FORMATIVE ASSESSMENT:
Prekindergarten - 12

A GUIDE FOR

CLASSROOM TEACHERS

The Interdiocesan Curriculum Committee
Catholic Dioceses of New York State

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Introduction

INTRODUCTION

"To educate is to guide students on an inner journey toward more truthful ways of seeing and being in the world."

The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life
Parker J. Palmer (1998)

In May 2006 the superintendents from each of the eight dioceses across the state asked the Interdiocesan Curriculum Committee to prepare a document for teachers that would address formative assessment. "Formative assessment" refers to any kind of teacher-constructed tool that provides information about how well students are learning what is being taught. The goal of this project is to provide teachers with a document that will allow them to reflect on and refine their classroom assessment practices.

We live in an educational world that places tremendous emphasis on assessing student achievement. In New York we have a state testing program that gives schools the opportunity to acquire specific information about student progress in English language arts, mathematics, social studies and science in Grades 3-8. These assessments are also used to predict how well students will do with the more in-depth high school content and the Regents examinations required for graduation. These high-stakes tests allow us to compare the achievement of students in our schools and classrooms against that of their peers across the state.

What is perhaps more significant and integral to the learning process, however, is the ongoing assessment of student progress on a daily basis in the classroom. The strategies that teachers use to evaluate how well students have grasped day-to-day instruction should empower the learner. When children receive immediate and appropriate feedback on their learning progress, they can more easily correct their thinking and internalize new concepts or skills. Thus the assessment becomes one of many mile markers on the journey to increased knowledge and understanding. These strategies also inform the teaching and learning process by providing teachers with a direction for instruction. If a classroom assessment demonstrates that students have not grasped a concept or skill, the teacher becomes aware that reteaching must occur to ensure understanding. The assessment, therefore, is an indicator of effective instruction.

Classroom assessment must be meaningful to each student. Teachers have an obligation to set criteria for students so that they are aware of learning expectations. In New York State the learning standards and performance indicators in the four core subject areas provide the objective criteria for this purpose. Aligning curriculum, instruction, and assessment is an essential step in making classroom assessment meaningful. This alignment ought to have a "backwards design." In other words, by looking first at learning outcomes or what we want the students to learn (curriculum), it becomes easier to define how we evaluate what we have taught (assessment), and how we teach it (instruction). The degree to which this alignment is achieved will determine the quality of learning outcomes.

Assessment should not be an intrusion on the learning process but something that informs the teaching and learning process in a valid and reliable manner. Curriculum, instruction, and assessment, within the context of our Catholic schools, should also bring our students to a significant understanding of their role as members of a faith community. This understanding, in turn, helps them assume a wider responsibility to the community in which they live and to the world beyond.

Students need to know what the teacher expects of them. Ongoing assessment should be fair. Teachers need to teach the way they test and test the way they teach. Fairness, based on truth and justice, is the underlying principle that should guide the development of every form of classroom assessment. Fairness not only respects learners, but… it also helps them assume responsibility for their own learning. Questions need to be formulated carefully. Teachers should vary the types of questioning techniques they use to assess student learning, and not rely on a single method. Attention should be given to providing differentiated questions that will measure a range of higher level thinking skills and tap into the different learning styles of students. This gives students the opportunity to respond in interesting and engaging ways, and to demonstrate their ability to think divergently.

The goal of any kind of assessment is to provide feedback to the learner. This feedback can occur in many different ways. It is not something that a teacher stops to do; it should be formative and ongoing. Assessment feedback is much more definitive than simply measuring content that appears in the textbook. Feedback does not always have to be linked to a "grade." Classroom teachers may use a variety of traditional paper-and-pencil forms of assessment to obtain information on student progress. This can include several kinds of short response questioning formats. It can also involve a variety of extended response items that allow students to think and write more deeply on a topic. Finally, students may demonstrate their understanding using different performance modalities. Each of these three kinds of assessment strategies will be addressed in depth in the remainder of this document.

Multiple Intelligences and Bloom's Taxonomy

Instruction / Assessment Planning Grid

All teachers of every grade level and discipline should consider learning strengths and critical thinking skills when planning for instruction and assessment. The following planning grid provides a menu of ideas to assist in developing lessons that engage students more fully in the learning process and assess student growth in knowledge and skills. This chart can be used in every discipline and with each form of assessment. The categories go from the simplest to the most complex and provide the opportunity for teachers to help students develop higher level thinking skills by starting with their learning strengths.

The challenge for all is to move beyond the basic level of understanding. Teachers must develop lessons and assessments that take students beyond the basic recall and comprehension levels. It is important for students of the 21st century to be able to apply what they learn, compare and contrast ideas, analyze information, make predictions, create new ideas from previous knowledge, evaluate and critique their work, and communicate their ideas with others. These are the "trigger verbs" used when teachers are designing lessons and assessments to ensure that students are challenged to think critically.

Multiple Intelligences and Bloom's Taxonomy
Instruction and Assessment Planning Grid

Learning Strengths	Recall/ Comprehension	Application	Analysis	Synthesis	Evaluation
Word (Linguistic)	define expand list memorize name quote recall recite reword tell/retell summarize write	associate demonstrate describe paraphrase relate point out predict present teach show & tell	convince distinguish note exaggerations question reason translate	forecast form generate invent predict suppose	argue check critique debate defend justify recommend test verify
Logic (Logical-Mathematical)	compute estimate find group match order outline	chart classify demonstrate develop diagram find examples map out prove sequence solve try web	analyze classify compare contrast deduce differentiate discover dissect infer puzzle simplify take apart wonder	categorize cause/effect combine develop formulate integrate predict	criticize conclude determine measure observe rank rate test
Picture (Spatial)	change color cut/paste draw label outline paint recognize show sketch visualize	demonstrate graph illustrate produce reproduce	compare contrast divide transform wonder	change create design dream form imagine invent make produce rearrange reorder	critique decide justify observe select

This grid provides a guideline for teachers of every grade level and discipline to develop quality learning activities and assessment questions. Howard Gardner's Multiple Intelligences give us the knowledge dimension of learning and Benjamin Bloom provides the cognitive process or critical thinking skills. Educators recognize the differences in the learning styles of their students and provide opportunities for students to grow in these areas. They also help students develop their intellectual abilities and skills starting with the basic competencies and moving to the most complex.

Learning Strengths	Recall/ Comprehension	Application	Analysis	Synthesis	Evaluation
Body (Bodily Kinesthetic)	arrange choose find group manipulate model locate perform reorganize role play select	demonstrate dramatize experiment make modify present record show utilize	categorize classify discover divide examine inspect rearrange role play section sort survey uncover	blend build combine compile construct develop devise group invent modify produce reorganize	measure pick select tabulate
Music (Musical)	sing listen hum play recognize record show write about	associate change words express perform record feelings retell	analyze raps compare songs: themes, rhymes interpret take apart	compose enhance make up	assess dispute grade select
People (Interpersonal)	discuss converse explain listen role play share show summarize translate	communicate employ interview invent play record relate teach	canvas infer investigate question survey translate	compose construct create design film plan produce solve	argue decide discuss evaluate give feedback recommend
Self (Intrapersonal)	choose dictate focus propose reflect select tell write	choose record feelings react share use wonder	conclude generate questions investigate survey	create imagine make reflect	appraise assess award choose conclude decide defend determine evaluate grade judge rank select

This grid provides a guideline for teachers of every grade level and discipline to develop quality learning activities and assessment questions. Howard Gardner's Multiple Intelligences give us the knowledge dimension of learning and Benjamin Bloom provides the cognitive process or critical thinking skills. Educators recognize the differences in the learning styles of their students and provide opportunities for students to grow in these areas. They also help students develop their intellectual abilities and skills starting with the basic competencies and moving to the most complex.

EARLY CHILDHOOD ASSESSMENT

EARLY CHILDHOOD ASSESSMENT

> "Teachers' knowledge of each child helps them to plan appropriately challenging curricula and to tailor instruction that responds to each child's strengths and needs…Systematic assessment is essential for identifying children who may benefit from more intensive instruction or intervention or who may need additional developmental evaluation… Assessment ensures that the school program meets its goal for children's learning and developmental progress and also informs program improvement efforts."
>
> *NAEYC Early Childhood Program Standards and Accreditation Criteria: The Mark of Quality in Early Childhood Education*
> National Association for the Educating of Young Children, 2005

Assessing the young child supports the child's learning and development and validates appropriate curriculum planning and teaching strategies. Assessment guides goal setting and the development of appropriate expectations for early learning. Assessment leads the teacher to select quality early childhood activities and instructional methods.

DEFINITION

Assessment is the process of observing, recording, and documenting what children know and do and how and when they do it.

Assessment involves multiple methods of collecting data. Interviews, careful observation, written records, and collections of work are fundamental to early childhood assessment.

The results of assessment are used to create developmentally appropriate learning environments, modify curriculum, develop teaching strategies, and above all support student development and learning.

ESSENTIAL ELEMENTS

- Assessment occurs within the context of each child's daily experiences as he or she interacts with the materials, adults, and other children in the learning environment. Early childhood assessment reflects behavior over time.

    - Assessment for early childhood is very different from assessment for older children.
    - Young children learn differently. They construct knowledge in experiential, interactive, concrete, and hands-on ways.
    - Young children must touch and manipulate objects and move and play in many environments.
    - Assessment is a central part of an early childhood classroom.

- Assessment is based on research, child development, early learning standards, and curriculum goals in all domains of learning (spiritual, social, emotional, and cognitive).

- Assessment is based on multiple sources of information. Each assessment should be tailored to a specific purpose. Assessment instruments must meet accepted professional standards of validity and reliability.

- Assessment should be age and linguistically appropriate in both content and method of data collection.

- Assessment must benefit the child and inform the teacher. It should allow the child and the teacher to reflect on student learning. Follow-up instruction is linked to the results of the assessment.

- Both staff and families should be knowledgeable about assessment. They form a community that understands assessment as a tool to improve outcomes for children. Parents are a valued source of assessment information and should share in the knowledge of their child's learning outcomes.

TIPS AND SUGGESTIONS

Early Childhood Assessment Tools

1. **Anecdotal Records:** Factual descriptions of what a student has done

    - Records what a child can do
    - Documents the process the student is using or has used
    - Informs instruction

2. **Captions:** Brief, written statements that accompany student work

    - Helps interpret what the document is intended to show
    - Informs instruction

3. **Checklists:** Lists of activities, behaviors, or steps that an observer records when monitoring student performance

    - Clear, precise statements related to a given goal

4. **Student Portfolios:** Purposeful collections of concrete work samples that provide evidence of effort, achievement, and progress toward meeting specific learning standards

    - Anecdotal records, captions, checklists, recordings, photographs, drawings, and writing samples are some of the materials placed in the student portfolio
    - Shows the many dimensions of a child's learning

5. **Home Inventories:** Sets of short, open-ended response items completed by an adult at the child's home

    - A developmental history is a home inventory

Early Childhood Assessment Techniques

1. **Documentation "The Reggio Emilia Approach":** Focuses on children's experience, memories, thought and ideas in the course of work.

    - Includes samples of a child's work at several different stages of completion
    - Observations, transcripts of tape recordings, photographs and comments made by parents are included
    - Children's work and written reflections on the process are displayed in hallway or classroom.

2. **Progress Monitoring:** Through observation each child's progress is recorded in the context of daily classroom activities.

    - Standards-based observation uses progress indicators for each curriculum area An alternative, informal, authentic assessment

3. **Developmental Screening:** A short set of age-and-content-appropriate performance items (15-20 minutes) that are based on a developmental continuum and linked to ages that are typical for the behavior

    - Helps in identifying major developmental delays

4. **Diagnostic Assessments:** Identify a wide range of strengths and weaknesses and suggests specific remediation

5. **Early Literacy Assessments:** Evaluate student progress in the areas of phonemic awareness, phonics, fluency, vocabulary, and comprehension

6. **Standardized Assessments:** Provide normative and scalable data

RESOURCES

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U.S. Department of Education and U.S. Department of Health and Human Services, Early Childhood Head Start Task Force. 2002. *Teaching Our Youngest: A Guide for Preschool Teachers and Child Care and Family Providers..* Washington, DC: U.S. Department of Education.

Oral Presentation

ORAL PRESENTATIONS

"… Children consistently use oral language as their primary vehicle for asserting, clarifying, and changing their perceptions and beliefs. Oral expression… is the core process in formulating and sharing human experience…Oral language is a key pedagogical method because students who make meaning by stating academic knowledge in their own words demonstrate a depth of understanding well beyond what is reflected in recitation or in the recognition-testing of many paper-and-pencil tests."

Robert Marzano et al.Dimensions of Learning Teacher's Manual (1988)

DEFINITION

"In its simplest form, speaking can be defined as 'saying words'. However, when using speaking as a tool for assessment, most teachers prefer the more narrow definition of public speaking, that is, making a speech before an audience. Using this more narrow definition, assessment of speaking has tended to focus on the mechanics of giving the speech (delivery, organization, audience, etc.). For our purposes, we want to broaden the definition of 'speaking' to encompass the larger concept of oral discourse. Oral discourse is verbal interaction at length about some subject = that is, content."

Great Performances: Creating Classroom-based Assessment Tasks
Larry Lewin and Betty Jean Shoemaker

ESSENTIAL ELEMENTS

- *Preparation:* thorough research of topic using age-appropriate sources
- *Organization:* clarity of main idea and supporting details presented, logical progression, smooth transitions
- *Delivery:* style, clarity of expression, emotion, nonverbals, energy
- *Audience:* adapted to audience needs and interests
- *Time:* ability to complete a presentation within the time allotted
- *Visual Aids:* visual aids of high quality — PowerPoint slides, overhead, transparencies, stenciled posters, handouts

TIPS AND SUGGESTIONS

1. To reduce the anxiety of talking in front of a group, begin with safe topics the students know well. Encouraging two students to do a presentation together is less anxiety provoking. Oral presentations can also be incorporated into cooperative learning activities, with each team member presenting a different part of the program. It is easier to stand in front of the class as a member of a supportive team.

2. It is best to set a time limit for student presentations. The time should be appropriate to the age and developmental level of the students. Seldom should a solo presentation exceed ten minutes, even for high school students. For elementary students, three to four minutes are generally sufficient. As students gain experience, allow two to three minutes at the end of the talk for questions. This develops their ability to think on their feet and speak extemporaneously.

3. It is helpful to demonstrate the oral presentation you are assigning. Model the parts of the demonstration and process the presentation afterward. Another option is to videotape your presentation and replay it, pointing out the different parts of the talk.

4. Require students to speak from note cards that have word cues or short sentences that prompt for their information. Do not let them write out a verbatim script or memorize the whole speech. Encourage students to use a visual aid or prop to serve as a cue, create interest, and give them something to do with their hands.

5. To further develop oral presentation skills, assign a persuasive speech that requires students to take a stand on an issue, research the topic, and develop a presentation. Also, having a student interview another person can be valuable. The focus of the interview must be established ahead of time. The debate format is also a useful alternative, although there are formal rules of debate that should be acknowledged.

6. It is sometimes helpful to videotape the presentations and allow the students to review them later alone, in teams or with the teacher.

Source: Classroom Teacher's Survival Guide
Pearson Education, Inc., (2000-2006)

Oral Presentation Rubric: The Life Cycle of a Butterfly

Teacher Name:

Student Name: _____

CATEGORY	4	3	2	1
Content	Shows a full understanding of the topic.	Shows a good understanding of the topic.	Shows a good understanding of parts of the topic.	Does not seem to understand the topic very well.
Speaks Clearly	Speaks clearly and distinctly all (95-100%) the time, and mispronounces no words.	Speaks clearly and distinctly all (95-100%) the time, but mispronounces one word.	Speaks clearly and distinctly most (85-94%) of the time. Mispronounces no more than one word.	Often mumbles or cannot be understood OR mispronounces more than one word.
Props	Student uses several props (could include costume) that show considerable work/creativity and enhances the presentation.	Student uses one prop that shows considerable work/creativity and enhances the presentation.	Student uses one prop which enhances the presentation.	The student uses no props OR the props chosen detract from the presentation.
Comprehension	Student is able to accurately answer almost all questions posed by classmates about the topic.	Student is able to accurately answer most questions posed by classmates about the topic.	Student is able to accurately answer a few questions posed by classmates about the topic.	Student is unable to accurately answer questions posed by classmates about the topic.

Oral Presentation Rubric

Name Date

Class

	Exceptional	Admirable	Acceptable	Amateur
Content	An abundance of material clearly related to thesis; points are clearly made and all evidence supports thesis; varied use of materials	Sufficient information that relates to thesis; many good points made but there is an uneven balance and little variation	There is a great deal of information that is not clearly connected to the thesis	Thesis not clear; information included that does not support thesis in any way
Coherence and Organization	Thesis is clearly stated and developed; specific examples are appropriate and clearly develop thesis; conclusion is clear; shows control; flows together well; good transitions; succinct but not choppy; well organized	Most information presented in logical sequence; generally very well organized but better transitions from idea to idea and medium to medium needed	Concept and ideas are loosely connected; lacks clear transitions; flow and organization are choppy	Presentation is choppy and disjointed; does not flow; development of thesis is vague; no apparent logical order of presentation
Creativity	Very original presentation of material; uses the unexpected to full advantage; captures audience's attention	Some originality apparent; good variety and blending of materials/ media	Little or no variation; material presented with little originality or interpretation	Repetitive with little or no variety; insufficient use of multimedia
Material	Balanced use of multimedia materials; properly used to develop thesis; use of media is varied and appropriate	Use of multimedia not as varied and not as well connected to thesis	Choppy use of multimedia materials; lacks smooth transition from one medium to another; multimedia not clearly connected to thesis	Little or no multimedia used or ineffective use of multimedia; imbalance in use of materials-too much of one, not enough of another

Speaking Skills	Poised, clear articulation; proper volume; steady rate; good posture and eye contact; enthusiasm; confidence	Clear articulation but not as polished	Some mumbling; little eye contact; uneven rate; little or no expression	Inaudible or too loud; no eye contact; rate too slow / fast; speaker seemed uninterested and used monotone
Audience Response	Involved the audience in the presentation; points made in creative way; held the audience's attention throughout	Presented facts with some interesting" twists"; held the audience's attention most of the time	Some related facts but went off topic and lost the audience; mostly presented facts with little or no imagination	Incoherent; audience lost interest and could not determine the point of the presentation
Length of Presentation	Within two minutes of allotted time +/-	Within four minutes of allotted time + / -	Within six minutes of allotted time + / -	Too long or too short; ten or more minutes above or below the allotted time

Elementary School Lesson Plan U.S. Geography: The South

Subject
Geography

Grade Level
3-5

Duration
Two to three class periods

Objectives
Students will

- learn about the South and its many geographic features
- find and use media sources to research information on a specific physical feature of the South
- present information about the South's physical feature in a well-organized and well-researched oral report

Materials

- paper, pencils, and colored markers or crayons
- posterboard
- encyclopedias, atlases, and other library resources
- computer with Internet access (optional)
- *U.S. Geography: The South* video and VCR (Discovery Education, 2004)

Procedure
1. Begin the lesson by reviewing the video *U.S. Geography: The South.* Ask students what physical features the program discusses. Make a class list of specific physical features that are found in the South.

2. Compare the following physical features, all found in the South, and have students note their differences and similarities:

- Mississippi River
- Chesapeake River
- Florida Everglades
- southern Appalachian Mountains (Blue Ridge and Great Smoky mountains)
- South Carolina's Sea Islands

3. Briefly discuss the economy, culture, and geography of these Southern features. Help students become familiar with the terms *estuary*, *tributary*, *delta,* and *wetland* and their association with any of the five physical features being discussed. Review the terms *weather* and *climate,* and then discuss the South's general weather and climate with students.

4. Divide the class into groups, and assign each group one of the five physical features to research. Tell the groups to prepare on oral presentation for the class about their assigned feature. Each presentation should be a minimum of five minutes in length and a maximum of ten minutes. The presentation should include the following aspects of each physical feature:

- general overview of the feature, including its location and geographic definition
- physical map of the area
- a visual aid
- weather and climate of the area
- environment, including types of animals and vegetation found in and around the area
- economy
- culture
- current environmental, cultural, or economic issues

5. Give students homework and time in class for researching their topics and preparing their oral reports. Then have each group present information to the class. Students may use encyclopedias, atlases, and library and Internet resources to conduct their research. The websites listed below have information on each of the five physical features researched.

Everglades
http://www.nps.gov/ever/
http://www.florida-everglades.com/

Mississippi River
http://www.mississippiriverinfo.com/
http://www.greatriver.com/

Chesapeake Bay
http://www.acb-online.org/
http://www.chesapeakebay.net/
http://chesapeake.usgs.gov/overview.html

South Carolina Sea Islands
http://www.islandpacket.com/man/gullah/index.html
http://www.discoversouthcarolina.com/scfacts/climate.asp

Source: Lesson Plans Library http://school.discovery.com/lessonplans/programs/geo-south/

6. Allow time for students to ask questions of the presenters. Once all presentations have been given, have students discuss what they learned about the South's physical features.

Assessment
Use the following three-point rubric to evaluate the work of each student.

3 points: The student actively participated in class discussions and the group's oral presentation; worked cooperatively in research groups; oral presentation met time requirements and all eight criteria; delivered a well-organized, informative presentation; attentively listened to other presentations.

2 points: The student made an effort to participate in class discussions and the group's oral presentation; worked somewhat cooperatively in research groups; oral presentation met time requirements and five criteria; delivered an informative presentation; listened to some extent to other presentations.

1 point: The student worked with minimal cooperation in research groups; oral presentation met three or fewer criteria; delivered a disorganized of incomplete presentation; listened to some extent to other presentations.

Vocabulary

estuary
Definition: An area where freshwater and saltwater mix at the mouth of a river
Context: The Chesapeake Bay is North America's largest estuary and the third largest estuary in the world.

tributary
Definition: A smaller river that flows into a larger river
Context: The Mississippi River's tributaries are important for transporting food, equipment, and people, and they all provide water that creates the great power o the Mississippi.

wetland
Definition: Areas of land, such as tidal areas or swamps, where much of the soil is covered with water
Context: The Chesapeake Bay in Maryland has one of the largest wetland areas in the country.

delta
Definition: A large, triangular shape of land at the mouth of a river
Context: The marshes of the Mississippi Delta are some of the richest and most densely populated wildlife regions in North America.

weather
Definition: A description of the atmosphere's temperature, humidity, wind, and pressure on a daily basis
Contest: The South's warmer weather and high rainfall each year create perfect conditions for farming.

climate
Definition: The measure of average weather patterns over a period of many years
Context: The South has a moderate climate, with hot summers and cold winters.

Academic Standards

The National Council for the Social Studies (NCSS) has developed national standards to provide guidelines for teaching social studies/ To become a member of the NCSS, or to view the standards online. Go to htt://www.socialstudies.org.

This lesson plan addresses the following standards:

- Culture
- People, Places, and Environments
- Production, Distribution, and Consumption
- Global Connections

The National Council for Geographic Education (NCGE) provides 18 national geography standards. To view the standards online, go to www.ncge.org.

This lesson plan addresses the following standards:

- Places and Regions
- Physical Systems
- Environment and Society

New York State provides five learning standards including Social Studies Standard 3: Geography. To view the learning standards online, go to www.nysed.gov.

Source: Tamar Burris, freelance education writer and former elementary teacher

SPEAKING
Kindergarten

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Dictate information from personal experience
- Report information briefly to peers and familiar adults, with assistance
- Connect information from personal experiences to information from nonfiction texts, with assistance
- Retell more than one piece of information in sequence
- Share observations from classroom and home
- Ask questions to clarify directions and/or classroom routines
- Respond orally to simple questions and/or directions
- Share information, using appropriate visual aids, such as, puppets, toys, and pictures, to illustrate a word or concept, with assistance
- Dramatize an experience or event

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Interpret words of characters in stories
- Engage in conversations with adults and peers regarding pictures, books, and experiences
- Role-play characters or events from stories
- Express feelings about a work of fiction or poetry
- Respond to stories, legends, and songs from different cultural and ethnic groups, with assistance
- Compare stories from personal experience with stories heard
- Dictate stories with a beginning, middle, and end
- Express the mood of a story by using a variety of words, with assistance
- Describe the actions of characters in a story
- Tell real or imaginative stories on the basis of response to illustrations
- Retell familiar stories
- Describe familiar persons, places, or objects
- Recite short poems, nursery rhymes, and finger plays

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Share what they know and have learned about a topic
- Express an opinion or judgment about a story, poem, finger play, or poster
- Compare characters or events in two or more stories
- Express an opinion about the color, form, and style of illustrations
- Explain personal criteria (e.g., color and pictures) for choosing a book, poem, or story
- Dramatize differences and similarities in characters
- Brainstorm to create an experience chart
- Compare different versions of the same story
- Explain why two different characters view an event differently
- Compare events or characters in a story with their lives, with assistance

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Participate in small or large group storytelling, singing, and finger play, in order to interact with classmates and adults in the classroom and school environment
- Share favorite anecdotes, riddles, and rhymes with peers and familiar adults
- Respect the age, gender, and interests of the listener
- Discuss the content of friendly notes, cards, letters, and personal narratives, with a partner or in a small group, to get to know the writer and each other

SPEAKING
Grade 2

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Provide simple directions
- Express an opinion
- Ask questions
- Summarize, with assistance
- Provide a sequence of steps
- Describe a problem and suggest a solution
- State a main idea with supporting examples and details, with assistance
- Present a short oral report, using at least one source of information, such as a person, book, magazine article, television program, or electronic text
- Use complete sentences, using age- and content-appropriate vocabulary

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Present original works, such as stories, poems, and plays, to classmates
- Describe characters
- Compare literary texts and performances to personal experiences and prior knowledge, with assistance
- Identify cultural and ethnic features in literary texts
- Ask questions to clarify literary texts and performances
- Use complete sentences, correct verb tense, age-appropriate vocabulary, and logical order in oral presentation

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Explain the reasons for a character's actions, considering the situation
- Express an opinion or judgment about a character and plot in a variety of works, with assistance
- Discuss the impact of illustrations and titles in evaluating ideas, information, and experiences
- Use personal experience and knowledge to analyze new ideas
- Role-play to communicate an interpretation of real or imaginary people or events
- Ask and respond to questions
- Speak with appropriate rate and volume for the audience
- Take turns speaking in a group

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Respect the age, gender, social position, and cultural traditions of the listener when speaking
- Discuss the content of friendly notes, cards, letters, and personal narratives, with a partner or small group, in order to get to know the writer and each other
- Avoid interrupting in social conversation

SPEAKING
Grade 6

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Synthesize and paraphrase information
- Make connections between sources of information
- Present reports of five to seven minutes for teachers and peers on topics related to any school subject
- Summarize main points as part of the conclusion
- Use notes, outlines, and visual aids appropriate to the presentation

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Use audible voice and pacing appropriate to content and audience when presenting original works, such as stories, poems, and plays, to adults and peers
- Share book reviews
- Summarize the plot, describe the motivation of characters, and explain the importance of setting
- Use notes or outlines appropriately in presentations

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Express an opinion or judgment about information, ideas, opinions, themes, and experiences in books, essays, articles, and advertisements
- Use information and ideas from other subject areas and from personal experiences to form and express opinions and judgments
- Articulate a thesis statement and support it with details, examples, and reasons
- Persuade, using appropriate language, tone, volume, and gestures
- Use notes or outlines appropriately in presentations

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Discuss the content of friendly notes, cards, and letters with a teacher or classmate, in order to get to know the writer and each other
- Use the informal language of social communication
- Respect the age, gender, social position, culture, and interests of the listener
- Use the rules of conversation, such as avoid interrupting and respond respectfully

SPEAKING
Grade 8

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Prepare and give presentations on informational topics
- Contribute to group discussions by offering comments to clarify and interpret ideas and information
- Present information to address audience needs and to anticipate questions
- Present examples, definitions, analogies, and direct references to the text in support of ideas
- Connect, compare, and contrast ideas and information
- Use the conventions of the presentational format for panel discussions, debates, and mock trials
- Ask and respond to questions to clarify information

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Express interpretations and support them through specific references to the text
- Present original, literary texts, using language and text structures that are inventive; for example, - use rhyme, rhythm, and repetition to create an emotional or aesthetic effect
- Ask and respond to questions to clarify an interpretation or response to literary texts and performances

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Express opinions or judgments about information, ideas, opinions, issues, themes, and experiences
- State a hypothesis and predict possible outcomes from one or more perspectives
- Present content, using strategies designed for the audience, purpose, and context
- Credit sources of information and opinions accurately in presentations and handouts

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Respect the age, gender, social position, and cultural traditions of the listener
- Provide feedback by asking questions designed to encourage further conversation
- Use courtesy; for example, avoid sarcasm, ridicule, dominating the conversation, and interrupting
- Use culture-specific language, jargon, colloquialisms, and gestures appropriate to the purpose, occasion, and listener
- Respond to the listener's interests, needs, and reactions to social conversation
- Adopt conventions of email to establish friendly tone in electronic-based social communication

SPEAKING
Grade 10

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Prepare and give presentations to a variety of audiences on a range of informational topics
- Express a point of view, providing supporting facts and details
- Anticipate and acknowledge the listener's points of view
- Ask and respond to probing questions to acquire Information

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Describe the features of the genre and the period to interpret and respond to texts
- Use devices such as voice, tone, volume, pitch, rate, rhyme, rhythm, and repetition to create an emotional or aesthetic response

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Express opinions or make judgments about ideas, information, experiences, and issues in literary, scientific, and historical articles and in advertisements
- Articulate personal opinions to clarify stated positions and persuade or influence groups
- Present reasons, examples, and details from sources cited to defend opinions and judgments
- Modify content on the basis of audience response during presentation
- Respond to constructive criticism
- Use visuals and technology to enhance presentation
- Ask and respond to questions to seek clarity or to suggest different perspectives

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Speak informally with familiar and unfamiliar people, individually and in group settings
- Respect the age, gender, social position, and cultural traditions of the listener
- Use social communication in workplace settings to foster trust and build goodwill
- Respond respectfully

SPEAKING
Grade 12

Standard 1: Students will read, write, listen, and speak for **information and understanding.**
- Prepare and give presentations to a variety of audiences on a range of informational topics, using a variety of techniques, such as multimedia, group presentations, and dramatic approaches
- Give directions and explain complex processes

Standard 2: Students will read, write, listen, and speak for **literary response and expression.**
- Present interpretations and responses to literary texts and performances in presentations to school and public audiences

Standard 3: Students will read, write, listen, and speak for **critical analysis and evaluation.**
- Express opinions and make judgments about ideas, information, experiences, and issues in literary, scientific, and historical articles, in public documents, and in advertisements
- Present reasons, examples, and details from sources such as films to defend opinions or judgments
- Respond to constructive criticism
- Use visuals and technology to enhance presentation

Standard 4: Students will read, write, listen, and speak for **social interaction.**
- Speak informally with familiar and unfamiliar people, individually and in group settings
- Respect the age, gender, social position, and cultural traditions of the listener
- Use social communication in workplace settings to foster trust and build goodwill
- Respond respectfully

RESOURCES

Partin, R. 2004. *Classroom Teacher's Survival Guide: Practical Strategies, Management Techniques, and Reproducibles for New and Experienced Teachers.* Hoboken, NJ: John Wiley & Sons, Inc.

Damielson, C. 2002. *Enhancing Student Achievement: A Framework for School Improvement.* Alexandria, Virginia: Association for Supervision and Curriculum Development.

Buckley, M., and R.Garmston. 1997. *The Presenter's Fieldbook: A Practical Guide of Tips, Treasures, and Treats.* Norwood, Massachusetts: Christopher-Gordon Publishers, Inc.

Marzano, R. 2000. *Transforming Classroom Grading.* Denver, Colorado: Mid-continent Research for Education and Learning

Northwest Regional Educational Laboratory
Assessment Resource Library
101 SW Main Street, Suite 500
Portland, OR 97204-3297
www.nwrel.org/index.php

www.ASCD.org

www.bcps.org/offices/lis/models/tips/rubrics_elem/oral_pres.html

www.DiscoverySchool.com

www.lessonplanspage.com

www.edHelper.com

Graphic Organizers

GRAPHIC ORGANIZERS

1. Graphic organizers are valuable tools that can be used before or after learning a task.

2. Graphic organizers can be applied across a range of curriculum subject areas.

3. They come in many different forms, each one designed to organize a particular kind of information.

DEFINITION

A graphic organizer is a visual and graphic display that depicts the relationships between facts, terms, and/or ideas within a learning task. Graphic organizers are also referred to as knowledge maps, concept maps, story maps, webs, cognitive organizers, advance organizers, or concept diagrams.

ESSENTIAL ELEMENTS

- A graphic organizer is usually a one-page form with blanks for the student to fill in information.

- A common element found among graphic organizers is that they show a student's thought process by revealing the strengths and weaknesses of their understanding.

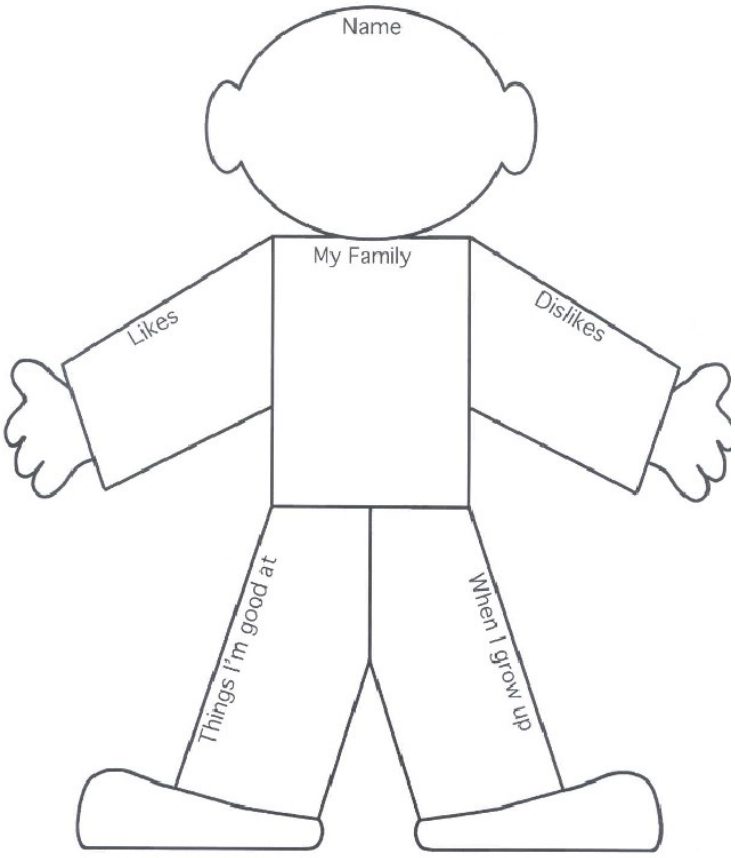
TIPS AND SUGGESTIONS

1. Graphic organizers are flexible. Teachers can fill in part of the organizer or add specific directions before giving them to the students.

2. There are many ready-to-use graphic organizers that will help students to organize ideas.

3. Graphic organizers can be used with students from kindergarten through the high school level.

The following examples are samples of the different kind and uses of graphic organizers.



Storytelling Organizer for Primary Grades

Source: www.edHelper.com

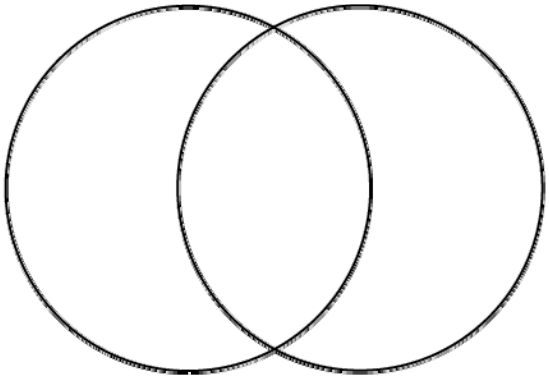
Hand Organizer for finding the main idea and supporting details of a story

Source: www.edHelper.com

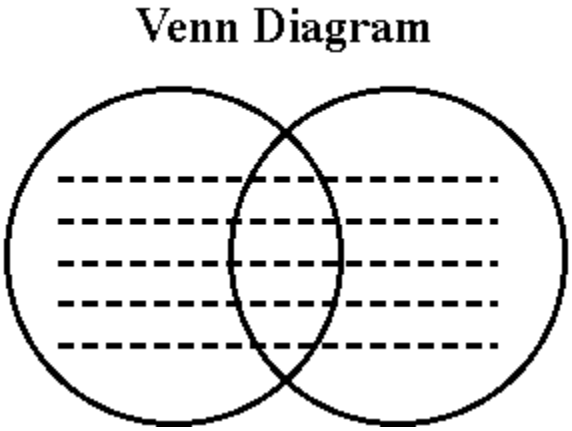
VENN DIAGRAM

The Venn diagram is made up of two or more overlapping circles. It is often used in mathematics to show relationships between sets. In language arts instruction, Venn diagrams are useful for examining similarities and differences in characters, stories, poems, etc.

The Venn diagram is frequently used as a prewriting activity to enable students to organize thoughts or textual quotations prior to writing a compare-contrast essay. This activity enables students to organize similarities and differences visually.



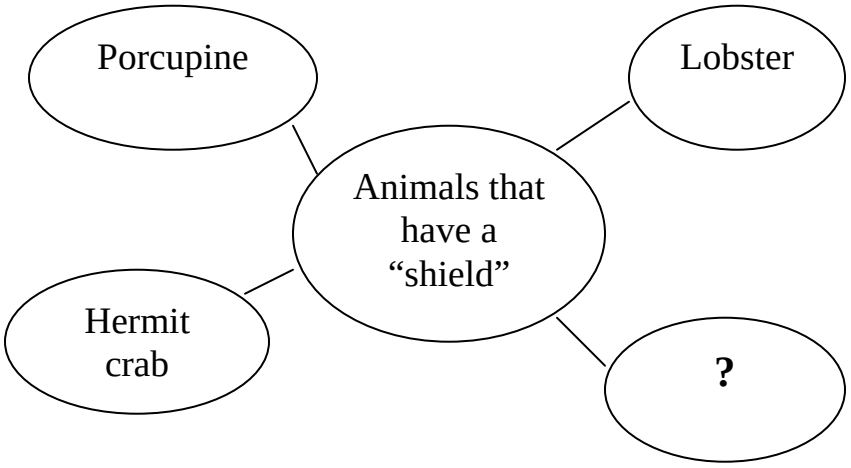
Comparing and Contrasting: Use to analyze similarities and differences between two things (people, places, events, ideas, etc.), by placing individual characteristics in either the left or the right section, and common characteristics within the overlapping section.



The following sample questions from the New York State English Language Arts assessment and the New York State Global History Regents Examination show the use of graphic organizers.

Sample question from the 2006 New York State Grade 4 ELA Assessment:

Here is a web about the article.

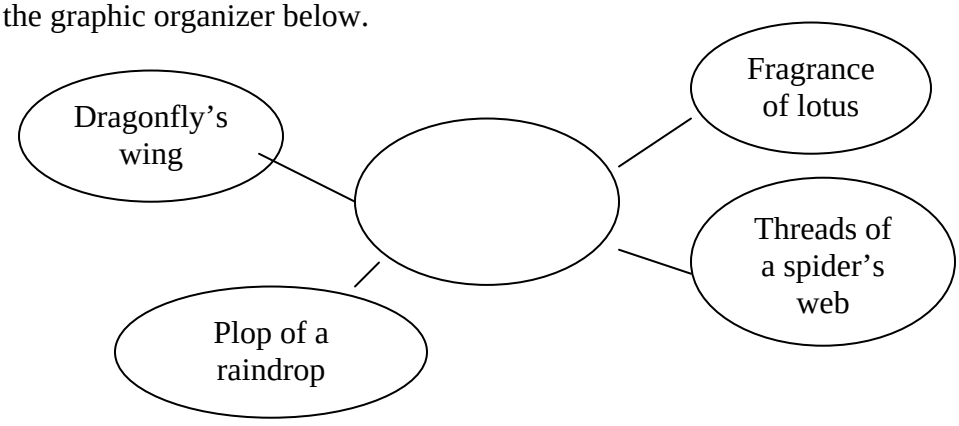


Which animal could be added to this web?

A snake
B oyster
C leaf bug
D tree frog

Sample question from the 2006 New York State Grade 8 ELA Assessment:

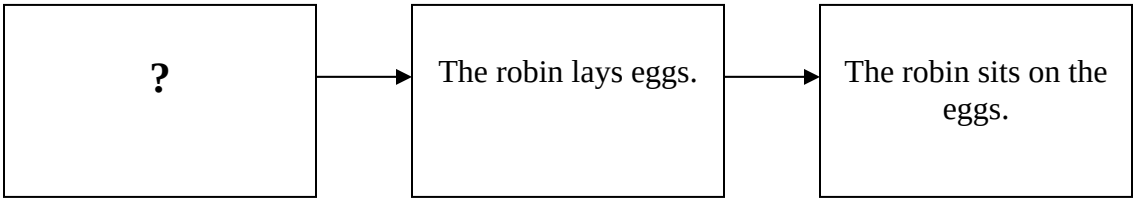
Look at the graphic organizer below.



According to the article, what word or phrase should go in the blank space in the center of the graphic organizer?

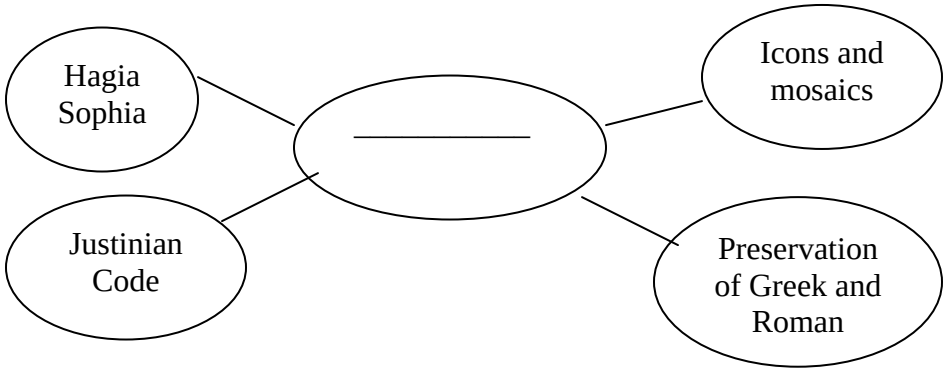
A tanka
B katauta
C tiny poems
D haiku subjects

Sample question from the 2006 New York State Grade 3 ELA Assessment:
The chart below shows events from the article.



A The robin builds a nest.
B The robin looks for a tree.
C The robin feeds the babies.
D The robin's babies hatch.

Sample question from the 2006 New York State Global History & Geography Regents Examination
Base your answer to this question on the graphic organizer below and on your knowledge of social studies.



Which title best completes this graphic organizer?
A Arab Accomplishments
B Achievements of Meso-American Civilizations
C Russian Law and Architecture
D Byzantine Achievements

RESOURCES

Websites

http://edhelper.com – a site with many printable graphic organizers for use with various grade levels.

http://www.eduplace.com/graphicorganizer - a site from the publisher *Houghton Mifflin* providing a variety of graphic organizers for classroom use.

http://www.graphic.org/index.html - a rich resource for learning about graphic organizers; offers links, lists of references and books about graphic organizers, information about using graphic organizers for writing, guidelines for designing graphic organizers and assisting students in designing them, and samples of student work with graphic organizers

http://www.emsc.nysed.gov/osa - New York State Education Department archived tests

Software

Inspiration Software, Inc.

Strengthens critical thinking, comprehension, and writing across the curriculum (Grades 6- adult)

Kidspiration

Builds graphic organizers by combining text and spoken words to represent thoughts and imagination

Source: www.inspiration.com

Short Answer Questions

SHORT ANSWER QUESTIONS

Short answer questions fall into two categories: *selected* response and *constructed* response.

Short answer questions are useful for a quick check of knowledge and understanding of facts and concepts. Answers require a minimal amount of writing on the part of students, and content can be checked quickly. Short answer responses can be true/false, multiple choice, matching, or constructed response.

DEFINITION

There are two key components to short answer questions:

Stem: the part of the question that presents a specific problem to the student; can be written as a question or an incomplete statement

Distractor: a choice other than the correct answer for a question

ESSENTIAL ELEMENTS

- For any test, be clear about what the question is asking. Decide what standards and key ideas will be assessed; all test items should address a standard and key idea. Is the question being asked the best way to assess that standard and key idea?

- Many textbook series have test builders available. Be careful to select questions that are appropriate for the material covered in classroom instruction. Tests should mirror the core curriculum and instruction, rather than the textbook.

- Test items should not assess trivial knowledge.

- Test directions need to be very clear to the test taker.

- Test questions should have only one correct answer.

- No question should ask what the student thinks, as this would allow for many possible correct answers.

- All tests must be written using correct grammar, punctuation and capitalization. Proofread all tests before administering them to students.

- The language of a short answer test should be age appropriate in both readability and difficulty.

- Begin the test with a less difficult item to allow students to start the test successfully.

- Make the stem and answer choices as concise as possible.

- Avoid questions with negatives (e.g., *not, all of these except*), as this is likely to confuse students.

- Responses should not give clues. Avoid words like *always* and *never*.

- Wording should be direct, not intended to trick or otherwise confuse students.

- Ask questions that address higher order thinking skills (e.g., analysis, critical thinking) rather than just recall.

- When using graphs, charts, and other graphics, ask these questions:

    - Is the graphic necessary to the question?
    - Is the graphic the best choice for the question being asked?
    - Is there enough information provided for the student to answer?
    - Is the graphic large enough to be able to be read and interpreted?

TIPS AND SUGGESTIONS

Short Response:

1. *True/False*
    - Keep to one central idea for each question.
    - With higher grades, ask the student to correct the statement for any false statements, or have an *explain* column for students to add a statement to justify their response.

        - Example:
          If the statement is true, write *true* on the line. If it is false, write *false*. For one bonus point if the statement is false, replace the underlined word to make the statement true.

          A shape reversal that changes quickly and fits together like a puzzle is a <u>tessellation</u>. _____

          The <u>time signature</u> tells the tempo of a piece of music. _____

2. *Multiple Choice*

- Responses for each question should be comparable in length. One choice should not stand out from the other choices.
- Question stems should be clear and concise.
- Distribute the correct answers evenly between the choices (a, b, c, d).
- All answers should be independent of prior and upcoming questions.
- Avoid *all of the above* and *none of the above* as answer choices.

- Examples:

Which <u>equation</u> matches the in-out box below?
a) m - 7 = q b) m - 7 c) m + 7 = q d) m + 7

Input	**m**	9	24	43	53	54	58
Output	**q**	16	31	50	60	61	65

The word *gospel* means
a. praise.
b. faith.
c. good news.
d. wonder.

3. *Matching*

- Limit the number of questions within each matching section to fewer than ten; less for the lower grades.
- Have more answer choices than questions.
- The entire matching section should be on one page of the test.
- All responses should be reasonable.
- Arrange the choices in a logical order (alphabetical or numeric).

- Examples:

Match the term with its correct definition. Print the letter on the right line.

1. diseases that are not transferable _____
2. removal of a tissue sample _____
3. mass of abnormal cells _____
4. diseases that break down body cells _____
5. cause an allergic reaction _____

A. allergen
B. biopsy
C. chronic

D. degenerative
E. metastasis
F. noncommunicable
G. tumor

Baseball Terms

1. the person who throws the ball _____
2. the person who decides if a throw is a strike or a ball _____
3. four balls are thrown and the batter goes to first base _____
4. the shape of the infield area _____
5. a pitch that is too high or too wide _____

A. ball
B. batter
C. catcher
D. diamond
E. pitcher
F. umpire
G. walk

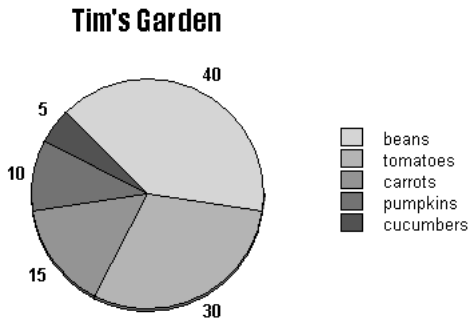
4. Constructed Response

Short Answer or *Fill in the Blank*:

- Limit the number of blanks to no more than two per question.
- Make all of the answer blanks the same length.
- Avoid giving grammatical clues in the question.

- Examples:

In basketball, a three-second violation is when a player stays in the_____for longer than three seconds.



Write two statements comparing the amounts of the vegetables Tim planted in his garden.

_____

_____

_____

_____

RESOURCES

Clegg, Victoria L., and William Cashin. 1986. "Improving Multiple Choice Tests." Kansas State University. [cited 28 February 2007]. http://www.idea.ksu.edu/papers/Idea_Paper_16.pdf.

Frary, Robert B. 1995. "More Multiple-Choice Item Writing Do's and Don'ts." *Practical Assessment, Research & Evaluation*, 4 (11). [cited 24 February 2007]. http://PAREonline.net/getvn.asp?v=4&n=11.

Gross Davis, Barbara. 1993. "Tools for Teaching: Quizzes, Tests, and Exams." University of California Berkley. [cited 28 February 2007]. http://teaching.berkeley.edu/bgd/quizzes.html.

"Improving the Classroom Test: A Manual of Test Construction Procedures for the Classroom Teacher." 1989. Albany: The University of the State of New York.

Jacobs, Lucy C. 2004. "How to Write Better Tests: A Handbook for Improving Test Construction Skills." 2004. IU Bloomington Evaluation Services & Testing. [cited 24 February 2007]. http://www.indiana.edu/%7Ebest/pdf_docs/better_tests.pdf.

"Writing Effective Tests: A Guide for Teachers." January 2005. Glencoe On-Line. [cited 24 February 2007]. http://www.glencoe.com/sec/teachingtoday/educationupclose.phtml/40.

Good sources of questions:

National Assessment of Educational Progress http://nces.ed.gov/nationsreportcard/
New York Learns http://www.nylearns.org/
New York State Assessments http://www.nysedregents.org/testing/eleminttests.html
Oswego City School District Study Zone http://www.studyzone.org/

ESSAYS

ESSAYS

Students need daily practice with meaningful writing assignments. In any subject area, writing to learn helps students practice expository and persuasive writing. Teachers should consistently assign short writing assignments prior to formal assessments. A strong writing process is critical in order to learn to write well, and a good writing program helps students develop the skills and confidence necessary to express themselves effectively. One form of writing is the student essay.

DEFINITION

An essay is a short literary composition on a single subject, often presenting the personal view of the author. It is an analytic or interpretive literary composition.

ESSENTIAL ELEMENTS

Students should be taught and engaged in a variety of categories of writing across the grades and in every discipline. These categories include: *persuasive, informative* and *narrative writing.* Starting in the primary grades, students must incorporate critical thinking skills in written assessments by using a variety of "trigger verbs" such as *describe, discuss, compare, design, illustrate, give reasons,* and *solve*. Words such as *why* and *what if* will strengthen student writing skills.

Depending on the purpose of the task, good essay questions include some or all of the following elements:

- use a variety of "trigger verbs" in the question to challenge thinking
- set the stage in the question: provide background/giving a foundation
- set expectations clearly
- inform students of the purpose for writing; establishing a reason for the assignment if not an essay on a test
- provide a writing prompt
- identify the audience
- focus on a specific situation or topic
- rely on open-ended questions that lead students to think and explain
- share models or student samples (if an assignment)
- define criteria and assign point values for each question

TIPS AND SUGGESTIONS

In assessing a student's written essay, consider:

1. *Purpose*: Does the student establish and maintain a clear purpose for writing? Is the student aware of the audience and task?

2. *Organization:* Does the student's writing demonstrate unity and coherence?

3. *Details*: Are the details appropriate for the purpose and do they support the main point of the essay?

4. *Voice/Tone*: Does the writing reflect personal investment and expression? Does the writing engage the reader? Is the tone and language appropriate for the audience and the purpose of the writing?

5. *Mechanics:* Does the writing exhibit proper vocabulary, spelling, sentence structure, capitals, punctuation, grammar, and usage? Is the writing grade appropriate?

RUBRICS

The rubrics that are used to score the New York State Elementary and Middle level English language arts tests and the Comprehensive English Regents exams can be used to assess ongoing classroom writing assignments. These rubrics are included at the end of this section. The chart below depicts the qualities of a Level 4 essay.

Quality of Written Responses	Responses at Level 4
Meaning: The extent to which the written response exhibits understanding and interpretation of the task and text(s)	Taken as a whole: ▪ fulfills all or most requirements of the task ▪ addresses the theme / key elements of text ▪ shows insightful interpretation of the text ▪ makes connections beyond the text
Development: The extent to which ideas are elaborated, using specific and relevant evidence from the text(s)	Taken as a whole: ▪ develops ideas fully with thorough elaboration ▪ makes effective use of relevant and accurate examples from the text
Organization: The extent to which the response exhibits direction, shape, and coherence	The extended response: ▪ establishes and maintains a clear focus ▪ shows a logical, coherent sequence of ideas through the use of appropriate transitions
Language Use: The extent to which the response reveals an awareness of audience and purpose through effective use of words, sentence structure, and sentence variety	The extended response: ▪ is fluent and easy to read, with vivid language and a sense of engagement/voice ▪ is stylistically sophisticated, using varied sentence structure and challenging vocabulary

SAMPLE ESSAY QUESTIONS AND ASSIGNMENTS

Elementary

1. We have worked together on many interesting activities this week in religion, math and science. Write a letter to your parents explaining something you learned in class that you found exciting and interesting. Include specific details that you think would be of interest to them, and tell them why you enjoyed this learning activity.

2. Jesus gave us eight ways to find real happiness. These teachings are called the beatitudes. Explain how the beatitudes guide us in living as Christians. Write your favorite beatitude. You may use your own words. Explain why you chose this beatitude and how you can live it to help others.

Intermediate

1. What does freedom or liberty or equality mean to you? Suppose you were asked to give a speech at an Independence Day celebration about a principle that is important to democracy. Choose a principle and write a speech that explores its meaning. Remember to "speak" to your audience with expression and descriptive and supportive details.

2. A local writer had a strong interest in the Boys Choir of Harlem. He shared his enthusiasm by writing an informative and entertaining article. Writing a feature article is a chance to explore a subject firsthand, share what you have learned and describe how you feel about it. Write a feature article about a subject that interests you. Descriptive details and strong voice will engage the readers.

3. You are a reporter for *Sports Illustrated for Kids*. Your editor has asked you to write an article about the abuse of drugs by athletes. In your article you need to include the following:
    - a headline
    - possible reasons why athletes might resort to using drugs
    - the three main types of drugs abused by some athletes
    - short-term effects for each drug type
    - long-term effects for each drug type

Source: Prentice Hall, America: History of Our Nation"

4. The brain is a part of the nervous system. You're standing at the free-throw line with the basketball in your hands. How are you using the different parts of your brain as you shoot the free throw? Compare and contrast the three parts of the brain.

5. The little epiphanies, or revelations, of Jesus in our daily lives are God's gifts to us. If we are sleepwalking our way through the day, these gifts will remain unopened. For the next week, go on an "epiphany alert." Will you be awake for the signs that Jesus is present in the world and in the people around you? Fill in the chart at the end of each day.

Clues: Look for signs in nature; in silence; in children; in good books, films, TV shows and music; in the poor and the sick; in those who love you; in the life of the church. Open your mind and heart to light shining in unexpected places

- You must have a least five entries. Each is worth five points.
- Write neatly and explain what each sign means to you.
- Look at my examples below but *do not copy* any of the ideas listed. You must keep your eyes open and record your own signs.

Monday, January 2. Tonight I was in the kitchen making dinner and I watched a beautiful sunset. It made me think of how beautiful nature is and how hard God must have worked to make it so nice. It also makes me think of how I need to respect the gifts of nature and be careful of how I treat others because they are a part of the work God created.

Tuesday, January 3. I was listening to the radio and heard some music. I really listened hard to the instruments and singers. I thought that God must have given these people special talents for them to be such wonderful musicians. I also thought about my own talents that God has given me. I might not be a great musician, but I have other gifts that I can share with people, like being a good listener for my friends and family.

Commencement Level

Habitat destruction is an environmental problem that affects our own generation and will affect future generations if it is not solved. Write an essay in which you identify a specific habitat that is being destroyed. Explain how the destruction of this habitat relates to humans and the overall ecosystem. Include at least two human activities that contributed to the destruction of this habitat. Explain your ideas on ways to limit further destruction of this habitat.

Source: New York State Living Environment Regents Examination Test Sampler
Source: Essay questions were developed by diocesan teachers unless otherwise noted.

NEW YORK STATE THEMATIC ESSAY
SCORING RUBRIC

5

- Shows a thorough understanding of the theme
- Addresses all aspects of the task
- Shows an ability to analyze, evaluate, compare, and/or contrast issues and events
- Richly supports essay with relevant facts, examples, and details
- Writes a well-developed essay, consistently demonstrating a logical and clear plan of organization
- Includes a strong introduction and conclusion

4

- Shows a good understanding of the theme
- Addresses all aspects of the task
- Shows an ability to analyze, evaluate, compare, and/or contrast issues and events
- Includes relevant facts, examples, and details, but may not support all aspects of the task evenly
- Writes a well-developed essay, demonstrating a logical and clear plan of organization
- Includes a good introduction and conclusion

3

- Presents a satisfactory understanding of the theme
- Addresses most aspects of the task or addresses all aspects in a limited way
- Shows an ability to analyze or evaluate issues and events, but not in any depth
- Writes a satisfactorily developed essay, demonstrating a general plan of organization
- Uses some facts, examples, and details
- Restates the theme in the introduction and concludes with a simple restatement of the theme

2

- Attempts to address the theme, but uses vague and/or inaccurate information
- Develops a faulty analysis or evaluation of theme
- Writes a poorly organized essay lacking focus; uses few facts, examples, and details; and includes information that contains inaccuracies
- Has vague or missing introduction and/or conclusion

1

- Shows limited understanding of the theme; omits concrete examples; uses weak details or none at all
- Lacks an analysis or evaluation of the issues and events beyond stating vague and/or inaccurate facts
- Attempts to complete the task, but demonstrates a major weakness in organization
- Uses little or no accurate or relevant facts, details, or examples
- Has vague or missing introduction and/or conclusion

0

- Fails to address the theme
- Is illegible
- Blank paper

SAMPLE: THEMATIC ESSAY

Directions: Write a well-organized essay that includes an introduction, several paragraphs explaining your position, and a conclusion.

Theme: Belief Systems

At various times in global history, members of different religions have acted to bring people together. Members of these same religions have also acted to divide people and have caused conflict.

Task:

Choose *two* religions from your study of global history and geography.

For *each* religion:

- Describe *two* basic beliefs of the religion
- Explain how members of the religion, at a specific time and place, acted either to unify society or to cause conflict in society

You may use any example from your study of global history and geography. Some suggestions you might wish to consider include: Judaism in the Middle East, Roman Catholicism in Latin America, Hinduism in India, Islam in Iran, Protestant Reformation and the Counter Reformation in Europe, animism in Africa, Shintoism in Japan, and Buddhism in Southeast Asia.

You are *not* limited to these suggestions.

Source: NYS Global History and Geography Regents Examination Test Sampler

NEW YORK STATE ENGLISH LANGUAGE ARTS
WRITING RUBRIC

4 points
Taken as a whole, the responses:

- Fulfill all or most requirements of the tasks
- Address the theme or key elements
- Show an insightful interpretation of the text
- Make connections beyond the text

- Develop ideas fully with thorough elaboration
- Make effective use of relevant and accurate examples from the text

In addition, the extended response:

- Establishes and maintains a clear focus
- Shows a logical, coherent sequence of ideas through the use of appropriate transitions or other devices

- Is fluent and easy to read, with vivid language and a sense of engagement or voice
- Is stylistically sophisticated, using varied sentence structure and challenging vocabulary

3 points
Taken as a whole, the responses:

- Fulfill some requirements of the tasks
- Address many key elements of the text
- Show a predominantly literal interpretation of the text
- Make some connections

- May be brief, with little elaboration, but are sufficiently developed to answer the questions
- Provide some relevant examples and details from the text
- May include some minor inaccuracies

In addition, the extended response:

- Is generally focused, though may include some irrelevant details
- Shows a clear attempt at organization

- Is readable, with some sense of engagement or voice
- Uses some sentence variety and basic vocabulary

NEW YORK STATE ENGLISH LANGUAGE ARTS

WRITING RUBRIC *continued*

2 points

Taken as a whole, the responses:

- Fulfill some requirements of the tasks
- Address basic elements of the text, but the connections may be weak
- Show some misunderstanding of the text or reflect gaps in the student's understanding of the text as a whole

- May begin to answer the questions but are not sufficiently developed
- May provide some relevant text-based examples and details
- May include some inaccurate information

In addition, the extended response

- May attempt to establish a focus
- Shows some attempt at organization
- May include some irrelevant details

- Is mostly readable, but with little sense of engagement or voice
- Uses only simple sentences and basic vocabulary

1 point

Taken as a whole, the responses

- Fulfill few requirements of the tasks
- Miss basic elements of the text
- Show evidence that the student understood only parts of the text
- Make few, if any, relevant connections

- May include a few accurate details

In addition, the extended response

- May focus on minor details or lack a focus
- Shows little or no organization

- Is often repetitive, with little or no sense of engagement or voice
- Uses minimal vocabulary

0 points

The responses are completely incorrect, irrelevant, or incoherent.

NEW YORK STATE DOCUMENT-BASED QUESTION
SCORING RUBRIC

5

- Thoroughly addresses all aspects of the task by accurately analyzing and interpreting most of the documents
- Incorporates relevant outside information
- Richly supports essay with relevant facts, examples, and details
- Writes a well-developed essay, consistently demonstrating a logical and clear plan of organization
- Uses information from the documents in the body of the essay, but does not copy document
- Includes a strong introduction and conclusion

4

- Addresses all aspects of the task by accurately analyzing and interpreting most of the documents
- Incorporates relevant outside information
- Includes relevant facts, examples, and details, but discussion may be more descriptive than analytical
- Writes a well-developed essay, demonstrating a logical and clear plan of organization
- Includes a good introduction and conclusion

3

- Addresses most aspects of the task or addresses all aspects in a limited way; uses some of the documents
- Incorporates limited or no relevant outside information
- Uses some facts, examples, and details, but discussion is more descriptive than analytical
- Writes a satisfactorily developed essay, demonstrating a general plan of organization
- Restates the theme in the introduction and concludes with a simple restatement of the theme

2

- Attempts to address some aspects of the task, making limited use of the documents
- No relevant outside information
- Presents a few facts, examples, and details; simply restates contents of the documents
- Writes a poorly organized essay, lacking focus
- Has vague or missing introduction and/or conclusion

1

- Shows limited understanding of the task with vague, unclear references to the documents
- Presents no relevant outside information
- Attempts to complete the task, but essay demonstrates a major weakness in organization
- Uses little or no accurate or relevant facts, details, or examples
- Has vague or missing introduction and/or conclusion

0

- Fails to address the task
- Is illegible
- Blank paper

SAMPLE: DOCUMENT-BASED ESSAY

This task is based on the accompanying documents (1-6). Some of these documents have been edited for the purposes of this task. This task is designed to test your ability to work with historical documents. As you analyze the documents, take into account both the source of each document and the author's point of view.

Directions: Read the documents in Part A and answer the questions after each document. Then read the directions for Part B and write your essay.

Historical Context:

Throughout history, societies have held different viewpoints on governmental decision making and the roles of citizens in this decision-making process. The decision-making process can range from absolute control to democracy.

Task:

Using information from the documents and your knowledge of global history and geography, write an essay in which you

- Compare and contrast the different viewpoints societies have held about the process of governmental decision making and about the role of citizens in the political decision-making process.
- Discuss the advantages and disadvantages of a political system that is under absolute control or is a democracy.

Source: www.nysed.gov/

RESOURCES

Armstrong, T. 2006. *The Best Schools.* Alexandria, Virginia: Association for Supervision and Curriculum Development.

Martin-Kniep, G. 2004. *Becoming a Better Teacher*. Alexandria, Virginia: Association for Supervision and Curriculum Development.

Marzano, R. and D. Pickering, J. Pollock. 2001. *Classroom Instruction That Works.* Alexandria, Virginia: Association for Supervision and Curriculum Development.

Web sites

- www.nysed.gov NYS Education Department - Elementary, Middle, Secondary, and Continuing Education (EMSC)
- http://www.ed.gov U.S. Department of Education - numerous teaching resources available
- http://www.ed.gov/index.jhtml ERIC - Education Resources Information Center
- http://www.usoe.k12.ut.us/curr/science/Perform/Past4.htm - performance assessment and essays
- http://fcit.usf.edu/assessment/constructed/constructb.html - essay questions and constructed responses
- www.thomasarmstrong.com/multiple_intelligences - numerous sites on multiple intelligences
- http://www.nwlink.com/~donclark/hrd/bloom.html - information on Bloom's taxonomy
- http://www.teachers.ash.org.au/researchskills/dalton.htm - more information on Bloom's taxonomy

Major textbook company Web sites have many resources available for teachers on instruction and assessment

Books and Periodicals

- *Educational Leadership* – October 2006.
- Armstrong, Thomas. *The Best Schools.* ASCD Publications, 2006.
- Martin-Kniep, Giselle O. *Becoming a Better Teacher*. ASCD Publications, 2004.
- Marzano, Robert J., Debra J. Pickering, Jane E. Pollock. *Classroom Instruction That Works.* ASCD Publications, 2001.

RESEARCH PAPER

RESEARCH PAPER

> "Research is our key to the copious treasure chest of our past, the key to our historical, cultural, political, theological and scientific heritage. When you begin research, consider your good fortune in having an opportunity to unlock the distant past as well as to assimilate the findings of recent weeks and days."
>
> Mary Todd Charlotte County Day School Research Guide, (2002)

The 21st century presents us with an amount of information that continues to increase exponentially. The ability to research, validate, organize, and present information becomes more and more necessary in a world that is supersaturated with information. As students write a research paper, they develop an understanding of the research process and also develop the ability to state a thesis and support their thesis with valid information, and present thoughts in an organized format.

DEFINITION

A research paper is a presentation of facts that are:

(1) based on reading or consulting several specified sources
(2) presented according to a standard method of procedure
(3) limited to a relatively narrow phase of a subject
(4) original in selection, evaluation, expression, and conclusion.

Source: Lorraine F. Dangle and Alice M. Haussman, *Preparing the Research Paper, 2007*

ESSENTIAL ELEMENTS

- ***Mastery of Grade-Appropriate Research Paper Writing Skills***

  The New York State Education Department *English Language Arts Core Curriculum* (May 2005) requires that students write for information and understanding. The writing of a research paper is not done until the end of middle school or high school. The skills needed to write a research paper are taught throughout the elementary and intermediate grades. The *English Language Arts Core Curriculum* gives performance indicators that students should know and be able to do at each grade level as a result of specific instruction. Mastery of performance indicators at each grade level will give students the tools they need to produce a well-written research paper. A list of the most pertinent grade-by-grade performance indicators is included at the end of this section.

- ***Taking Notes in the Electronic Age***

  Traditionally, notes are taken on 3x5-inch cards that can be color coded by topic. Only one note or idea is written on each card. Cards can be sorted by topic and then arranged by relevance. Rearranging and regrouping index cards provides an opportunity to reorganize information in new and significant ways. An outline for the research paper can then be written from the arrangement of index cards. Index cards need to contain all bibliographical information including author, book title, article title, page numbers,

volume number, publisher name and dates. Any information that is photocopied or printed also needs to have all bibliographical information recorded.

With the ability to store and retrieve information electronically, students may want to devise a note-taking system using software they are familiar with (such as Microsoft Office) and that performs the same functions as the index card. An electronic system would allow additional functions such as cut and paste, allowing students to organize and find material in their notes more easily. As with traditional note-taking cards, all bibliographical information needs to be recorded.

- ***Cross-Curricular Connections***

  The research paper can be used as a form of assessment in all subject areas.
  When students write research papers in the areas of science, social studies, the arts, or other subjects, teachers in those subject areas are reinforcing English language arts skills as well as knowledge and skills in various disciplines.

PLAGIARISM

At each grade level, students should understand the importance of acknowledging their use of other people's work. Many people think of plagiarism as copying another's work, or borrowing someone else's original ideas. But terms like *copying* and *borrowing* can disguise the seriousness of the offense. According to the Merriam-Webster Online Dictionary, to *plagiarize* means (1) to steal and pass off (the ideas or words of another) as one's own (2) to use (another's production) without crediting the source (3) to commit literary theft (4) to present as new and original an idea or product derived from an existing source. In other words, plagiarism involves both stealing someone else's work and lying about it afterward.

All of the following actions are considered plagiarism:

- turning in someone else's work as your own
- copying words or ideas from someone else without giving credit
- failing to put a identify a quotation
- giving incorrect information about the source of a quotation
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not

It is often difficult to prove plagiarism in these days of the Internet without locating the original work. Teachers can judge the originality of a student's work by considering past assignments, level of thought and vocabulary, and similarity to published works. However, the key to stopping plagiarism is to provide students with a clear definition and a description of the consequences.

TIPS AND SUGGESTIONS

To assist students in developing the skill of writing a research paper, establish a timeline for students to submit their work. Each element of the research paper is submitted before students proceed to the next element. As students submit each part of their work, feedback is given and students are encouraged to rework any part of their paper that needs revision before they move on to the next part of the paper.

The grade level will dictate how detailed the timeline needs to be. Students writing their first research paper should receive feedback as they are completing each element of the paper. Upper- level high school students should complete a research paper with much less supervision.

The elements of the paper should be submitted in the following order:

1. Establish the topic
2. Establish the thesis to defend
3. Look for information from a variety of sources
4. Read sources and take notes
5. Organize and outline ideas
6. Write a first draft
7. Determine how well the arguments support the thesis
8. Use footnotes or endnotes to document sources
9. Write a bibliography
10. Revise the first draft
11. Proofread the final draft

New York State Standards: Performance Indicators

Grade 2

- Use two sources of information in writing a report
- Take notes to record facts by following teacher directions, with assistance
- State a main idea and support it with facts, with assistance

Grade 3

- Use at least two sources of information in writing a report
- Take notes to record data, facts, and ideas, following teacher direction
- State a main idea and support it with facts and details

Grade 4

- State a main idea and support it with details
- Use organizational patterns such as compare/contrast, cause/effect, and time/order, for expository writing
- Produce clear, well-organized, and well-developed explanations, reports, accounts, and directions that demonstrate understanding of a topic
- Support interpretations and explanations with evidence from text
- Compare and contrast ideas and information from two sources

Grade 5

- Use at least three sources of information in writing a report, with assistance
- Take notes to record and organize relevant data, facts, and ideas, with assistance, and use notes as part of prewriting activities
- State a main idea and support it with details and examples
- Compare and contrast ideas and information from two sources
- Adopt an organizational format, such as chronological order, that is appropriate for informational writing
- Use paragraphing to organize ideas and information, with assistance

Grade 6

- Use at least three sources of information, with appropriate citations, to develop reports
- Take notes to record and organize relevant data, facts, and ideas
- State a main idea and support it with details and examples
- Compare and contrast ideas and information from two or three sources
- Adopt an organizational format, such as chronological order, that is appropriate for informational writing
- Use paragraphing to organize ideas and information
- Use paraphrasing, with assistance
- Include relevant and exclude irrelevant information, with assistance
- Connect, compare, and contrast ideas and information from one or more sources, with assistance
- Support ideas with examples, definitions, analogies, and direct references to the text, with assistance
- Answer questions about informational material and write accurate and complete responses, with assistance

Grade 7

- Use several sources of information, in addition to an encyclopedia, in developing research reports
- Identify an appropriate format for sharing information with an intended audience
- Take research notes, using a note-taking process, with assistance
- Use outlines and graphic organizers, such as semantic webs, to plan reports, with assistance
- Include relevant information and exclude irrelevant information
- Use paraphrase and quotation correctly
- Connect, compare, and contrast ideas and information from one or more sources
- Support ideas with examples, definitions, analogies, and direct references to the text
- Cite sources in footnotes and bibliography, using correct form, with assistance

Grade 8

- Use several sources of information, in addition to an encyclopedia, to develop research reports
- Identify appropriate format for sharing information with intended audience and comply with the accepted features of that format
- Take research notes, using a note-taking process
- Use outlines and graphic organizers, such as semantic webs, to plan reports
- Include relevant and exclude irrelevant information
- Use paraphrase and quotation correctly
- Connect, compare, and contrast ideas and information from one or more sources
- Support ideas with examples, definitions, analogies, and direct references to the text
- Cite sources in notes and bibliography, using correct form
- Write accurate and complete responses to questions about informational material

Grade 9

- Use both primary and secondary sources of information for research
- Select and limit topics for informational writing, with assistance
- Analyze data and facts to communicate information
- Take notes from written and oral texts, such as lectures and interviews
- Use a range of organizational strategies to present information
- Apply new information in different contexts and situations
- Cite primary and secondary sources of information in bibliography and citations, using an approved style sheet
- Define the meaning of and understand the consequences of plagiarism
- Use paraphrase and quotation in order to communicate information most effectively
- Use charts, graphs, or diagrams to illustrate informational text
- Use the language of research, such as documentation, source, note, paraphrase, citation, and bibliography

Grade 10

- Use both primary and secondary sources of information for research
- Select and limit topics for informational writing
- Analyze data, facts, and ideas to communicate information
- Take notes and organize information from written and oral texts, such as lectures and interviews
- Use a range of organizational strategies (e.g., clustering, webbing, and mapping) to present information
- Define the meaning of and understand the consequences of plagiarism; investigate school policy
- Use charts, graphs, and diagrams to support and illustrate informational texts

Grade 11

- Use both primary and secondary sources of information for research
- Analyze and integrate data, facts, and ideas to communicate information
- Define the meaning of and understand the consequences of plagiarism; investigate electronic safeguards
- Use a range of organizational strategies, such as clustering, webbing, and mapping, to present information

Grade 12

- Use and integrate a wide range of organizational strategies to present information
- Define the meaning of and understand the consequences of plagiarism; investigate college and university policies

RUBRICS

Grading a research paper with a rubric allows students to understand how teachers will evaluate their work. The specific information given in a rubric helps students work toward the highest level of performance.

Below are a few of the many excellent Internet sites with examples of rubrics and assistance in developing rubrics for research papers.

http://www.winona.edu/air/resourcelinks/research%20paper%20rubric.pdf Gives criteria to designate research papers as Exemplary, Good, Acceptable, or Unacceptable.

http://www.louisianavoices.org/pdfs/Unit3/Lesson2/RubricForResearchPapers.pdf Provides criteria for designating research papers as Distinguished, Proficient, Intermediate, and Novice.

http://rubistar.4teachers.org RubiStar is a tool to help teachers create quality rubrics.

http://www.jacksoncorp.com/AssessmentWizard/main.html. ETS has collaborated with Grant Wiggins and master teachers to develop Assessment Wizard, - Assessment wizard provides teachers access to a wide range of ready-to-use, engaging, standards-based assessments, and offers teachers a tool that assists them in creating their own performance assessments, complete with rubrics for scoring the assessments.

RESOURCES

Taking Notes:
http://www.alanmacfarlane.com/TEXTS/CONNECT.pdf
http://www.factmonster.com/homework/t4takingnotes.html
http://homeworktips.about.com/od/paperassignments/a/researchnotes.htm
http://homeworktips.about.com/od/paperassignments/a/writing.htm

Plagiarism:
http://www.turnitin.com/research_site/e_what_is_plagiarism.html

http://turnitin.com/static/index.html Educators can use this site to identify papers containing material that is not original.

http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml Gives guidelines to help students recognize what plagiarism looks like and what strategies can be used to avoid it.

http://owl.english.purdue.edu/owl/resource/589/01/ Offers advice on how to avoid plagiarism.

http://www.factmonster.com/homework/researchskills1.html Offers suggestions for research skills getting started on a research paper, doing research, using the Internet, and preparing documentation and citations.

http://www.ncte.org/profdev/online/ideas/freq/114024.htm?source=gs The I-Search paper, developed by Ken Macrorie , is an inquiry-based approach to teaching the research process that will work for any grade level. I-Search gives students the opportunity to take an active role in the research process by allowing them freedom in choosing their own topics and encouraging the use of primary rather than secondary information sources, often requiring a one-on-one interview with a subject expert.

http://www.readwritethink.org/lessons/lesson_view.asp?id=983
The Internet is usually the first stop for students conducting research, but many of them do not know how to search efficiently. Often they are not aware that information gathered from the Internet varies widely in quality and relevance. Students begin this lesson by discussing how the Internet differs from more traditional sources of information. Then they view an interactive PowerPoint presentation that covers Internet search strategies, features of several search engines, and citation of Internet sources.

www.thewritesource.com The Write Source consists of teachers and writers who specialize in handbooks for students of English and writing at elementary school, middle school, junior high, and high school levels. It provides information on a variety of topics, including judging the validity of sources of information.

http://homeworktips.about.com/od/paperassignments/a/writing.htm This site provides step-by-step directives for writing a research paper.

Scientific investigations: The Science Lab

SCIENTIFIC INVESTIGATIONS: THE SCIENCE LAB

"The glory of God is the human person, fully alive."
St. Irenaeus

This phrase, along with the vocation given to the first humans in Genesis to be stewards of the earth, provides the rationale for teaching our children to understand, respect, and creatively investigate their physical and living global environment. This kind of investigation is done so that children will learn how they can not only treasure and preserve God's gift but also use their gifts of curiosity, creativity, and intellect to make our world a better place to live today, and to leave future generations a sound legacy.

DEFINITION

The science laboratory experience is an opportunity for students to engage in an integrated learning experience and use skills of scientific inquiry, mathematical analysis and creative technology. The science lab provides an environment for students to observe the nature and complexity of the world around them and discover relationships in the physical and living environment that comprises our world.

The science laboratory experience is a methodical and disciplined process. It follows a sequential questioning and problem-solving procedure. It requires an observant and questioning mind that reflects on experience and identifies discrepancies that in turn lead to a problem or question to be answered. Students are asked to apply a variety of problem-solving skills. These skills include identifying a hypothesis or plan of problem-solving; gathering, organizing, and analyzing the data; generalizing and synthesizing the data; and, finally, reporting the results. Critical to the science laboratory experience is the ability of the students to record and report observations and data in scientific terms and in a replicable fashion. (Lab experiences should be age appropriate.)

ESSENTIAL ELEMENTS

- The *basic scientific inquiry and process skills* include:

    1. ***Inquiry*** skills: acquiring information; classifying and communicating information; creating models; formulating hypotheses; generalizing identifying variables; inferring and interpreting data; manipulating data, ideas, and materials; measuring, observing, predicting, and recording data.

    2. ***Process*** skills: utilizing the inquiry skills for planning, obtaining data, organizing and interpreting data, generalizing and synthesizing data, and decision making or problem resolution

- ***Discrepancy in Problem Defining***

Discrepancies are differences, inconsistencies, disagreements, or disharmonies that we encounter. A discrepancy becomes evident only when we have some prior experience or basis for comparison. Therefore, when the teacher conducts an activity to make students aware of a discrepancy, the teacher must be sure that it is appropriate for their age level and prior experience.

Before a student can solve a problem, the student must recognize that there is a problem to be solved. To help your students recognize a problem, use their *experience* to make them aware of *discrepancies*. The discrepancies should lead them to raise *questions,* and the questions will help them define the problem.

Experiences appropriate for students in elementary science can include the use of both concrete and symbolic materials, but the use of concrete materials is preferable. Direct experiences with concrete, hands-on materials enhance learning and lay the foundation for students to develop language and form concepts.
Discrepancies can be grouped into six general categories:

1. A goal to achieve without a means to achieve it.
   Example: Students figures out how to raise a box that is too heavy to lift.

2. A difference between what the student expects to observe and what the student actually does observe.
   Example: Students determine that a light bulb does not go out when the switch is turned off.

3. A lack of knowledge (others may know the information, but the student does not)
   Example: Students discover that seeds need moisture and heat to germinate.

4. A difference between what the student has been told is true and what the student has already verified personally.
   Example: Students verify that wood floats in water.

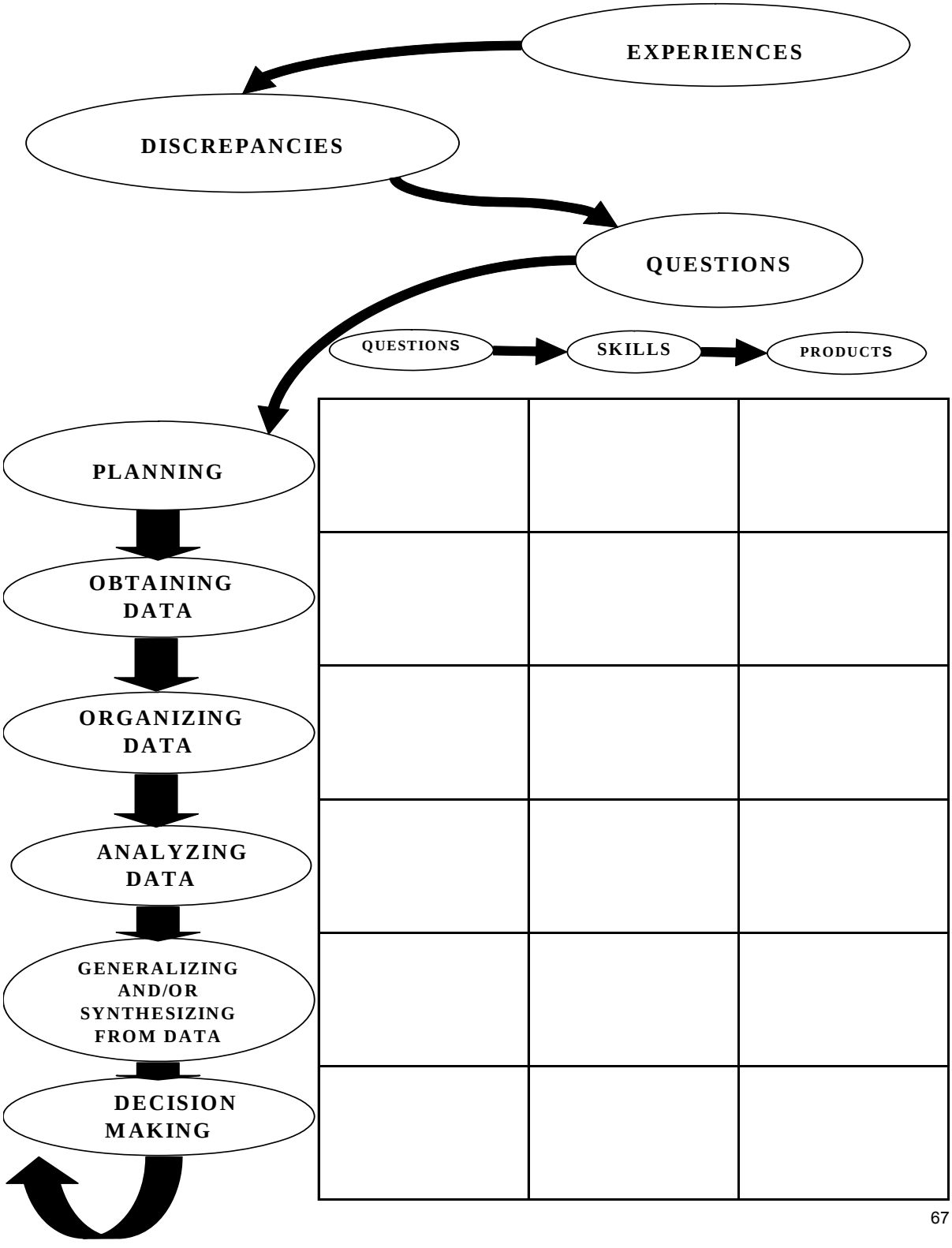
5. A conflict (internal or external) between interpretations, opinions, attitudes, or values.
   Example: Two students draw different conclusions from a science experiment.

6. A difference between an existing set of conditions (what is) and desired set of conditions (what should be)
   Example: Students determine that a littered school playground needs cleaning.

Problem solving models which employ recognized scientific process should be used to guide laboratory experiences. Examples of these models follow:

MODEL FOR PROBLEM DEFINING

...good questions help define problems in effective problem solving...



MODEL FOR PROBLEM SOLVING (SAMPLE)

PLANNING

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
What is the problem? What background information do I already have? What do I already know about …? What new information do I need? What procedure or sequence of actions do I need to follow? How can I find what I need to know about…? How will I know when I have solved the problem?	Communicating information Creating models Formulating hypotheses Manipulating ideas Predicting Questioning Recording data Using cues	A statement of the problem List of facts (background information) List of questions (related to later steps in the process) Sequential plan (a list of tasks, student assignments, and times for completion) Sketch or description of the expected (predicted) final product)

OBTAINING DATA

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
What information is needed? What are the properties of …? What are the names of …? What kinds of …? How long, wide, big … is it? How much does it weigh? What color is it? How hot is it …?	Acquiring information Developing vocabulary Manipulating materials Measuring Observing Recording data Using cues Using numbers	Collections Counts Definitions Lists Photographs Sketches Tape recording

ORGANIZING DATA

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
In what useful way(s) can the information be organized? Which ones belong to this group? In what order do these ... belong? What categories are there? How can this be graphed? What is the result of this … calculation?	• Classifying • Communicating information • Creating models • Manipulating ideas • Manipulating materials • Replicating • Using numbers	• Calculations or computations • Charts, tables • Diagrams, scale drawings • Graphs • Groups, categories of information • Outline • Sorted objects

ANALYZING DATA

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
What useful analyses can be made of the organized information? In what ways does … compare/contrast with …? What seemed to be the effect of …? What seemed to cause …? What must have been the pattern (sequence) of events? What factors (variables) are involved? What assumptions were made?	• Identifying variables • Inferring • Interpreting data • Manipulating ideas • Using cues	• Description of a pattern or sequence • List of variables • Statement of cause and effect relationships • Statements of similarities and differences • Summary

GENERALIZING AND/OR SYNTHESIZING FROM DATA

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
What can be drawn from the analyses of information? How can I explain …? How can I show I need to …? What is the principle of …? If this continues, then what is likely to happen? What can I predict? What might happen if I …? What model shows what we know about …? What new problem does this suggest? How does … apply to …?	• Acquiring information • Communicating information • Creating models • Formulating hypotheses • Generalizing • Manipulating ideas • Predicting • Questioning	• A model or simulation • A new hypothesis • A new prediction, problem, theory • Applications to new situations • Statements of principles • Statements which accept or reject hypotheses • Statements which confirm or do not confirm predictions • Written report

DECISION MAKING

FOCUS QUESTIONS QUESTION STEMS	SKILLS	PRODUCTS
What decision needs to be made?	• Acquiring information	• Statement of the decision to be made
What are the alternative choices and the reasons for each?	• Communicating information	• List of alternative choices, supported by reasons
What are the consequences of each alternative?	• Making decisions	• List of consequences of each alternative
Who will be affected by each possible choice and in what way?	• Manipulating ideas	• List of persons directly affected by each choice and the way each is affected
What values are directly related to each choice, and how do they relate to it?	• Questioning	• List of values related to each choice supported by statements of how the values relate
Which choice is the best choice?		• A personal choice, supported by defendable reasons for the choice

RUBRICS

Science Investigation Rubric

Criteria/Score	4	3	2	1	0
Question/ Hypothesis	Question (K-4) or hypothesis (5-12) has been thoroughly developed. Hypothesis is correctly stated with both variables identified	Question or hypothesis has been sufficiently developed with reasonable relevancy	Question or hypothesis is partially developed with some relevancy	Question or hypothesis has major flaws and limited or no relevancy	No attempt has been made
Investigation Design	Investigation is a well-constructed test of the stated question or hypothesis. All of the developmentally appropriate components (materials, controls, procedure, safety) are arranged so that the investigation can be replicated exactly as described	Investigation is a reasonably constructed test. All of the components are reasonably arranged so that the investigation can be replicated.	Investigation is a partially constructed test. Some of the components are missing, making it difficult to replicate.	Test is not relevant to the question or hypothesis. Information is not sufficient to replicate investigation.	No attempt has been made
Methods of Data Collection	Significant data has been collected in the most efficient and appropriate ways. Data is accurately recorded and displayed using the most relevant and organized methods	A reasonable amount of data has been collected in a sufficient manner. Data is recorded and displayed using organized methods.	A minimum amount of data has been collected. Data is recorded and displayed but may lack some organization.	Insufficient data has been collected. Data has not been recorded or displayed in an organized way.	No attempt has been made
Data Analysis: Conclusions, Inferences, and Recommendations	A precise statement of the investigation results relates directly to the question or hypothesis. Clear assumptions have been made from an accurate evaluation of the conclusion. Recommendations are clearly consistent with the findings of the investigation and provide an excellent defense.	A reasonable statement of the results shows a good relationship to the question or hypothesis. Reasonable assumptions have been made from the conclusion. Recommendations are reasonably consistent with the findings of the investigation and provide a good defense.	A statement of the results provides some relationship to the question or hypothesis. Assumptions are minimally supported by the conclusion. Recommendations are inconsistent with the findings and provide a questionable defense.	A statement of the results shows no relationship to the question or hypothesis. Assumptions are not supported by the conclusion. Recommendations show no relationship to the findings and provide a poor defense.	No attempt has been made

Source: Teachers in the Ogdensburg Diocese

Science Investigation Rubric

Criteria	4 Excellent	3 Above Average	2 Average	1 Poor	Your Score
Working Together	Student works cooperatively with lab partners to complete the activity, emerging as an effective collaborator who supports the ideas and suggestions of his/her peers.	Student is able to work cooperatively with lab partners to complete the activity, but may not be receptive to partners' ideas.	Student simply follows directions of partner(s) and makes little effort to actively contribute.	Student is unable to work cooperatively with lab partners to complete the activity. Requires continual intervention by teacher.	4 3 2 1
Materials and Tools	Student is able to identify all tools and materials. Student uses tools and materials appropriately and responsibly.	Student is able to identify all tools and materials. Student usually uses tools and materials appropriately and responsibly.	Student is able to identify nearly all tools and materials. Student does not use all tools and materials appropriately or responsibly.	Student is unable to identify many tools and materials. Student does not use materials and tools appropriately or responsibly.	4 3 2 1
Procedure	Student correctly follows every aspect of the procedure and supplements procedure with effective and inventive additions.	Student follows critical aspects or procedure, but has difficulty responding effectively to problems.	Student correctly follows some aspects of procedure, but makes crucial mistakes or skips some important steps.	Student does not correctly follow many aspects of the procedure.	4 3 2 1
Data and Observations	Data and observations are complete and correct, with all relevant units and labels included. Student provides a level of detail and organization that goes above and beyond requirements.	Data and observations are complete and correct.	Data and observations are incomplete or do not include sufficient details. Relevant units or labels may be missing.	Data and observations are incorrect or missing entirely. Relevant units or labels are missing.	4 3 2 1
Conclusions and Explanations	Conclusions and explanations are complete and supported by student's data. Student provides a level of detail and depth that goes above and beyond requirements.	Conclusions and explanations are complete and supported by student's data. Relevant data and observations and referenced where appropriate.	Conclusions and explanations are incomplete not supported by sufficient details. Relevant data and observations are not referenced.	Conclusions and explanations are missing or do not make sense given student's data and observations.	4 3 2 1
Understanding of Science Context	Complete understanding of science context is evidenced from student's writing. Student provides a level of detail and depth that exceeds requirements.	Firm understanding of science context is evidenced from student's writing.	Some understanding of science context is evidenced from student's writing, but student does not always reason scientifically.	Little to no understanding of science context is evidenced from student's writing.	4 3 2 1

Source: Teachers in the Ogdensburg Diocese

Science Lab Peer Grading Sheet

GRADER'S NAME_____SCIENTIST'S NAME_____

You need to think about the requirements of the project. Next, decide whether the person fulfilled the requirements or not. Last, you must assign the appropriate number of points that correspond.

5 Person far exceeded the standards set in the directions of the experiment.	**4** Person was above the standard set in the directions of the experiment.	**3** Person met but did not exceed the standard set in the directions of the experiment.	**2** Person did not meet the standard set in the directions of the experiment.	**1** Person did not address the standard set in the directions of the experiment.

TITLE – The title is appropriate for class The title is 5 words or less. The title definitely explains what the overall project is about.	5 4 3 2 1
PROBLEM The problem the person was working on was clearly explained in the problem section. **HYPOTHESIS** The person clearly explained the hypothesis. The person used complete sentences, and the prediction made sense in relation to the experiment.	5 4 3 2 1
PROCEDURE The procedure was written clearly. The person did not miss any of the steps. If another person read this procedure, she/he would be able to perform the experiment without any instruction. **MATERIALS** All materials were included.	5 4 3 2 1
OBSERVATIONS All data was included. It was very clear how the person did the testing on the hypothesis. Graphs, charts, or tables explained the data in a way that was easy to understand. The data was represented accurately.	5 4 3 2 1
CONCLUSIONS The conclusion restates the hypothesis, and clearly proves or disproves the hypothesis. The conclusion also includes: • ways the person could improve the lab if performed again. • comparisons of actual versus predicted data. • explanations of what the data means. • other important information.	5 4 3 2 1

TOTAL POINTS _____OUT OF 25

COMMENTS/SUGGESTIONS FOR IMPROVEMENT ON THE NEXT EXPERIMENT:

Source: Teachers in the Ogdensburg Diocese

Science Fairs and Exhibitions

The most obvious goal of a science project is to expand a student's understanding of science. Hands-on experiences facilitate the learning process. The scientific method allows scientists to collect and analyze data in a strategic and unified manner. When students use the scientific method to design and execute a project, they use the same steps that professional researchers use to gather new information.

Science fairs range in scale from a single class of students sharing their projects to an international event offering scholarship money as prizes. From the largest to the smallest, science fairs generally share common values:

- emphasis on using the scientific method
- investigation by experimentation (inquiry-based learning)
- development of critical thinking skills
- opportunity for a positive learning experience
- extension of formal science education

Participating in a science fair allows students the opportunity to take charge of their own learning experience and explore something that interests them.

RESOURCES

Problem-solving charts in this section are taken from these books:

Elementary Science Supplement to the Syllabus, Level I and Level II. 1988. Albany, New York: University of the State of New York.

Galus, P. 2005. *Science Fair Projects: An Inquiry-Based Guide, Grades 3-5*.Greensboro, North Carolina: Carson Dellosa Publishing.

Hammerman, E. 2005. *Eight Essentials of Inquiry-Based Science K-8.* Thousand Oaks, California: Corwin Press.

Hassard, J. 2004. *The Art of Teaching Science: Inquiry and Innovation in Middle School and High School.* New York, New York: Oxford University Press.

Moyers, R. et al. 2006. *Teaching Science Investigations: Modeling Inquiry Through Learning Cycle Lessons.* New York: Prentice Hall.

Shevick, E. 1998. *Science Action Labs: Health Science.* Carthage, Ilinois: Teaching & Learning Company.

Shevick, E. 1998. *Science Action Labs: Learning About the Scientific Method.* Carthage, Ilinois: Teaching & Learning Company.

Wenham, M. 2001. *200 Science Investigations for Young Students: Practical Activities for Science 5-11.* Thousand Oaks, CA: Paul Chapman Education.

Web sites

www.cpet.ufl.edu/sciproj/sci002.htm A Science Project Encyclopedia site that gives ideas for science projects.

http://www.emsc.nysed.gov/ciai/mst/sciinit.doc The New York State Education Department's latest publication on its science initiative.

http://quest.nasa.gov A site that allows student participation in various collaborative projects

http://www.mits.org/science_is_elementary.htm A Museum Institute for Teaching Science site for all inquiry-based activities.

http://teacher.scholastic.com/dirt/index.htm A site for creative lab experiences in physical and life sciences.

http://school.discovery.com/sciencefaircentral A Discovery School site for information and ideas for science fairs.

Project - Based Learning

PROJECT – BASED LEARNING

"We are living in a new economy – powered by technology, fueled by information, and driven by knowledge."

Futureworks: Trends and Challenges for Work in the 21st Century
U.S. Department of Labor 1999

Project-based learning enables students to develop skills for living in a knowledge-based, highly technological society. Learning facts and reciting them out of context is no longer sufficient to prepare students to survive in the 21st century. Solving highly complex problems requires that students have both fundamental skills (reading, writing, and math) and the skills necessary to meet the demands of the present and the future (teamwork, problem solving, research gathering, time management, information synthesizing, utilizing high-tech tools). This combination of skills will allow students to become self-directed learners as they are guided and mentored by their teachers.

The ability to collaborate with peers, experts, and others is developed and enhanced through project-based learning.

The skills needed in the 21st century include:

- personal and social skills
- planning, critical thinking, reasoning, and creativity
- strong communication skills, both for interpersonal and presentation needs
- teamwork
- cross-cultural understanding
- visualizing and decision making
- knowing how and when to use technology and choosing the most appropriate tool for the task

Project-based learning encourages students to become independent workers, critical thinkers, collaborators and lifelong learners by bringing real-life context and technology to the curriculum.

DEFINITION

Project-based learning is based on learning standards and guided by questions that arise from the curriculum. Guiding questions lend themselves to collaborative projects that integrate various subjects within the curriculum. Learning through projects allows students to delve into the content areas in more direct and meaningful ways. Project-based learning also recognizes that students have different learning styles.

Project-based learning builds bridges between subjects and allows students to view knowledge holistically, rather than as isolated facts. Sylvia Chard of the University of Alberta views the project approach as an "in-depth investigation of a real-world topic worthy of children's attention and effort."

Through exploration, student make judgments, interpret, and synthesize information in meaningful ways. This approach to learning more closely models what adults are asked to demonstrate and learn as they enter the workplace.

ESSENTIAL ELEMENTS

Essential steps for project-based learning include:

- The Big Question: The question is the catalyst for a project-based learning lesson. The question must be engaging and open ended. It should pose a problem or a situation that students can tackle knowing that there is no *one* answer.

- Plan**:** The learning standards are the starting point. Select activities that support the core curriculum and the performance indicators. Integrate as many subject areas as possible into the project. Involve students in the decision making.

- Schedule**:** Establish benchmarks for the project components. Assist students to establishing deadlines and remind them of timelines. Students should be free to explore new directions, provided they can develop a rationale for their course of study. But when their course has no connection to the project, they need to be redirected.

- Monitor: Teachers must closely monitor student work throughout the project. Students are expected to work collaboratively. Roles within the groups should be fluid, and should rotate so that all students participate fully in project-based learning activities. Create rubrics that evaluate both the team and the individual student.

- Assess: Assessment meets many needs in project-based learning. For the students, it is diagnostic feedback. For the teacher, it informs the learning process, thereby enabling teachers to design more effective instruction. Whenever possible, provide opportunities for self-assessment. By evaluating their own work as well as their participation in the group, students will come to understand expectations and the content more clearly.

- Reflect/Evaluate: Reflection is a very valuable yet often overlooked part of the learning process. In order for students to become successful learners and problem solvers, they must be able to synthesize what they learn. Students need time to reflect upon what they have discovered. Set a time for students to reflect daily through journaling, group reflection, and discussion. Use the reflective process as a means to validate what was done well, and offer suggestions for improvement.

TIPS AND SUGGESTIONS

When formulating project-based learning assignments, consider these tips and suggestions:

BEFORE

1. Project-based learning activities should be relevant to students and based on real-life situations.
2. Begin to collate resources and determine how they will be made available to students.
3. Determine how much time will be allocated to the project. Consider:
    - Will the project be conducted during the school day?
    - Will it require work outside the school day?
    - How many days will be devoted to the project?
4. Establish project-based learning rubrics. Consider:
    - What is required for the project's completion?
    - What form will the final product take?
        -Written report
        -Multimedia presentation
        -Oral presentation
        -Poster
        -Science project
        -Combination of the above
    - What does an excellent final project look like?
    - Make the requirements clear to the students so that all can be successful.

DURING

1. Be prepared to delve deeper into new topics and issues that arise as students become more involved in pursuing answers.
2. Continue to collate resources.
3. Monitor and guide student work during the formative stages of the project by assessing the group dynamic.
    - How well are the students working together?
    - How engaged are they in the process?
    - Are they rotating responsibilities so all can participate?

AFTER

1. Reflect individually or as a group on the project.
2. Share feelings and experiences about the project.
3. Discuss what worked well.
4. Discuss what needs to change.
5. Share ideas that will lead to new ideas or projects.

The source of the following example is the ASCD publication *Teachers as Classroom Coachs: How to Motivate Students Across the Content Areas* by Andi Stix and Frank Hrbek:

PROJECT-BASED LEARNING IN NINE EASY STEPS

Project-based learning can be broken down into nine general steps. Teacher-coaches should modify the steps to suit the task and the students.

1. The teacher-coach **sets the stage for students with real-life examples** of the projects they will be doing.
2. Students **take on the role of project designers**, possibly establishing a forum for display or competition.
3. Students **discuss and accumulate the background information** needed for their designs.
4. The teacher-coach and the students **negotiate the criteria for evaluating the projects**.
5. Students **accumulate the materials** necessary for the project.
6. Students work together to **create their projects**.
7. Students **prepare to present their projects**.
8. Students **present their projects**.
9. Students **reflect on the process and evaluate the projects** on the bases of the criteria established in step 4.

Below is an example of how the nine steps were applied to a classroom project:

Project-Based Learning Example: The Roman Arch Bridge Activity

When studying transportation and its effects on the economy of ancient Rome, students in Mr. Jordan's 9th grade social studies class focused on the Roman invention of the arch bridge. Realizing the depth and breadth of the innovation, Mr. Jordan decided that the students should role-play Roman engineers and design their own Roman arch bridges using paper materials.

Step 1: Setting the Stage with Real-Life Examples

With the help of the school's science teacher, Mr. Jordan set the stage for his students to study the arch bridge. He explained that the major advantage of the construction was that it had a large passage for vessels to pass through. The Roman transportation system was a key priority for continuous military campaigns, as well as for the trade with all corners of the empire. Mr. Jordan showed the students different types of bridges, demonstrating the differences between the arch bridge and the primitive structures that existed prior to its invention.

Step 2: Taking on the Role of Project Designers

Mr. Jordan assigned the students their roles as engineers for Roman firms. He explained that they were commissioned by the emperor, but had to use paper materials for their model constructions. Each group of two to three students was to be a firm competing with other groups to build a bridge that would meet predetermined specifications and be subjected to heavy weight.

Step 3: Discussing and Accumulating Necessary Background Information

Students conducted research on the arch bridge and learned that the center keystone was critical to distributing weight evenly to each side. They saw the advantage of the Roman arch bridge over post-and-lintel constructions, which did not offer as much clearance for whatever passed beneath. The even distribution of weight created by an arch bridge's keystone made the structure more reliable, adding a degree of stability and security.

Mr. Jordan and his students determined the parameters of the construction, setting strictly defined limits to the length of the bridge and the roadway above.

Step 4: Negotiating the Criteria for Evaluation

Mr. Jordan and his students decided that the projects should be assessed by asking the following questions:

- Did the group design and construct a bridge that employed the Roman arch concept?
- Did the "engineers" try to keep their expenditures low?
- Did the bridge support the weight that was placed on it?

Once the criteria were clearly defined, the students realized that the bridges might have to be modified in the future.

Step 5: Accumulating the Necessary Materials

The students decided that they would use paper or soft balsa wood and glue or tape to make their arch bridges. Mr. Jordan told them that any material they needed would have to be purchased at a mock store, and they were expected to keep track of their expenditures on an expense sheet. For example, a sheet of paper, representing stone, "cost" $1,000; a tablespoon of glue, representing cement, "cost" $2,000. Mr. Jordan reminded the students that construction commodities were very expensive in ancient Rome.

Step 6: Creating the Project

Students in each group worked on preliminary sketches and graphic organizers until they decided on a final design. During this stage, Mr. Jordan served as coach, moving from group to group to guide the students' work. As he did so, he asked himself the following questions:

- Do the students have a ***Clear*** understanding of the task?
- Does each student have ***Ownership*** of her role within the group?

- Are the students ***Attentive*** and working together cooperatively?
- Are the resources that students use geared to their ***Comprehensive*** level of understanding?
- Are any groups stumbling in a way that is blocking their work due to ***Heightened*** emotions?

Mr. Jordan's role as coach became clear throughout this process.

Step 7: Preparing to Present the Project

The students in each group prepared for the final stages, discussing whether or not the presentations needed to be rehearsed, and whether display cards had to be written. They also made note of the following:

- Who designed and built the arch bridge
- The cost of the materials
- What made their design aesthetically appealing
- What they thought was unique about their design
- What made their arch bridge strong enough to hold the weight

Step 8: Presenting the Project

During this stage, students became aware of the ways their presentations met the criteria of assessment. The teacher-coach observed how engaged the students groups were in presenting their projects. Each group in Mr. Jordan’s class showcased its arch bridge to the class, explaining how the design was achieved. Testing one bridge at a time, students placed weight on top of the bridge, to determine how much stress it could bear without collapsing.

Step 9: Reflecting on the Process and Evaluating the Process

The students discussed what they enjoyed about working in pairs or small groups. They discussed what they liked about the materials and what they found to be frustrating. Students shared their reflections, noting what they had in common and what was special to each pair or to each individual personally. They reviewed the criteria of assessment and discussed how well they met them.

RESOURCES

Web sites

Criteria for Authentic Project-Based Learning Activities
http://www.rmcdenver.com/useguide/pbl.htm
Guidelines and criteria for evaluating the effectiveness of project-based learning in the classroom.

Web-based Learning: Individual Projects:
http://cte.jhu.edu/techacademy/web/matrix/projects.html
Samples of individual Web-based learning projects for elementary, middle, and high school students.

The Virtual Schoolhouse:
http://virtualschoolhouse.visionlink.org/
A compendium of project-based learning practices from across the country.

The PBL Design and Invention Center
http://www.pblnet.org/
Support to teachers, parents, and students who are interested in project-based learning (PBL) design and invention.

Project-Based Learning Space: Background Knowledge and Theory
http://college.hmco.com/education/pbl/background.html
Provides background knowledge and theory for using project-based learning in the classroom. In addition, there is a link for teachers to revisit teaching concepts including goal setting, motivation, cooperative learning and assessment.

Project-Based Learning Checklists:
http://pblchecklist.4teachers.org/
This site provides a comprehensive overview of interdisciplinary activities in the areas of math, language arts, fine arts, geography, science, and technology. Also included are suggestions for building motivation and using multiple intelligences.

Project-Based Learning Handbook:
http://www.bie.org/pbl/pblhandbook/contents.php
The new PBL Handbook presents a systematic framework for the design of project-based learning.

Project-Based-Learning: A Primer
http://www.techlearning.com/db_area/archives/TL/2003/01/project.php
Offers a guide for getting started by including links to:

- Getting started
- Criteria for PBL
- Elements of a great PBL project
- How to pick a project
- Advice to technology coordinators, teachers and administrators

Project-Based Learning
http://www.edutopia.org/php/keyword.php?id=037
Provides video clips and articles that will give teachers a glimpse of students working in teams to explore real-world problems and create presentations to share what they have learned.

Rubistar
http://rubistar.4teachers.org/index.php
Create customized rubrics for multimedia projects, oral presentations and many more activities.

Books

Chard, S. C. 1998. *The Project Approach: Making Curriculum Come Alive.* New York: Scholastic.

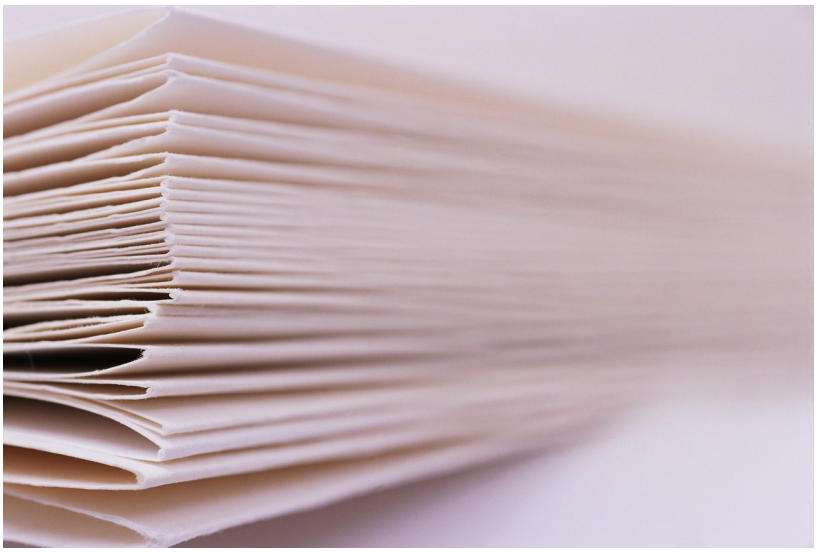
Chard, S. C. 1998. *The Project Approach: Managing Successful Projects.* New York: Scholastic.

Helm, J. H., S. Beneke, and K. Steinheimer. 1998. *Windows on Learning: Documenting Young Children's Work.* Early Childhood Education Series. New York, New York: Teachers College Press.

Katz, L. G., and S. C. Chard. 2000. *Engaging Children's Minds: The Project Approach.* 2nd ed. Atlanta, Georgia: Ablex Publishing.

Articles

Blumenfeld, P. C., E. Soloway, R. W. Marx, J. S. Krajcik, M. Guzdial, and A. Palincsar. 1991. Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist* 26 (3 & 4): 369-398.



PORTFOLIOS

PORTFOLIO ASSESSMENT

"The only hope for truth through observation is to synthesize the totality of observations – from different times and vantage points into a full picture. This certainly must include student's statements about what he has or has not learned, how and when. The interior and external views correct and corroborate each other. Discrepancies stimulate new insights."

In On Writing Behavioral Objectives in English
James Moffett(1970)

DEFINITION

A Portfolio is "A purposeful collection of student work that exhibits the student's efforts, progress and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit and evidence of student self-reflection."

Paulson, Paulson, Meyer (1991)

Portfolios are collections of student work representing a selection of performance. Portfolios in classrooms today are derived from the visual and performing arts tradition in which they serve to showcase artists' accomplishments and personally favored works. A portfolio may be a folder containing a student's best pieces and the student's evaluation of the strengths and weaknesses of the pieces. It may also contain one or more works-in-progress that illustrate the creation of a product, such as an essay, evolving through various stages of conception, drafting, and revision.

According to the 1993 *Education Research Consumer Guide*

POSITIVE CONTRIBUTIONS OF PORTFOLIOS:

- Promote self-assessment
- Offer direct evidence of student performance
- Show evidence of longitudinal development
- Provide evidence of consistency of performance in variety of conditions
- Unobtrusive – assessment as an "episode of learning"
- Permit inference from analysis of the work to mental processes of the student
- Provide opportunity to collect, select, reflect

ESSENTIAL ELEMENTS

The following portfolio elements are described in *Guidelines for Portfolio Assessment in Teaching English*
Kemp and Toperoff, 1998.

It is important to include all of the following:

1. **Cover Letter** "About the author" and "What my portfolio shows about my progress as a learner" (written at the end, but put at the beginning). The cover letter summarizes the evidence of a student's learning and progress.

2. **Table of Contents** with numbered pages.

3. **Entries -** both ***core*** (items students have to include) and ***optional*** (items of student's choice). The core elements will be required for each student and will provide a common base from which to make decisions on assessment. The optional items will allow the folder to represent the uniqueness of each student.
   Students can choose to include "best" pieces of work, but also a piece of work which gave trouble or one that was less successful, and give reasons why.

4. **Dates** on all entries, to facilitate proof of growth over time.

5. **Drafts** of aural/oral and written products and revised versions;
   i.e., first drafts and corrected/revised versions.

6. **Reflections** can appear at different stages in the learning process (for formative and/or summative purposes) and will include the cover letter. For each item - a brief rationale for choosing the item should be included. This can relate to students' performance, to their feelings regarding their progress and/or themselves as learners.
   Students can choose to reflect upon some or all of the following:

   What did I learn from it?
   What did I do well?
   Why (based on the agreed teacher-student assessment criteria) did I choose this item?
   What do I want to improve in the item?
   How do I feel about my performance?
   What were the problem areas?

PORTFOLIO ASSESSMENT

Five criteria can be used to assess student portfolios:

1. Range (both depth and breadth of student learning)

- Topics and subject matter
- Genres (fiction and nonfiction)
- Forms (description, exposition, analysis, critique)
- Purposes
- Audiences

2. Organization and Development

- Use of supporting details and examples
- Structure
- Transitions
- Length

3. Language

- Appropriate to purpose and audience
- Vocabulary appropriate for grade level and topic

4. Conventions

- Grammar and usage
- Punctuation
- Presentation

5. Independence

- Which forms of writing has the student mastered? Which still require guidance and assistance?

Scoring Grid

On the bases of the portfolio as a whole, evaluate the level of achievement.

Criterion	1	2	3	4
Range				
Organization & Development				
Language				
Conventions				
Independence				

1 = Below standard 2 = Developing 3 = Proficient 4 = Distinguished

The following chart presents a sample of a writing portfolio that meets New York State writing expectations for each grade level. For example, in grade 4 the sample writing portfolio, completed in English language arts and other subject areas, consists of a report, an original short story or play, and a book or story review. Specific portfolio content may vary from school to school.

Core Portfolio Content by Grade for Grades 3 through 12 (Sample)

Core portfolio content should reflect the writing expectations for the grade as contained in the New York State English Language Arts Standards. The following outline suggests a model for insuring that students have instruction and practice in all major forms of writing and across subject areas. Bullet points reflect performance indicators from the English Language Arts Standards for the grade level.

STANDARD	GRADE 3	GRADE 4	GRADE 5
1	**Report** • Use at least two sources of information in writing a report • Produce clear, well-organized reports and accounts that demonstrate understanding of a topic	**Report** • Use organizational patterns such as compare/contrast, cause/effect, and time/order, for expository writing • Compare and contrast ideas and information from two sources	**Book/Story Review** • State a main idea, theme, or opinion and provide supporting details • Express opinions and make judgments that demonstrate a personal point of view • Use relevant examples, reasons, and explanations to support ideas • Analyze and evaluate the author's use of setting, plot, character, rhyme, rhythm, and language.

	GRADE 3	GRADE 4	GRADE 5
2	**Imaginative or personal narrative** • Show development, organization, and effective language	**Original short story or play** • Use dialogue and vivid and playful language • Show insight, development, organization, and effective language • Begin to use literary devices such as simile and figurative language	**Original story, play, or narrative poem** • Use organizing structures such as stanzas and chapters • Develop characters and establish a plot • Use literary devices, such as rhyme, rhythm, and simile • Establish consistent point of view
3	**Opinion piece** • State a main idea, theme, or opinion and provide supporting details • Express opinions and make judgments that demonstrate a personal point of view	**Book/Story Review** • State a main idea, theme, or opinion and provide supporting details • Express opinions and make judgments that demonstrate a personal point of view • Use relevant examples, reasons, and explanations to support ideas • Analyze and evaluate the author's use of setting, plot, character, rhyme, rhythm, and language.	**Issue analysis paper** • Analyze the impact of an event or issue from personal and peer group perspectives • Use information and ideas from other subject areas and personal experiences to form and express opinions • Adapt an organizational format, such as compare/contrast.

STANDARD	GRADE 6	GRADE 7	GRADE 8
1	**Technical report** • Use at least three sources of information, with appropriate citations • Organize relevant data, facts, and ideas • Compare and contrast ideas and information from two or three sources	**Product research report** • Use several sources of information, including web sites, in developing a product research reports • Identify an appropriate format for sharing information with an intended audience • Use outlines and graphic organizers, such as semantic webs, to plan reports • Connect, compare, and contrast information from one or more sources • Use graphics, such as graphs, charts, and diagrams	**Historical research report** • Use several sources of information, in addition to an encyclopedia, to develop research reports • Use outlines and graphic organizers, such as semantic webs, to plan reports, with assistance • Include relevant information and exclude irrelevant information • Use paraphrase and quotation correctly • Connect, compare, and contrast ideas and information from one or more sources • Use graphics, such as graphs, charts, and diagrams, to communicate information • Cite sources in footnotes and bibliography, using correct form

	GRADE 6	GRADE 7	GRADE 8
2	**Original story, play, or poem** • Use organizing structures, such as stanzas, chapters, scenes, and verses • Develop characters, create a setting, and establish a plot • Use literary devices, such as rhythm, rhyme, simile, and personification • Establish a consistent point of view	**Original story, play, or poem** • Select a genre and use appropriate conventions • Use literary devices, such as dialogue, rhythm, and rhyme • Sequence events (e.g., rising action, conflict, climax, falling action, resolution) to advance a plot • Develop complex characters and create a setting	**Original literary text** • Select a genre and use appropriate conventions and literary devices • Sequence events (e.g., rising action, conflict, climax, falling action, and resolution) • Maintain a consistent point of view that enhances the message • Use language that is creative
3	**Literary analysis** • Use supporting evidence from text to evaluate ideas or themes • Use information and ideas from other subject areas and personal experiences to form and express opinions and judgments • Select content and choose strategies for written presentation on the basis of audience, purpose, and content	**Thesis/Support paper** • Present a hypothesis and predict possible outcomes • Present clear analysis, using examples, details, and reasons from various sources (e.g., news articles, nonfiction texts, personal experiences, and other school subjects)	**Multiple perspective paper** • Present a subject from more than one perspective by using various resources (e.g., news articles, nonfiction texts, personal experiences, and other school subjects) • Present clear analysis, using examples, details, and reasons from each perspective • Explain connections between and among sources to extend the meaning of each individual text

HIGH SCHOOL PORTFOLIO

STANDARD	GRADE 9	GRADE 10	GRADE 11	GRADE 12
1	**Multi-media Research Report** (Science/Technology) • Use both primary and secondary sources of information for research • Take notes from written and oral texts, such as lectures, interviews, and web sites • Use charts, graphs, or diagrams to illustrate informational text • Use a range of organizational strategies to present information • Cite primary and secondary sources of information in bibliography and citations, using an approved style sheet	**Multi-media Research Report** (Global History & Geography) • Use both primary and secondary sources of information for research • Take notes from written and oral texts, such as lectures, interviews, and web sites • Use charts, graphs, or diagrams to illustrate informational text • Use a range of organizational strategies to present information • Cite primary and secondary sources of information in bibliography and citations, using an approved style sheet	**Multi-media Research Report** (U.S. Literature and History) • Use both primary and secondary sources of information for research • Take notes from written and oral texts, such as lectures, interviews, and web sites • Use charts, graphs, or diagrams to illustrate informational text • Use a range of organizational strategies to present information • Cite primary and secondary sources of information in bibliography and citations, using an approved style sheet	**Multi-media Research Report** (Political or Economic Issue) • Use both primary and secondary sources of information for research • Take notes from written and oral texts, such as lectures, interviews, and web site • Use charts, graphs, or diagrams to illustrate informational text • Use and integrate a wide range of organizational strategies to present information • Cite primary and secondary sources of information in bibliography and citations, using an approved style sheet

	GRADE 9	GRADE 10	GRADE 11	GRADE 12
2	**Original literary text** (short story, poem, play) • Use literary elements appropriate to the genre, such as plot, character, setting, dialogue, conflict, and suspense, to engage the reader • Maintain consistent point of view, including first-person, third-person, or omniscient narrator • Create a personal voice	**Original literary text** (May not repeat genre from grade 9) • Use literary devices, such as figurative language, allegory, irony, symbolism, and stream of consciousness • Create multiple levels of meaning • Use language and sentence structure creatively to elicit the reader's emotional response • Create a personal voice	**Original literary text** (May not repeat genre from grade 9 or 10) • Use literary devices, such as figurative language, allegory, irony, symbolism, and stream of consciousness • Create multiple levels of meaning • Use language and sentence structure creatively to elicit the reader's emotional response • Create a personal voice • Create social, historical, and/or cultural context	**Original literary text** (Any genre) • Demonstrate control of all appropriate literary devices and organizational strategies • Employ a complex structure • Create multiple levels of meaning • Create a personal voice

	GRADE 9	GRADE 10	GRADE 11	GRADE 12
3	**Analysis of current social issue** • Present a judgment by developing a thesis and providing supporting evidence, arguments, and details • Analyze a variety of texts using resources such as knowledge from school subjects, readings, and personal experiences • Use effective organizational strategy • Use strategies designed to influence or persuade	**Multiple perspective analysis of current global issue** • Articulate one or more perspectives, such as one's own and/or those of a special interest group, to summarize arguments on different sides of the issue • Analyze supporting texts, using resources such as recognized experts, knowledge from school subjects and readings, and experience • Use strategies designed to influence or persuade	**Multiple critical analysis of major literary work** • Develop critiques from more than one perspective, such as historical, cultural, and social • Analyze a wide range of textual elements using resources such as recognized experts, knowledge from school subjects and reading, and personal experience • Use organizational strategies to produce a comprehensive analysis of text	

Resources

Kemp, J. and D. Toperoff. 1998. *Guidelines for Portfolio Assessment in Teaching English.* www.anglit.net/main/

Purves, A. and Quattrini, J. 1997. Creating the Literature Portfolio: A Guide for Students. Chicago, Illinois: NTC Publishing Group.

Tierney, R. et al. 1991. Portfolio Assessment in the Reading Writing Classroom. Norwood Massachusetts: Christopher-Gordon Publishers, Inc.

HOMEWORK

HOMEWORK

Homework has been a part of the lives of the students since the beginning of formal schooling in the United States. However, the practice has sometimes been accepted and at other times rejected both by educators and parents.

In the early 20th century, the mind was viewed as a muscle that could be strengthened through mental exercise. Since exercise could be done at home, homework was viewed favorably. During the 1940s, schools began to shift emphasis from memorization to problem solving. Homework fell out of favor because it was closely associated with the repetition of material. In the 1950s Americans worried that education lacked rigor and left children unprepared for the new technologies. Homework, it was believed, could speed up learning.

In the 1960s educators and parents became concerned that homework was crowding out social experience, outdoor recreation, and creative activities. Two decades later, in the 1980s, homework again came back into favor as it came to be viewed as one way to stem a rising tide of mediocrity in American education. The push for more homework continued into the 1990s, fueled by rising academic standards. Today homework is regarded as both an extension of class and a supplement to instruction. The debate continues as the lives of students become busier either extra-curricular activities. The literature examining the relationship between homework and academic achievement is generally inconclusive. Educators of the 21st century continue to debate the role and value of homework.

DEFINITION

Homework consists of out-of-class assigned tasks that are an extension of classroom work. Four kinds of homework are commonly assigned in the United States:

1. Practice Assignments

Practice assignments reinforce newly acquired skills or knowledge. These assignments are most effective when the teacher carefully evaluates them, when they are matched to the ability and the background of the individual student, and when students are asked to apply recent learning directly and personally.

2. Preparation Assignments

Preparation assignments are intended to provide background information. These assignments can include reading the class textbook, doing research in the library and on the Internet, collecting materials for a class demonstration, and gathering and organizing information before a class discussion or presentation. Effective preparation assignments include guidelines on why and how the assignment should be completed. Accurately estimating the level of difficulty of the homework, and coordinating the assignment of homework among various courses, may help teachers avoid overburdening students.

3. Extension Assignments

Extension assignments encourage individualized and creative learning by emphasizing student initiative and research. Extension assignments are usually long-term projects that parallel class work, requiring students to apply and synthesize previous learning.

4. Integration Assignments

Integration assignments require the student to apply many different cross-curricular skills to a single task, such as a book report, science project or creative writing project.

ESSENTIAL ELEMENTS

- Homework is an essential part of the instructional program and reinforces learning. The teacher should plan homework that clarifies and reviews material learned in class, and that provides motivation and opportunity for individual growth.

- The assignment should result in significant learning, and the homework should be able to be carried out independently by the student.

- Time allotments for homework are a matter of school policy and should be clarified for parents at the start of the school year. Homework assignments should be age appropriate in regard to the time the student needs to complete the task.

- The teacher should devise a consistent and effective plan for monitoring homework assignments. Homework correction should be quick and efficient.

- Feedback should be an important component of checking homework. Comments, questions, and suggestions for future study offer students direction for future learning and lead to more profitable educational outcomes than merely assigning a grade.

RESOURCES

Bennett, Sara and Nancy Kalish. 2006. *The Case Against Homework*. New York: Crown Publishers.

Cooper, Harris. 2007. *The Battle Over Homework: Common Ground for Administrators, Teachers and Parents*, 3rd ed. Thousand Oaks, California: Corwin Press.

Epstein, J. L. and F. L. Van Voorhis. More than 10 minutes: Teachers' roles in designing homework. *Educational Psychologist* 36 (3): 181-194. Abstract.

Kohn, Alfie. Abusing research: The study of homework and other examples. *Phi Delta Kappan*. September 2006.

Marzano, Robert and Debra Pickering. The case for and against homework. *Educational Leadership*. March 2007.

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