introduction**

### **1. Identify target population**

Age - 9th Grade Academy

Class Title/ Curriculum

Size

Special needs

Targeted Standards

### **2. Identify Characteristics of the setting**

Time to teach the unit

Daily schedule characteristics

Room

Team – taught or not?

Team schedules



## **Unit Planning (continued)**

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**3. Draft a Title for the Unit**

**4. Format an Organizing Center**

■ Choose a format (check one)

- **Topic**
- **Theme**
- **Work**
- **Problem**



## **Unit Planning (continued)**

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**3. Draft a Title for the Unit**

**4. Format an Organizing Center**

- Choose a format (check one)

- **Topic**
- **Theme**
- **Work**
- **Problem**



## Unit Planning (continued)

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### **5. Issue**

- Choose an organizing center

### **6. Using the Concept Wheel**

- Place your organizing center in the hub of the concept wheel
- Draw spokes off the hub: one spoke for each discipline you intend to include in the unit



## **Unit Planning (continued)**

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- **Brainstorm questions and lines of inquiry about the organizing center from the perspective of each discipline**
  - i . By yourself**
  - ii. With your students**
  - iii. With your colleagues**
- **List these questions under their perspective disciplines**



# Unit Planning (continued)


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## 7. Develop Essential Questions

- Examine the questions generated during the brainstorming
- Refer to the list of Targeted Standards
- Choose essential questions for the unit that will give the unit scope and sequence and will correspond with skills and standards

## 8. Make a list:

- Essential Question 1:
- Essential Question 2:
- Essential Question 3:
- Etc.



**Note: To write an essential question, you can change a standard into a question.**

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### **Standard**

- The student will learn to recognize personal responsibility to the community.

### **Essential Question**

- How does my community affect my life?
- What do I owe my community -- or do I?

# Things to consider for

## Essential Questions

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- ❖ An essential question is the sum of what you believe students should examine and know in the short time they have with you.
- ❖ To choose essential questions, ask yourself, "Given the time I have to spend on this unit or curriculum, what is essential for us to focus on in order that my students develop the targeted skills and assessments I envision for them?"
- ❖ Essential questions are a creative choice, but they are also a pragmatic conceptual commitment that frames what you will teach and what you will leave out.

Source: <http://www.thirteen.org/edonline>



# Format for Content

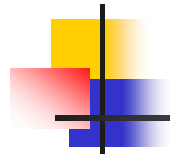
---

## Format

1. Topic
2. Issue
3. Theme
  
4. Work
5. Problem

## Example of an Organizing Center

1. The Civil War
2. Is the Civil War still going on?
3. "conflict," with the Civil War as an example
4. a historical work on the Civil War
5. What can we do to moderate the conflict over the Confederate flag in the South?



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**Academy Offerings &  
Activities to Determine  
Progress towards Meeting  
these Goals**



## A sense of community

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- ❖ 1st week Team Building Activities
- ❖ Interdisciplinary Projects
- ❖ Academy Program Student Officers
- ❖ Holiday Gathering in December
- ❖ Service Project (s)
- ❖ Field Trip (s)
- ❖ End of Year Party



## A more personalized support system

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- ❖ Second Period teacher will serve as the unofficial Advisor for this group of students



## A focus on critical and creative thinking

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- ❖ Offer an interdisciplinary curriculum which will promote content, skills and thinking processes, and assessments through exploring connections among the disciplines



## A program set to meet all University of California A-F requirements

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- ❖ The Academy was established based on all the necessary requirements to meet all University of California A-F standards  
(Already in Place)



## Peer Tutoring

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- ❖ Peer tutors will be assigned by Meghan Bertgantz.
- ❖ Students will be required to sign up for the appropriate Homework Center or see the teacher for help.




## **Team-oriented support structure to assist in the transition from middle school**

- ❖ Weekly meetings to be held on Thursday morning with an agenda of items for discussion



## Enhanced parent/teacher communication process

- ❖ Updated Teacher Websites
- ❖ Academy Happenings Website
- ❖ Student input on Academy
- ❖ Parents encouraged to be active participants
- ❖ Parent use of Internet Viewer



**Flexible use of time to  
accommodate a student  
centered activity-based  
curriculum**

- ❖ **Block Schedule in place for  
Thursdays and Fridays**
- ❖ **Revised daily schedules as needed**



## **Strong support of students who seek university admission upon graduation**

- ❖ **Second Period and all teachers**
- ❖ **Encourage students to utilize the Career Center/Schedule a block of time for students to interface with the Career Center Teacher**



# Focus on Technology in the classroom

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- ❖ **Use of Computers for multimedia Presentations**
- ❖ **Computer based assignments**
- ❖ **Computer based projects**

# Action Items for Team 2005



Team 2005					
Action Item	By Whom	Estimated Completion Date (ECD)	Status		
1. Staff Development	Arrington	TBD	active		
2. Evaluation Rubric	Arrington	TBD	active		
3. Student Website	Student	TBD	active		
4. Academy Newsletter	Student/Arrington	TBD	active		
5. Back to School Night/Newsletter	Parent	TBD	active		
6. Parental contacts i.e. e-mails, phone calls, conferences, notes to teacher	Parent	TBD	on-going		
7. Signed slip from at least two teachers	Student	TBD	active		
8. Election of Team Officers	Student/Staff	TBD	active		
9. First Interdisciplinary Lesson	Staff	TBD	active		
10. Activities to accomplish course offerings	Staff	TBD	ongoing		
11. Update Website	Staff	TBD	ongoing		
12. Activities to increase visibility	Staff/students	TBD	ongoing		



## Resources:

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- Four teachers using interdisciplinary lessons
- Computers
- Academy and Individual Teacher Websites
- Evaluation Rubrics
- Guest Presenter

**\*Evaluation PowerPoint Presentation**  
Team 2005

Directions: Circle 1 for the lowest and 5 for the highest rating.

1. The presentation helped me to understand the purpose of Team 2005.

1                    2                    3                    4                    5

2. The Presentation was well-organized and logically ordered.

1                    2                    3                    4                    5

3. I have a better understanding of the Teams' Course Offerings.

1                    2                    3                    4                    5

4. I am able now to write an essential question.

1                    2                    3                    4                    5

5. I found the examples of Interdisciplinary Lessons adequate.

1                    2                    3                    4                    5

6. The presentation can be used for new teachers to the Academy.

1                    2                    3                    4                    5

Comments:

**\*This survey will be used to evaluate the Power Point Presentation.**

# Record Keeping Form

Record Keeping Form											
Course Offerings	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
A sense of community											
A more personalized support system											
A focus on critical and creative thinking											
A program set to meet all University of California A-F requirements	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peer Tutoring											
Team-oriented support structure to assist in the transition from middle school											
Enhanced parent/teacher communication process											
Flexible use of time to accommodate a student centered activity-based curriculum											
Strong support of students who seek university admission upon graduation											
Focus on Technology in the classroom											