

GTCC Gifted & Talented Curriculum

PHILOSOPHY

The school district acknowledges the responsibility to provide services that meet the needs of all students to develop their potential.

Highly capable students have special needs, as a result of a wide range of abilities and talents.

The school is committed to providing these students with a learning environment, flexible enough to allow diversity of options in order to maximize their potential.

The school will provide a program that is qualitatively differentiated from the regular program, varied in depth, breadth, complexity and pace.

GOALS AND OBJECTIVES

PROGRAM GOAL The Gifted and Talented Program will provide in-service and training for staff members, parents, and community members.

Objective A To provide a well thought out and planned system of on-going inservice training that takes into account the needs of those receiving the training.

Guidelines: 1. Collaborative teaching.

Objective B To provide training for staff members so that skills are developed in interventions, adaptations, and strategies for gifted/high ability students.

Guidelines: Particular attention should be given to:

1. Use of cross-disciplinary teaching.
2. Development of skills in curriculum compacting.
3. Use of collaborative teaching so that efforts are coordinated between the classroom teacher and gifted and talented teacher/coordinator.
4. Use of technology in the classroom.
5. Developing a differentiated curriculum for the high ability students.
6. Use of Interest Inventories to assist in gifted/talented program planning.
7. Ability to extend the regular curriculum.
8. Understanding the social/emotional needs of the gifted/higher ability students.
9. Use of higher order thinking skills within the regular curriculum.

Objective C To provide training so that skills are developed in recognizing and nurturing the special needs and characteristics of high ability students.

Guidelines: Particular attention should be given to:

1. Special/emotion needs for gifted/high ability students and teaching styles. (See objective E)

Objective D To provide training and information for parents and community members regarding the gifted and talented program.

Guidelines: Particular attention should be given to:

1. What the program is about.
2. The configuration of the program.
3. Rationale regarding activities of the program.

Objective E To provide training and information for parents regarding the special needs and characteristics of gifted/high ability students.

Guidelines: Particular attention should be given to:

1. Social and emotional needs of gifted/high ability students. (See program goal regarding this)

Objective F To provide input and direction to institutions of higher learning regarding pre-service preparation of teachers.

Guidelines: Particular attention should be given to:

1. Required course work in gifted/talented theory and practice.
2. Field experience with current educators working within the gifted/talented field.

Objective G Socratic Questioning, Brain Based teaching, The Thoughtful Classroom.

Objective H Technology used in the classroom.

Guidelines: New and train in present.

Objective I Training in evaluation.

PROGRAM GOAL: The Gifted and Talented Program will develop particular skills, behaviors, and outcomes with students.

Objective A Curriculum for Gifted must be rigorous, challenging, and defensible. It must address the students strengths, and give opportunity for them to learn about and pursue their interests and passions.

Guidelines:

1. Provide enrichment for the special needs of all students.
2. Provide an opportunity for students with a sustained interest to pursue the subject further.
3. Provide a program to meet the needs of the students who are highly capable and motivated through mentorship or independent research.

Rationale: While enrichment is important it cannot replace meeting the needs of the highly gifted students.

Objective B Curriculum for gifted must develop higher order thinking, critical thinking and problem solving skills.

Guidelines:

1. Skills will be developed through the use of various established programs to help the student become an autonomous learner.
2. Some suggested strategies are:

Talents Unlimited

Synectics

Brainstorming

DeBono CORT (Cognitive Research Trust)

Attribute listing

Brainstorming

Morphological Synthesis

Idea Checklists

Metaphorical Thinking

Osborn/Parnes Creative

Problem Solving Model

Future Problem Solvers

Odyssey of the Mind

Knowledge Master

SCAMPER

Advanced Placement Courses

Differentiated Curriculum

Seminars, (critical discussion using Socratic questioning)

Rationale: Since much of learning occurs at the lower levels of Bloom's Taxonomy, i.e. Knowledge and Comprehension, to meet the need of the gifted, strategies are necessary to stimulate thinking on the upper levels, i.e. Application, Analysis, Synthesis, and Evaluation.

Objective C Curriculum for gifted must develop career awareness.

Guidelines:

1. Career awareness can be developed by providing opportunities for students to meet and work with various professionals.
2. Some suggested strategies are:

Mentoring, (pairing a student with a professional for a sustained time)

Shadowing, (placing a student with a professional for a day to observe that professional in his work place)

Coordinating with Guidance Counselors (expanding upon programs already in place)

Rationale: To succeed, highly able students, must be exposed to modeling by successful adults. By expanding the students horizons beyond the classroom the professional the professional work place becomes part of the comfort zone.

Objective D Curriculum for gifted students must teach skills at all levels and provide opportunities for product oriented and real world solutions.

Guidelines:

1. To become "Autonomous learners", George Betts, The major goal is to facilitate the total growth of the individual student. The student develops and incorporates his own knowledge and skills, learns independently and applies this knowledge to the entire scope of his learning experience and to his life. One who solves PROBLEMS or develops new ideas through a combination of divergent and convergent thinking and functions with minimal external guidance in selected areas of endeavor.
2. Real world solutions or production of a real product for a real audience.

Rationale: While research skills need to be taught to all students, curriculum for the highly able student must expand and reinforce these skills at a higher level.

Objective E Curriculum for highly able students needs to include the Humanities, Fine Arts, and Performing Arts.

Guidelines:

1. Suggested programs are:

Socratic Seminars on Mythology and the Classics

Speech and Drama Competitions on the local, state and national level

Exposure to, and participation in events of culture such as: Dramatic and musical performances beyond regular school programs

Rationale: While these are touched upon in the regular curriculum, the highly able students needs more depth in the form of acceleration, enrichment, sophistication, and novelty.

Objective F Curriculum for the highly able student needs to include Math/Science technology.

Guidelines:

1. Suggested programs are:

Mentoring

Math clubs

Math contests

Chess clubs and competitions

Computer Modem Bulletin Boards

National Geographic

AIMS, Project Wild, Learning Tree, and Aquatic, WET

Math Verses With Twists, by Levine

Rationale: While these are touched upon in the regular curriculum, the highly able student needs more depth in the form of acceleration, enrichment sophistication, and novelty.

Objective G Curriculum for the highly able must include Leadership Training.

Guidelines:

1. Highly able students should be encouraged and enabled to seek offices in Student Council or other student government organizations.

2. Suggested organizations are:

Student Senate (a state wide organization WHICH fosters democratic concepts and practices through local, district, and state meeting at the High School level)

Boys State, Girls State

Model UN

VICA

Key Club

Voice of Democracy Contest

Rationale: Highly able students should be supported and encouraged to seek offices in such organizations and participate in such activities that will prepare them as leaders of tomorrow.

PROGRAM GOAL: The Gifted and Talented Program will be implemented and designed to be as effective and efficient as possible.

Objective A Inservice may provide coordination between curricular areas/grade levels.

Objective B Gifted/Talented classes will be given equal scheduling opportunity throughout the curriculum.

Objective C The program should provide opportunity for Gifted/Talented students to work with their peers, fostering creative, academic, intellectual, social and emotional growth.

Objective D Provide opportunity for Gifted/Talented students to be involved in peer activities with Co-op member schools.

Objective E The G/T program may include acceleration, compacting, depth of learning, and enrichment for students as well as differentiated curriculum for the highly gifted.

Rationale: Without both acceleration and enrichment, more is simply more, the qualitative difference is not reached.

Activities include:

- problem solving
- critical thinking skills
- creative thinking
- research skills
- open-ended problem solving
- reflection

Objective F The G/T program should be defensible.

Rationale: This definition is based on the student's need for education programming to enable each student to reach their full potential. In general, gifted students need curriculum and services that vary the depth, breadth, complexity and pace of instruction due to their ability to learn at faster rates, deal with high levels of abstraction, and make associations other children would not be able to make. Educational needs are not always academic. These students also have social and emotional needs that should be addresses at all levels. In addition, at the secondary level these students have special needs for a variety of experiences in cultural and career education as well as special counseling services. (Feldhusen, John F., Steven M. Hoover, and Micheal F. Sayler; Identifying and Educating Gifted Students at the Secondary Level, 1990; p. 19)

Objective G Provide inservice to encourage faculty involvement and an active public relations program to sensitize public awareness as to the value of the G/T program.

Objective H The individual school program outline provides the standard against which individual students can be assessed.

Rationale: Continuous evaluation provides the renewal and the on-going cycle of program development and thus encourages improvement.

PROGRAM GOAL: The Gifted and Talented Program will address the unique social needs of G/T students.

Objective A To provide and coordinate counseling services for the special social/emotional needs unique to G/T students.

Rationale: G/T students markedly differ from the average student population in these ways:

- a. They possess a high degree of concept formation
- b. They possess a high degree of perceptual sensitivity
- c. They need unconditional support in dealing with complex issues of self-concept, emotional and intellectual development
- d. They are at greater risk for under-achievement, dropping out, depression and suicide

Guidelines:

1. Provide opportunities for counseling in these areas:

individual counseling

family counseling

group counseling

2. Provide counseling opportunities in career/college planning

3. Provide inservice opportunities for training counselors and educators

4. Provide opportunities and coordination of outside support groups including such groups as parents and referral agencies

Objective B To provide opportunities for parents/district/community to develop skills in supporting and advocating for the success of students.

Rationale: The most effective programs include strong parent support and involvement. Staff that has training can better meet the needs of these students. Community awareness and involvement encourages "real life problem solves, and promotes positive learning experiences.

Guidelines:

1. Provide inservice opportunities in the areas:

under-achievement

awareness

intervention strategies for topics such as: perfectionism, depression/suicide, and under achievement

2. Provide information and coordinate opportunities through gifted/talented organizations

3. Provide opportunities for parental discussion/support groups, including such programs as SENG

Objective C To provide school time to meet and interact regularly with similar-ability peers.

Rationale: Research shows the students need regular interaction with similar-ability peers. Benefits of peer grouping include: positive self-concept, increased self-reliance, development of leadership, and sharing of concerns within a non-threatening environment.

Guidelines:

1. The program should include some provisions for discussion groups

2. The program should include instruction which promotes the development and awareness of skills and strategies which can be used in problem-solving situations

3. The program should encourage an environment of free-expression based on respect and truth-seeking

PROGRAM GOAL: The Gifted and Talented Program will have an Identification Model as required by standards.

Objective A Focus should be on diversity within gifted populations. The gifted are not a homogeneous group nor do they express their talents in the same way.

Objective B The goal should be inclusion rather than exclusion.

- Objective C** Data should be gathered from multiple sources; a single criterion of giftedness should be avoided.
- Objective D** Both objective and subjective data should be used.
- Objective E** Professionals and nonprofessionals who represent various areas of expertise and who are knowledgeable about behavioral indicators of giftedness should be involved.
- Objective F** Identification should occur as early as possible and should be continuous.
- Objective G** Special attention should be given to the different ways in which children from different cultures manifest behavioral indicators of giftedness.
- Objective H** Data collected during the identification process should be used to help determine the individual child's curriculum.

(These objectives are to be credited to the work of Dr. Mary Frasier.)

PROGRAM GOAL: The Gifted and Talented Program will assess student performance and evaluate program.

Objective A

Student assessment is a collection of information and measurement of student progress over time which seeks to measure concept development, skill acquisition, or changes in behaviors, attitudes, or aspirations.

Culture, race, gender and special needs should be considered in developing and assigning student assessment tasks.

Guidelines: Some student assessment tools/techniques which may be used to evaluate complex learner outcomes include:

1. Attitude/Aspiration Inventory

An attitude/aspiration inventory is a survey which is designed to elicit information from the respondent regarding a change in attitudes, behaviors, beliefs, values, or aspirations.

2. Narrative Summary

A narrative summary is written documentation of student progress.

3. Examples of Productive Work

An example of productive work involves the critical review of both the processes employed during the productive stages as well as the final product. Information is collected during the stages of student work through the examination of student journals, logs, sketches, models, diagrams, and discarded work. The final product may be represented through a portfolio, performance, a model, a theory, an invention, or new approach.

4. Goal Setting

5. Self-Report

A self-report is a student generated report of what processes and techniques are employed while the student is engaged in productive work. This self-report is reported to an observer or recorded on written form. This process is also referred to as "thinking aloud" and should emphasize problem-solving strategies and approaches used during productive or perform behaviors.

6. Reflective Interview/Journal

A reflective interview/journal is a record of impressions during the stages of investigation or productive work shared with a trained observer. It describes the student's impressions of the processes employed and/or his or her evaluation of the end product.

7. Quarterly, and/or Yearly Evaluations

Evaluations may be utilized for gathering information relating to student affective disposition and behaviors.

Gifted and talented students differ from their age peers with the intensity sophistication and complexity of tasks which may be offered to challenge their abilities. The selection and assessment of outcomes must match this intensity, sophistication and complexity. *Outcomes and assessment Rationale: tools should be selected during the initial planning phases to ensure that procedures are established so that data may be collected at appropriate intervals. This will result in an evaluation where meaningful information about student progress is reviewed and the future direction of student work may be determined.

Objective B

There is a need to evaluate the success of a program for gifted students. The evaluation needs to include what is presently done, what will be done in the future. Additionally the evaluation tool itself needs to be assessed.

Introduction:

One undertakes a program evaluation in order to assess the degree to which a program is working as planned so that the program can be improved and accountability assured. For this process to be defensible, it must refer to and be predicated upon the goals of the program.

Program Evaluation:

There is a need to evaluate the success of the program for gifted students. This evaluation should include the teacher of the gifted, students, parents, other faculty, and the administration.

Program Evaluation Survey:

1. Is student identification process assessed periodically to insure that the program is both inclusive and selective?
2. Does the identification process include all facets of a giftedness, meeting the needs of the students as the district has determined they should be?
3. Is the evaluation tool commensurate with the philosophy of the program?
4. Is the program designed to be either theme based, content area based or based in the learning style, upper level thinking skills and sound, emotional needs.
5. Does the G/T program utilize other teachers as resources.
6. Do other teachers within the district utilize the expertise of the G/T specialist?
7. Does the program reach out to the community and parents, using them as resources and conversely offering the community the benefits of the program?
8. Is preparation and teaching time included in the G/T staffer's schedule.
9. Are students given a scheduled time in the teaching day to participate in the program? As in the case of a pull out program, are pull out periods regularly scheduled?
10. Does the program meet the needs of the identified population as based on input from students/parents, etc.
11. Does the program meet the expectations of the district as outlined in the program goals and objectives.

12. Does teacher inservice and training tie in with program goals, and include follow up, insuring information is being utilized?
13. Does district reflect a commitment to the program? materials, hardware, staffing
14. Is the curriculum flexible enough to meet the changing needs of the student?
15. Does the program meet accreditation standards and mandates?

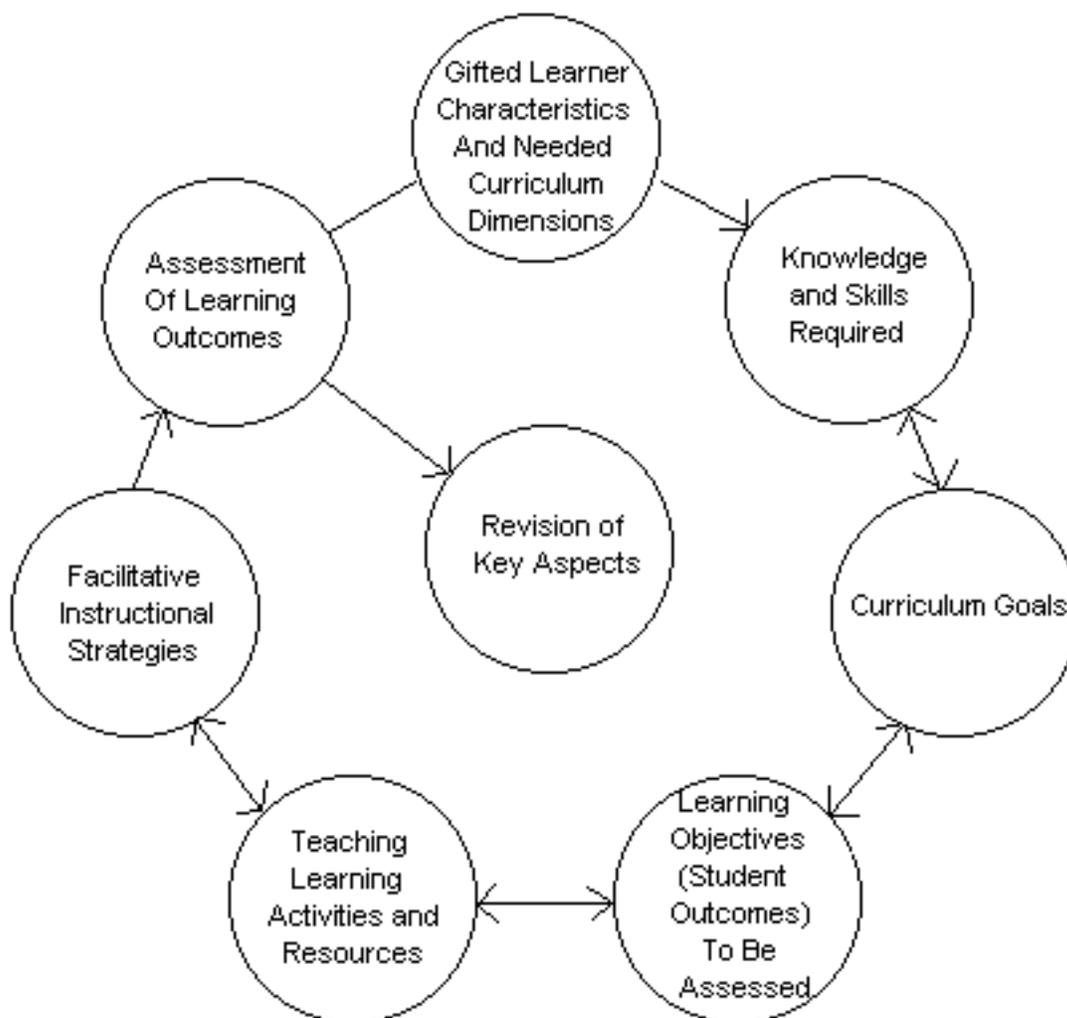
Montana Accreditation Standards, RULE 10.55.804 GIFTED AND TALENTED

1. Beginning 7/1/92 the school shall make an identifiable effort to provide educational services to gifted and talented students, which are commensurate with their needs and foster a positive self-image.
2. Such services shall be outlined in a comprehensive district plan which includes:
 - (a) Identification of talent areas and student selection criteria according to a written program philosophy
 - (b) A curriculum which reflects student needs
 - (c) Teacher preparation
 - (d) Criteria for formative and summative evaluation
 - (e) Supportive services
 - (f) Parent involvement
16. Does the program have a 5 year, 3 year, and one year plan including program, staff and curriculum development and where is the program at within the plan.
17. Does program evaluation seek input from: parents, students, teachers of G/T, district teachers, administrators, and community?
18. Are provisions made for smooth transitions as students move from one level to another, i.e. grade to grade, school to school, including differentiation and acceleration?
19. Is there provision for assessment of the evaluation process?
20. Do ancillary programs (O-M, Science Fair, Drama/Speech) provide additional means of meeting challenges to the learning of ID'd students?

21. Do opportunities exist for non-ID'd talented students within the district?
22. Does program provide for true differentiation of curriculum to meet needs of Identified population.
23. Is enrichment a minor part of overall program with major emphasis on real world/real life experience, application, evaluation.

MAJOR DIFFERENCES BETWEEN REGULAR LANGUAGE ARTS PROGRAMS AND THOSE FOR THE GIFTED LIE IN:

1. methodologies and materials
2. open-ended activities
3. opportunities for student production
4. interrelating several content areas to present relevant experiences



<u>Characteristics of Gifted Learners</u>	<u>Curriculum Implications</u>
Reads well and widely	<ol style="list-style-type: none"> 1. Individualize a reading program that diagnoses reading level and prescribes reading material based on that level 2. Form a literary group of similar students for discussion 3. Develop critical reading skills 4. Focus on analysis and interpretation in reading material
Has a large vocabulary	<ol style="list-style-type: none"> 1. Introduce a foreign language and develop 2. Focus on building and developing vocabulary 3. Develop word relationship skill (antonyms, homonyms, word etymology)
Has a good memory for things he or she hears or reads	<ol style="list-style-type: none"> 1. Present ideas on a topic to the class 2. Prepare a skit or play for production 3. Build in "trivial pursuit" activities
Is curious and asks probing questions	<ol style="list-style-type: none"> 1. Develop an understanding of the scientific method 2. Focus on observation skills
Has a long attention span	<ol style="list-style-type: none"> 1. Assign work that is long term 2. Introduce complex topics for reading, discussion, project work
Has complex thoughts and ideas	<ol style="list-style-type: none"> 1. Work on critical thinking skills (i.e., analysis, synthesis, evaluation) 2. Develop writing skills
Is widely informed about many topics	<ol style="list-style-type: none"> 1. Stimulate broad reading patterns 2. Develop special units of study that address current interests
Shows good judgment and logic	<ol style="list-style-type: none"> 1. Organize a field trip for the class 2. Prepare a parent night 3. Teach formal logic

Understands relationships and comprehends meanings	<ol style="list-style-type: none"> 1. Provide multi-disciplinary experiences 2. Structure activities that require students to work across fields on special group/individual projects 3. Organize curriculum by issues and examine from different/perspectives (i.e., poverty, economic, social, personal, education views)
Produces original or unusual products or ideas	<ol style="list-style-type: none"> 1. Practice skills of fluency, flexibility, elaboration, and originality 2. Work on specific product development

Gifted students in Communication Arts are "Children who by virtue of outstanding abilities are capable of high performance in writing, reading, and speaking.

Three fundamental differences emerge from the research that distinguish the gifted from more typical learners:

1. The capacity to learn at faster rates (Keating, 1976)
2. The capacity to find, solve, and cat on problems more readily (Sternberg, 1985)
3. The capacity to manipulate abstract ideas and make connections (Gallagher, 1985)

LITERATURE

1. The language used in books for the gifted should be rich, varied precise, complex, and exciting, for language is the instrument for the reception and expression of thought.
2. Books should be chosen with an eye to their open-endedness and their capacity to inspire contemplative behavior, such as through techniques of judging time sequences, shifting narrators, and unusual speech patterns, of characters.
3. Books for the gifted should be complex enough to allow interpretative and evaluation behaviors to be elicited from readers.
4. Books for the gifted should help them build problem-solving skills and develop methods of productive thinking.
5. Books should provide characters as role models for emulation.
6. Books should be broad-based in form, from picture books to folktales and myths, to nonfiction, to poetry, to fiction. (Junior Great Books recommended)

LEARNER OUTCOMES

1. Students will be involved in appropriately challenging reading material at their stage of readiness.
2. Students will be involved in opportunities for small group discussion of literature selections.
3. Students will develop critical reading behavior in the areas of analysis, interpretation and evaluation.
4. Students will develop and refine reading comprehension skills.

Goal: Literature offers an economical way to learn of the achievements, failures, and aspirations of a race. For the gifted, literature can serve as a high speed vehicle to realms far beyond the ones we have known.

<u>Grade</u>	<u>Objectives</u>	<u>Suggested Activities</u>
1-3	The enjoyment of literature and realization that stories are a time-space machine to transport them from the present.	Children can end a story differently from the way the author ended it Discuss what would happen if a character in a story had made a different choice.
4-6	To learn about cultural values held by mankind in a cross-section of countries. Appreciation for language, i.e., knowledge of writing techniques, a deeper understanding of subtle meanings of words.	The study of myths, folk tales, and fables used to study historical, cultural, and geographic similarities and differences among people. Study of biographies as information about people, their motives, values, and accomplishments.
7-9	To lead the gifted child away from the easy answers of childhood to the consideration of adult issues. To develop a thematic approach of major youth-adult conflict themes such as heroism, temptation, and situational ethics.	Compare legendary heroes of the past with modern heroes of books, television, and movies. Study of a series of stories with the Faust theme can help the student gain insight into the multi-varied nature of temptation.

10-12	<p>Students at this level should be provided the tools for intellectual inquiry and involved in the processes of defining, question asking, data gathering, observing, generalizing, etc.</p> <p>Four organizational approaches to language can be explored: history and chronology, textual analysis (structure, style, and meaning) and theme.</p>	<p>Historical--a study of a particular literary tradition, i.e., to study authors and their periods to show that literature is not written in isolation.</p> <p>The study of propaganda and its nature can focus on textual analysis so that the difference between reporting and propaganda can be delineated.</p> <p>Themes that underlie literature of varying periods--such as the search for immortality and the meaning of life---can allow the gifted to generalize some of the major themes of mankind.</p>
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Literary Works American Students Should Study

1. Shakespeare (particularly Macbeth and Hamlet)
2. American Historical Documents (particularly the Declaration of Independence, the Constitution, and the Gettysburg Address)
3. Twain (Huckleberry Finn)
4. The Bible
5. Homer (Odyssey, Illiad)
6. Dickens (Great Expectations, Tale of Two Cities)
7. Plato (The Republic)
8. Steinbeck (Grapes of Wrath)
9. Hawthorne (Scarlet Letter)
10. Sophocles (Oaedipuc)
11. Melville (Moby Dick)
12. Oarwell (1984)
13. Thoreau (Walden)
14. Frost (Poems)
15. Whitman (Leaves of Grass)
16. Fitzgerald (The Great Gatsby)
17. Chaucer (The Canterbury Tales)
18. Marx (Communist Manifesto)
19. Aristotle (Politics)

20. Dickinson (poems)
21. Dostoevsky (Crime and Punishment)
22. Faulkner (various works)
23. Salinger (Catcher in the Rye)
24. de Tocqueville (Democracy in America)
25. Austen (Pride and Prejudice)
26. Emerson (essays and poems)
27. Machiavelli (The Prince)
28. Milton (Paradise Lost)
29. Tolstoy (War and Peace)
30. Virgil (Aeneid)

In the language arts field, there are a number of examples of how to challenge gifted students who are in a heterogenous class receiving the same basic information as average students. One such program is described by Moss (1980), using the topic of the fable as a focus of a variety of enrichment or elaboration activities. After reading a few fables in the classroom, the teacher leads the discussion into what a fable is. Moss (p. 24) reported the following definition that evolved from one group of third graders: "A fable is a short tale which teaches a lesson or moral. The characters are usually animals who usually talk and act like human beings. Each character stands for something good (like being kind or wise) or something bad (like being greedy or vain)."

The children then tested their definition against some new fables that they analyzed. After creating and labeling their own fable characters, they became involved in the teacher-initiated question. Why were fables invented in the first place? Some of the students reached an awareness that the story is a natural vehicle for teaching important ideas or lessons through concrete images.

With this fundamental information in hand, the students were then encouraged to develop independent projects, and the gifted and talented students were allowed to design ones of their own special interest. One child wrote a book of riddles about fable characters, another made an illustrated dictionary of the interesting words he had found in the fables. One group printed and illustrated their own retelling of Aesop's tale "The Lion and the Mouse". Several children created puppets, which they used to present an original production based upon the fables of Aesop. Moss pointed out that this type of a topic allows for education of gifted children within the heterogeneous classroom, but also gives them additional opportunities to engage in challenging and enriching activities through the use of independent and group projects stemming from the original unit.

At the secondary level, the pursuit of the stated literature goals may be carried out through close textual analysis of short reading selections. The reading passages that follow are brief but rich in meaning, and the discussion questions lead students to deal with the content in highly complex ways.

1

If we can combine our knowledge of science with the wisdom of wildness, if we can nurture civilization through roots in the primitive, man's potentialities appear to be unbounded. Through his evolving awareness, and his awareness of that awareness, he can merge with the miraculous to which we can attach what better name than "God?" (Charles Lindbergh)

1. What can you infer are Lindbergh's religious beliefs from this passage?
2. Why should man turn to the primitive?
3. Explicate the last line of the passage.
4. Suppose you were a pilot. Would you rely more on science or instinct to fly a plane?
5. In your opinion, is history important? Why or why not?

2

Man is a blind, witless, low-brow, anthropocentric clod who inflicts lesions upon the earth. (Ian McHarg)

1. What is the meaning of the word anthropocentric?
2. What does man do that McHarg does not approve of?
3. Why do you suppose that McHarg feels the way he does about man?
4. In your judgement, has man destroyed nature more that he has honored it?

LITERATURE AND STORY WRITING

1. Distinguish among various styles and dramatic techniques used by author.
2. Evaluate various aspects of human relationships on the basis of the behavior of and interactions between and among story characters.
3. Identify, analyze, and synthesize the plot, theme, and organizational pattern of a story.
4. Describe the interdependence and mutual influences of local color, setting, mood, author's point of view subplots, problems, conflicts, and other components of literatures.
5. Develop a store of knowledge and experiences that will guide them as they discover written language as a means to express ideas in their own creative writing.

WRITING AND COMPOSITION

1. An Early Focus on writing should be stressed as it is important for young gifted students to conceptualize stories, sequence events, and present feeling and experiences through language.
2. Another writing model that is important for the gifted to emulate is research writing or technical report writing. Many of these students will be engaged in conducting research during their school years, so it is important that they have the appropriate tools to frame a written research report of their efforts. Thus teaching them the fundamental paradigm for a research paper should be a task of the writing program.

LEARNER OUTCOMES:

1. Students will develop the skills of the writing process, from pre-writing through revision.
2. Students will develop an appreciation of style and when to use a particular writing model.
3. Student will develop a st of tools for self-expression and creativity.
4. Students will continue the development of critical and creative thinking skills.

ENGLISH LANGUAGE STUDY

LEARNER OUTCOMES:

1. Students will demonstrate an understanding of the syntactic structure of English (Grammar) and its concomitant uses (usage)
2. Students will demonstrate vocabulary development
3. Students will demonstrate an understanding of word relationships (analogies) and origins (etymology)
4. Students will develop an appreciation for semantics, linguistics, and the history of language.

KEY COMPONENTS OF A VERBAL ARTS PROGRAM FOR THE GIFTED

Foreign Language

Literature

Writing and Composition

Language

Oral Discourse

Whatever the choice of a second language for the verbally gifted, it is important that they have the opportunity to learn one and preferably much earlier than the typical school curriculum would allow.

LEARNER OUTCOMES:

1. Students will develop proficiency in reading, speaking and writing in two languages.
2. Students will demonstrate a knowledge of the culture and traditions that shape language.
3. Student will be challenged by the interrelationships across languages in respect to form and meaning.
4. Student will develop an appreciation and understanding of language systems.

JOHN HOPKINS PROGRAM FOR VERBALLY GIFTED YOUTH

1. To provide the individual student with a verbal environment stimulating enough to elicit innate verbal abilities.
2. To give the verbally talented student a sound foundation in the mechanics of the English language.
3. To nurture the development of all varieties of verbal talent.
4. To give the verbally gifted the opportunity to become familiar with a linguistic tradition through the treatment of etymology, mythology, foreign languages, and literatures.
5. To allow a qualified young student access to college level course work.

LANGUAGE ARTS BIBLIOGRAPHY FOR GIFTED STUDENTS

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Comprehensive Curriculum for Gifted Learners, Joyce VanTassel-Baska, 1988, Allyn and Bacon, Inc.

Planning and Implementing Programs for the Gifted, James H. Borland, 1989, Teachers College Press, Teachers College, Columbia University, New York and London.

MATHEMATICS OBJECTIVES FOR GIFTED STUDENTS

PHILOSOPHY:

The mathematically talented child reasons, thinks and perceives mathematics in a complex manner. Thus, our efforts in meeting the needs of the mathematically gifted must reflect the unique capabilities of these students.

For those students who remain in the regular classroom for mathematics, adjustments must be made to ensure that these students are being appropriately served. It is desirable to broaden the curriculum rather than to accelerate students through it. The National Council for Teachers of mathematics indicates that "programs for the gifted student should be based on a sequential program of enrichment through ingenious problem solving opportunities rather than through acceleration alone." (NCTM 1980)

Gifted students think and learn mathematics in a very generalized, logical, abstract manner. They tend to focus on the underlying relationships and general structure of a problem rather than on the specifics of irrelevant detail. Our program for the gifted, then, must include open-ended problems that encourage diverse, creative or clever solutions, spatial and logical reasoning using concrete, three dimensional materials, and opportunities to abstract ideas and search for relationships and patterns. NCTM recommends "that all mathematically talented and gifted students should be enrolled in a program that provides a broad and enriched view of mathematics in a context of higher expectation." (NCTM 1986)

Elementary students still require student/teacher interaction in building foundations in mathematics concepts and principles, student motivation, and providing feedback to students. Energy, enthusiasm and respect from the teacher are vital in motivating, challenging and receiving satisfaction in the environment from the students. A truly effective program for the gifted goes beyond "Friday fun math", independent projects, the arbitrary use of calculators and computers and using the gifted as teacher helpers. There is nothing educationally inappropriate about any of these activities, however, alone they do not constitute a gifted program. We must foster the attitude in our students that all kinds of mathematics can be fun and relevant. We must insure that all students have equal opportunities to work independently, have fun, be actively involved and, above all, be challenged.

CHARACTERISTICS/IDENTIFICATION:

V. A. Kruteskii has identified three types of mathematical thinkers. They include **1)** analytical types, **2)** geometric types, and **3)** harmonic types.

Analytical thinkers possess a mathematically abstract cast of mind. In their thinking a well developed verbal-logical component predominates over a weak visual-pictorial one. They function easily with abstract patterns and show no need for visual supports when considering mathematical relationships. They will, in fact, employ complicated analytical, methods to attack problems even when visual approaches would yield much simpler solutions. They prefer abstract situations and will attempt to translate concrete problems into abstract terms whenever possible. They may have weakly developed spatial visualization abilities, especially for three-dimensional relationships. In school they are more likely to excel in arithmetic and algebra than in geometry.

Geometric thinkers exhibit a mathematically pictorial cast of mind. Their thinking is driven by a well-developed visual component that impels them to interpret visually expressions of abstract mathematical relationships, sometimes in very ingenious ways. Although their verbal-logical abilities may be quite well developed, they persist in trying to operate with visual schemes even when a problem is readily

solved by analytical means and the use of visual images is superfluous or difficult. Indeed, these students frequently find that functional relationships and analytical formulas become understandable and convincing only when given a visual interpretation.

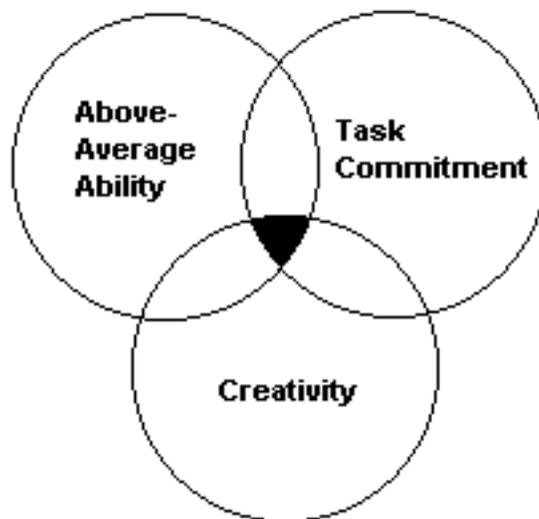
Harmonic thinkers exhibit a relative equilibrium between the extremes of the other two types. They possess both well-developed verbal-logical and well-developed visual-pictorial abilities, and when given a problem, they are usually capable of producing solutions of both kinds. Kruteskii observed two subtypes among harmonic thinkers: those with an inclination for mental operations without the use of visual means and those with an inclination for mental operations with the use of visual means. In other words, although harmonic thinkers are perfectly capable of representing relationships pictorially, some prefer to do so while others see no need for it. (NCTM, Providing Opportunities for the Mathematically Gifted, 1987)

As noted, mathematical thinking abilities vary in individual students. In order to attempt to identify these students the regular mathematics program must include frequent opportunities to investigate varied mathematics topics and to use higher level thinking skills in problem solving so that these children can demonstrate many (but not necessarily all) of the following characteristics:

1. Has a tendency to choose to do mathematics when presented with a choice of activities.
2. Masters typical content more quickly and at an earlier age than his or her classmates.
3. Often skips steps in problem solving and may solve problems in unexpected ways.
4. Is more willing and capable of doing problems abstractly; often prefers not to use concrete aids.
5. Enjoys and is successful at looking for patterns and relationships and attempts to explain them.
6. Concentrates for long periods of time on a problem that he or she finds interesting.
7. Has exceptional mathematical reasoning ability and memory.
8. Is more likely to see relationships between a new problem and previously solved; enjoys posing original problems.
9. Is capable of more independent, self-directed activities.
10. Enjoys the challenge of mathematical puzzles and games.

Careful observation of these traits in individuals in the most reliable means of identification. Book and standardized tests offer minimal aid because their focus is so limited.

Renzulli's Identification Model:



Giftedness consists of an interaction among three basic clusters of human traits. These clusters being above average general ability, high levels of task commitment, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Children who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs. (Renzulli, Joseph S. The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented. Wethersfield, Conn., Creative Learning Press, 1977.)

It is important to note that Renzulli is explicit in stating that it is the interaction of these three clusters, each being an equal partner in contributing to giftedness, and that no one cluster alone constitutes giftedness.

CLASSROOM LEVEL OPTIONS:

Cooperative grouping:

Cooperative grouping can be a positive experience for the gifted student in grades 3 and above. The philosophy in this method of instruction is based on total cooperation and commitment from each member of the group. Gifted students have the opportunity to be intellectual leaders, but also learn valuable lessons in working with a variety of students in an environment built on acceptance and respect. Should a teacher choose this option, research or training in this methodology should precede any attempts to ensure success.

Renzulli's Triad Model:

Renzulli's model offers us some useful guidelines in planning and providing for the needs of our gifted

population and is easily implemented into the mathematics curriculum. The three types of enrichment include **1)** general exploratory activities designed to stimulate interest, **2)** group training activities, and **3)** individual or small group investigations of real problems.

Type I enrichment activities are intended to expose the children to a wide variety of new topics and experiences. These can take place in interest centers or as materials left around the room for the students to explore. The object is to offer the students the opportunity to explore without the pressure of completing a task for a grade or to be turned in, yet is giving them the opportunity to find materials and activities that interest them. These activities are intended for the entire classroom population.

Type II enrichment activities are extensions of Type I explorations and are intended to focus on the development of important thinking processes and key mathematical concepts. These activities are led by the teacher in a teacher directed use of the materials the student has already explored. These activities are also intended for the entire class population, however offer the gifted student the background and motivation to enter Type III experiences.

Type III enrichment activities tend to identify and challenge the gifted learner. The essence of these activities is in having children investigate complex problems that are interesting to them and yet within the context of the regular curriculum. They become problem finders and problem posers in these investigations and are given the opportunity to present their findings to a real audience. These activities tend to be less teacher directed, but the teacher must provide opportunities for these investigations to occur and then support the student by asking questions that will lead to further thought and investigation and providing time and resources for it to happen.

Homogeneous grouping:

This option would require a teacher to group students for mathematics in much the same way students are grouped for reading. A burden is placed on the classroom teacher to provide activities for these groups, however insures daily interaction with each student. This option also gives bright students the opportunity to work in a challenging environment with other students equally motivated and enthusiastic in the area of mathematics.

Differentiated assignments:

It is important that a teacher be flexible in assigning work to gifted students. Requiring an advanced student to move at the same pace as the rest of the class or complete work that covers material already mastered is unreasonable. A bright student may be asked to complete a sampling of the assigned problems to insure mastery, but the student's assignment for the period must be challenging and appropriate to his/her needs. The enrichment activities provided by most textbook programs are not alone sufficient in meeting the needs of the gifted child. The teacher must draw from other resources in assigning work for the gifted child. This assignment may be completely different from the regular curriculum, yet following a carefully planned program or related to the curriculum involving more

diversity and depth.

INSTRUCTIONAL NEEDS:

Kindergarten-Grade 2:

Gifted children at the early childhood and early primary levels of development have a general capacity to abstract mathematical concepts more quickly and easily than less able peers. These concepts still need to be taught concretely for internalization of those concepts to occur. However, meeting the needs of the young gifted child must exceed additional drill and practice of skills already mastered. The young child needs to be exposed to a wide variety of mathematical concepts, engaged in discovery learning, offered open ended problem solving opportunities and provided with a range of activities that allow for creative, spatial reasoning, problems with multiple solutions and extension as far as the child's ability allows. Such opportunities are found in activities that include patterning, tessellations, symmetry, spatial problem solving, logic, measurement through comparison, estimation, classifying, collecting/recording and analyzing data, application in real life problems, journal writing and exploration. The teacher must be a guiding force in the life of a mathematically gifted child. Asking the right questions, encouraging exploration and showing interest and enthusiasm for the child's curiosity, ability and accomplishments are essential in the development of the young gifted child's sense of self worth and in building enjoyment for mathematics.

Grades 3-5:

Students at this level are generally becoming more abstract in thought and the focus of mathematics begins to change. For the gifted child, abstracting has occurred far before this time and many of the basic computational skills have been mastered or can be easily mastered. Additional drill only discourages the bright learner. Children, during these years, are still motivated to learn but are becoming more aware of the relevance of school and of peer attitudes. It is vital that mathematics include hands on activities, spatial reasoning opportunities, logic, open ended problem solving opportunities, work with representational mathematics concepts, make connections and be engaged in cross curricular integration whenever possible.

Students at this level are still affected by the teacher's attitude toward him/her as well as being influenced by the attitudes of peers. The teacher must show respect for the child with unique capabilities and offer opportunities for the child to shine without standing out in the crowd. Limited independent projects are desirable at the level, but only with teacher supervision and input. Children in these grades are very social and need positive interaction with peers. Cooperative grouping and group projects are appropriate ways of building strong self concept in the gifted child. These years provide many gifted students with the attitudes about self and mathematics that will carry them through their school years. It should be our goal to make these years the positive factor in the life of a child. Active involvement, challenge, diverse opportunities and respect are key elements in ensuring success.

Middle School:

Those who work with middle school students know the turbulence of these years for all of them. This is a time of life when the world is opening up and they see the many opportunities available to them. They are easily distracted - even disruptive, pressured by peers to conform - to hold academic standards in disregard. During these years many students drop out of mathematics programs. Women and minorities are especially affected during this period of life. Bright students, especially those who were not challenged in elementary school, may have inadvertently developed poor study habits and have come to expect that they need not pay attention, do homework or study for tests. School becomes irrelevant, boring and a waste of time. During these years it is essential that students are offered a wider perspective of mathematics to develop forms of thought not previously used. They must be offered something worthwhile to do and a nurturing, sensitive teacher. Some gifted students have grown lazy in basic skills and need some practice to renew this foundation on which more complex skills are built.

Gifted middle school students need to be allowed the freedom in choosing from a variety of investigations and group work but not in the choice of whether or not to participate. They need to be involved in a discovery formatted environment with the quality of open endedness.

Gifted middle school students need access to computers and calculators coupled with the kind of instruction that will allow them to use this technology effectively. In addition, topics need to be included in the curriculum which lend themselves to increased depth of exploration and integration of various aspects of mathematics. This, then, leads to growth in sophistication and mathematical maturity. Gifted students must use this knowledge to develop proof - an argument that convinces - building logic and formalism in mathematical reasoning. A mathematics program for the gifted should include such topics as:

- Number theory
- Elementary, intermediate and abstract algebra
- Probability
- Statistics
- Logic
- Synthetic, transformational and analytic geometry
- Topics from discrete mathematics such as elementary graph theory

A final note: Math for gifted middle school students should be fun and social as well as challenging. Strategy games, puzzles and competitions are valid additions to a program that promotes fun, enthusiastic learning.

LEARNER OUTCOMES FOR THE GIFTED CHILD - K-8:

The following objectives are meant to be incorporated into a regular classroom, used by classroom teachers and not to be used as a total program for gifted students. These objectives will require ongoing change as teachers become more familiar with the needs and methods used in teaching gifted students. Calculators and computer technology should be used wherever possible to build abstract thinking skills. Gifted students should be allowed the flexibility to utilize mathematical concepts at the highest possible level during each school year.

K-1

- K.03 & 1.06 The student shall create and extend complex patterns and transfer them to a variety of medium.
- K.04 & 1.09 The student shall participate in investigations in which collecting, recording and analyzing data is required, logic and problem are integral
- K.08 & 1.07 The student shall engage in problem solving situations which build higher order thinking skills, three dimensional thinking and require use of creativity.

Descriptive Statement: Activities which utilize manipulative puzzles such as tangrams, two and three dimensional pentominoes, pattern blocks and geoblocks should be stressed. Creative involvement with these as well as with building blocks, gear and bolt construction blocks, tiles, unifix cubes and geoboards are essential.

- K.08 The student shall use logical reasoning in solving problems. The use of Venn diagrams, attribute blocks and other classification materials should be incorporated.
- K.09 The student shall communicate mathematically by labeling groups, verbally explaining reasoning used in problem solving, in writing books with mathematics content and in keeping a math journal.

GRADE 2

- 2.08 The student shall create and extend complex pattern configurations and translate them to other mathematical terms.
- 2.09 The student shall use computational skills in solving real problems, and in organizing information in a logical sequential manner.

The student shall participate in investigations where collecting, recording and interpreting data is required, logic and problem solving are integral.

The student shall keep a mathematics journal recording ideas and observations of a mathematical nature.

The student shall use logical reasoning in solving problems by making connections and finding commonalities in the attributes of blocks and other manipulative materials.

The student shall solve spatial problems using logical reasoning.

Descriptive Statement: Pattern blocks, tangrams, two and three dimensional pentominoes, attribute blocks (including negative attributes), symmetry and geoboards should be used.

GRADE 3

3.01 The student shall use computational skills in solving real life problems drawn from the students' own interest, organizing and presenting information in a logical sequential order, in oral or written form.

3.05 The student shall solve spatial problems using logical reasoning skills.

Descriptive Statement: Pattern blocks, tangrams, two and three dimensional pentominoes, attribute blocks (with negative attributes), symmetry, congruence, tessalations, geoboards and geoplex should be used.

3.06 The student shall conduct investigations which require the use of statistical procedures and reasoning skills such as collecting, recording, interpreting and comparing data, transferring information from bar to line graphs and drawing inferences.

3.08 The student shall apply the understanding of pattern to numeric sequences and functions and make connections in these areas.

The student shall keep a mathematics journal noting questions, ideas and observations about mathematics

GRADE 4

4.01 The student shall use computational skills in solving real life problems which challenge the use of these skills, organizing and presenting information in a logical sequential order, in written or verbal form.

4.09 The student shall use geometric concepts to solve three dimensional problems such as constructing scale models and figures, and completing three dimensional puzzles.

4.09 The student shall solve spatial problems using logical reasoning skills (adding a third variable to the venn diagram), symmetry, and tessalations.

4.11 The student shall conduct investigations which require the use of statistical procedures and reasoning skills, organizing, evaluating and presenting data in oral or written form.

The student shall build an understanding of number theory and number systems in solving problems.

Descriptive Statement: Positive and negative integers and the relationships between number operations should be explored.

The student shall use creativity and logic in solving numeric puzzles, numeric patterns and in making connections in these processes.

GRADE 5

- 5.01 The student shall use computational skills in solving real life problems which challenge the use of these skills, organizing and presenting information gathered in a logical, sequential order in written or oral form.
- 5.05 The student shall build the concept of representational mathematics, variables, expressions and equations and apply them to problem solving situations.
- 5.06 The student shall conduct investigations which require the use of statistical methods and probability, interpreting and evaluating data collected, presenting it in oral or written form, graphically or pictorially.
- 5.11 The student shall extend the ability to solve spatial problems in two and three dimensions, and find relationships between geometric concepts.

The student shall develop a broad understanding of number systems and number theory.

Descriptive Statement: Positive and negative integers, primes, rational numbers, decimals and the relationships of these and other arithmetic operations should be explored.

The student shall make connections between mathematical systems and operations and utilize that understanding in creating and solving complex problems.

GRADE 6

- 6.04 The student shall utilize the understanding of number systems and number theory in solving everyday long and short term problems.

Descriptive Statement: Positive and negative integers, primes, decimals, rational numbers, binary number system and exponents should be incorporated.

- 6.07 The student shall build geometry skills through spatial problem solving in two and three dimensions, symmetry, tessalations, taxi geometry and in making generalizations about geometric concepts.
- 6.08 The student shall conduct investigations which incorporate probability and statistics, problem solving skills and requires interpretation and evaluation, presenting information gathered in written or oral form, graphically or pictorially.

The student shall extend the understanding of variables and representational mathematics with a focus towards using algebraic notation and equations.

The student shall build the concept of proof in solving problems, organizing and presenting information gathered, with a focus on justification of methods used, in logical order, in written or oral form.

GRADE 7

7.02 The student shall use the understanding of number systems and theories to solve and create problems.

Descriptive Statement: Positive and negative integers, primes, binary and ternary number systems, exponents and decimals should be used.

7.05 & 7.09 The student shall conduct investigations which require the use of probability, statistics, proportions and ratios, organizing and evaluating data and presenting it in oral or written form, graphically or pictorially.

7.13 The student shall utilize proof in solving problems, organizing information in a logical, sequential order and presenting that information in oral or written form.

The student shall develop a greater understanding of algebraic notation and equations, exploring the interrelationships of these representations using formal and nonformal methods.

The student shall understand and apply geometric properties and relationships visualizing and drawing in two and three dimensions.

Descriptive Statement: Attention should focus on transformational and synthetic geometry and spatial problem solving.

GRADE 8

It is appropriate at this level to allow gifted mathematics students to opt into an Algebra I class. If this option is not available the following additions to the curriculum should be made.

8.04 The student shall generalize about mathematics concepts, making connections between number systems and operations, drawing inferences about theory and such systems and utilize the understanding of these in building and solving problems.

8.07 The student shall use algebraic concepts and notation in describing solutions to problems, solving linear and non linear equations and in investigating inequalities, using formal methods.

8.09, 8.11 &
8.12

The student shall conduct investigations which incorporate the use of probability and statistics, proportions and ratios, deductive and inductive reasoning, organizing and evaluating data and presenting it in written or oral form, graphically or pictorially.

8.10

The student shall make generalizations about geometric properties and relationships and use them in solving problems.

Descriptive Statement: Attention should focus on transformational, analytical and synthetic geometry, spatial problem solving, visualizing and drawing in two and three dimensions and in creating tessalations.

The student shall use the concept of proof in presenting solutions to problems in a logical, convincing manner, in oral or written form.

The student shall recognize, create and analyze patterns and relationships in number systems and theories.

Descriptive Statement: Rational and irrational numbers, primes, positive and negative integers, binary, ternary and other related number systems (such as the octagal system) and exponents should be used.

The student shall explore topics from discrete mathematics including developing and analyzing algorithms, and in representing problems using sequences and recurrence relations.