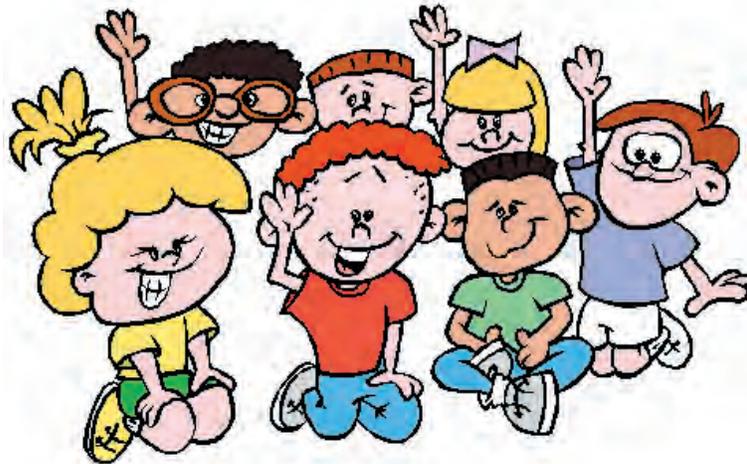
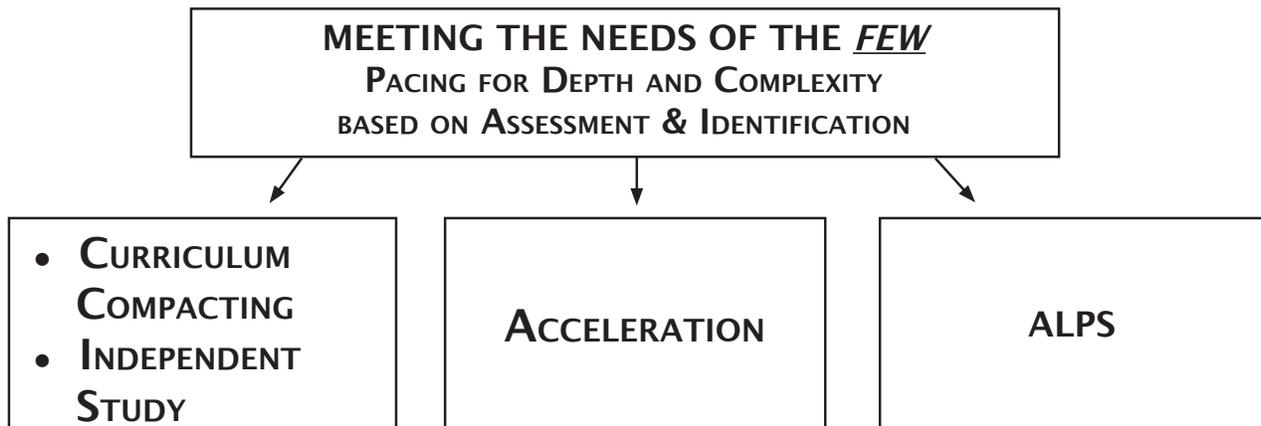
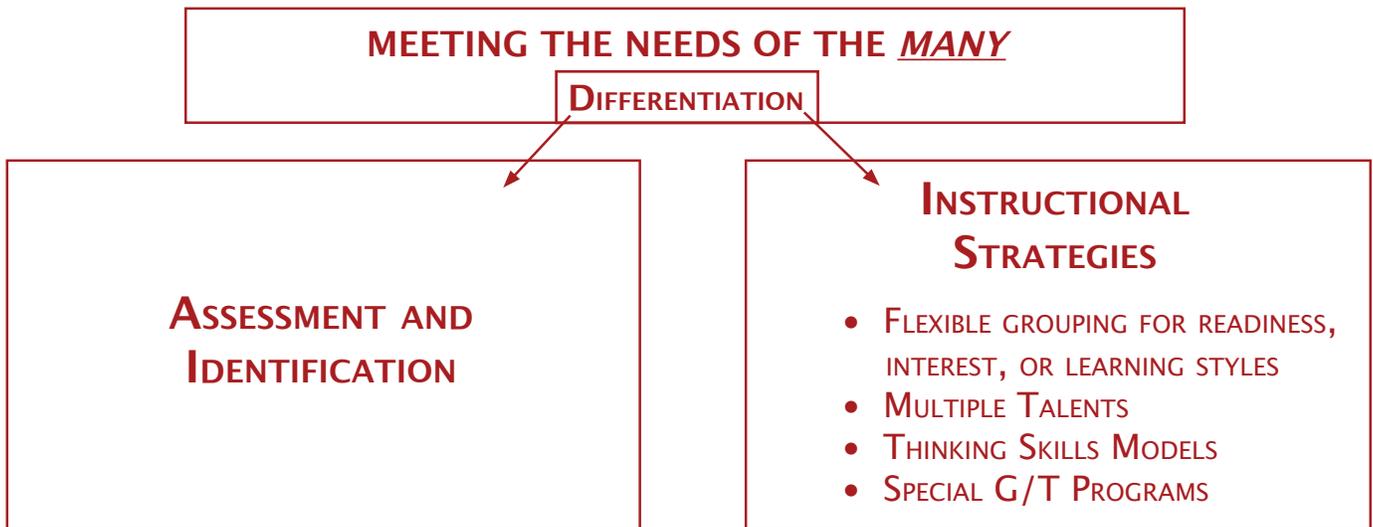
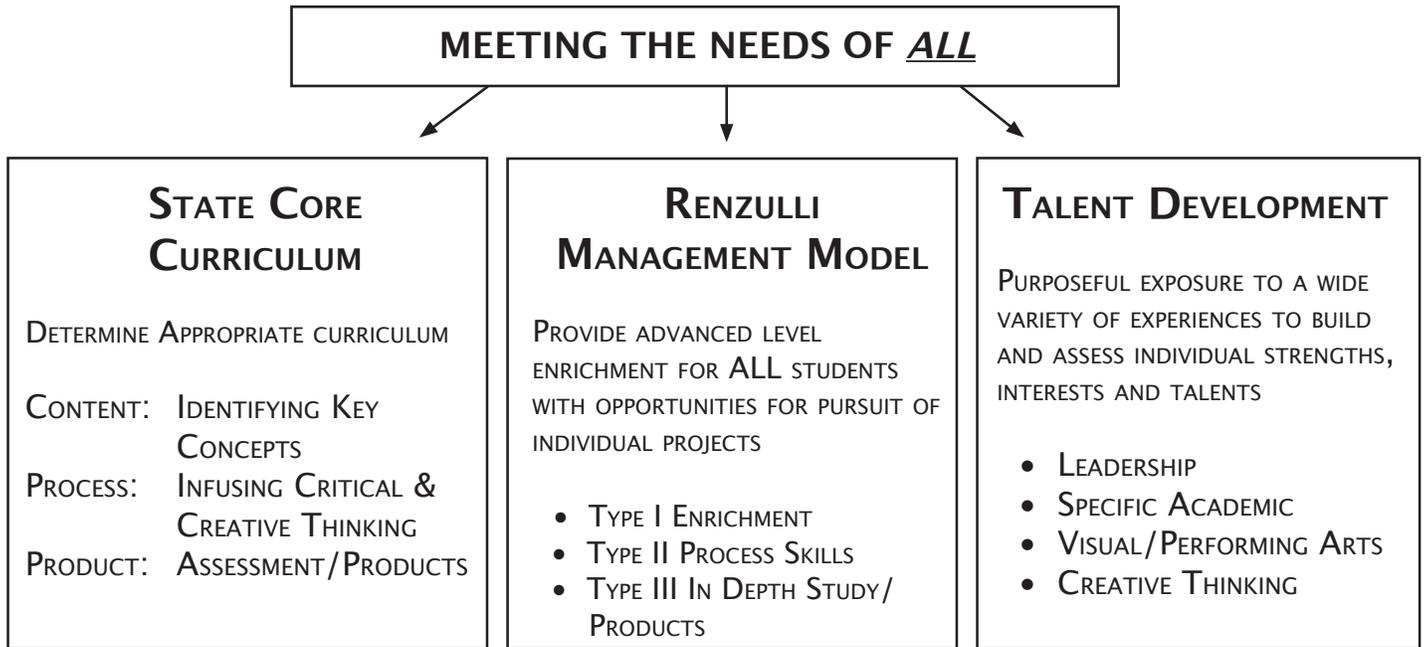


# Meeting the Needs of the **MANY**



# JORDAN SCHOOL DISTRICT ELEMENTARY GIFTED/TALENTED MODEL

(BASED ON STATE OF UTAH GIFTED/TALENTED RULES)



ADAPTED FROM JOSEPH RENZULLI'S SCHOOLWIDE ENRICHMENT MODEL

# Differentiation

**D**ifferent Choices or  
**D**ifferent Activities or  
**D**ifferent Materials or  
**D**ifferent Times...



With **D**ifferent Students

# Principles of a Differentiated Classroom Enriching and Extending Core Curriculum

- 1) Present content that is related to grade-level core curriculum.
- 2) Integrate multiple disciplines into the area of study.
- 3) Allow for open endedness.
- 4) Integrate basic skills and higher-level thinking skills.
- 5) Present comprehensive, real-world experiences within an area of study.
- 6) Allow for in-depth learning of self-selected topics within the area of study.
- 7) Incorporate student choice whenever appropriate.
- 8) Develop independent or self-directed study skills.
- 9) Develop research skills and methods.
- 10) Encourage the development of products that challenge existing ideas and produce “new” ideas.
- 11) Encourage the development of self-understanding, i.e., recognizing and using one’s abilities, becoming self-directed, appreciating likeness and differences between oneself and others.
- 12) Evaluate student outcomes by using appropriate and specific criteria through self-appraisal, criterion referenced and/or standardized instruments.



“In a differentiated classroom, the teacher plans and carries out varied approaches to content, process, and product in anticipation of and response to student difference in readiness, interest, and learning needs.”

- Carol Ann Tomlinson

## “Rule of Thumb” for Differentiating Instruction:

- Have clear key concepts that give meaning and structure to the topic, chapter, unit or lesson you are planning
- Emphasize critical thinking for ALL students
- Engage ALL students
- Have a balance between student-selected and teacher-selected assigned tasks and working arrangements

# Managing A Differentiated Classroom in Just Two Steps

1. Consider the Learning Environment
  - use of **space** for variety in student activities such as learning centers, interest centers, independent study areas, etc.
  - use of **time** in response to student needs with prior notice to make adjustments smoothly
  - **flexible grouping** to ensure consistently fluid working arrangements
    - whole class
    - partnering
    - triads, quads
    - cooperative learning
    - student-selected groups
    - teacher-selected groups
    - random groups
    - buddy groups with other classes
  - ongoing, clearly defined **expectations and assessment** in appropriate ways to demonstrate student thought and growth
    - teacher centered
    - student centered
    - peers
    - portfolio
    - authentic
    - reflective
  
2. Consider the Content, Process, and Products
  - **diagnose** student readiness, interest, and learning style
  - respond to varied needs of varied learners
  - **focus** on key concepts, understanding and skills
  - **involve all students** in respectful, appropriate work
  - require teacher and students working **cooperatively** to ensure continual engagement and challenge for each learner
  - offer continual, clearly established **individual and or group criteria** to provide guidance toward continual progress and success

# How is Differentiation Different?

## Comparing Classrooms

### Traditional Classroom

- Student differences are addressed only when differences arise.
- Assessment is most common at the end of learning to see “who got it”
- A relatively narrow definition of intelligence prevails
- A single definition of excellence exists
- Student interest is infrequently tapped
- Relatively few learning styles are taken into account
- Whole class, teacher directed instruction dominates
- Coverage of tests and curriculum drives instruction
- Mastery of facts and skills out-of-context are the focus of learning
- Single option assignments are the norm
- Time is relatively inflexible
- A single text prevails
- Single interpretations of ideas and events may be sought
- The teacher directs student behavior
- The teacher solves problems
- The teacher provides whole-class standards for grading
- A single form of assessment is often used

### Differentiated Classroom

- Student differences are studied as a basis for planning
- Preassessment and ongoing assessment are used to meet learner needs
- Focus on multiple forms of intelligence is evident
- Excellence is defined in large measure by individual growth
- Students are frequently guided in making interest-based choices
- All learning styles are considered and planned for
- Research-based instructional strategies are used
- Student readiness, interest, and learning style shape instruction
- Use of essential skills to make sense of and understand key concepts is the focus of learning
- Multi-option assignments are often used
- Time is used flexibly according to student need
- Multiple materials are provided
- Multiple perspective on ideas and events are routinely sought
- The teacher helps students become self-reliant learners
- Students help other students and the teacher solve problems
- Students work with the teacher to establish whole-class and individual learning goals
- Students are assessed in multiple ways

\*Ideas adapted from Carol Ann Tomlinson

# Depth and Complexity

## Differentiating Content for Gifted Students

To differentiate content for gifted learners, neither depth nor complexity is used in isolation. Rather they interact to promote a meaningful curriculum. For example, when studying mathematics, a student could identify intricate patterns in relationships between the field of mathematics and the field of botany. Both depth and complexity should be incorporated into the development of appropriate curriculum for gifted learners.

**Depth** is understanding information to a greater degree. It means going deeper into the body of knowledge. Kaplan outlined eight processes to accomplish this goal.

- **Identify and use the language of the discipline**  
What terms or words are specific to the discipline?  
What language is important to communicate within this discipline?
- **Describe details**  
What are attributes?  
What features characterize this idea/area/topic/study/discipline?
- **Determine patterns**  
What are the reoccurring events?  
What elements, events, ideas, are repeated over time?  
How can we predict what will come next?
- **Investigate trends**  
What ongoing factors have influenced this study?  
What factors have contributed to this study?
- **Formulate unanswered questions**  
What is still not understood about this area/topic/study/discipline?  
What is yet unknown about this area/topic/study/discipline?
- **Hypothesize rules**  
How is this structured?  
What are the stated and unstated explanations of this discipline?
- **Determine ethics**  
What dilemmas are involved in this area/topic/study/discipline?  
What controversies are involved in this area/topic/study/discipline?
- **Identify Big Ideas/Generalizations**  
What overarching statement best describes what is being studied?  
What general statement can be proved or disproved in this area/topic/study/discipline?

**Complexity** means understanding relationships. It involves learning the content in a more complex manner. Kaplan listed three processes to accomplish this goal.

1. **Explore relationships over time**  
How are the ideas related between the past, present, future?  
How and why do things change or remain the same?
2. **Investigate points of view**  
What are the opposing viewpoints?  
How would a philosopher, historian, artist, politician, etc. view this event or situation?
3. **Discover relationships among, between and within disciplines**  
How does this idea relate to other ideas within this discipline?  
How does this area/topic/study/discipline relate to other disciplines?

\*Ideas from Sandra Kaplan

# Ways to Differentiate

## Place

- Change the environment or amount of space.
- Use carrels, centers, music, different desk arrangements, carpet squares, lower or brighten lighting.

## Amount (time and materials)

- Give more or less time to explore materials.
- Use more or less repetition and break into smaller steps.
- Reduce or increase the number of things to be learned.
- Alter the amount of examples and feedback given.

## Rate

- Change the pace. Give more breaks.
- Create more or less structure for the activity/intensity of teacher-directed lessons.

## Target objectives

- Make sure students are clear about goals or outcomes. Consider alternative goals or alternative means of reaching goals. Decide what a child can realistically achieve. Make objectives life centered and connected to interests.

## Instruction

- Use more or less direct instruction. Cause students to be mentally and physically active, engaged and involved with questions. Organize lessons in whole-part-whole fashion and use inductive as well as deductive teaching. Set up class routines and other structures to provide security, with many possibilities within the structures. Use Gardner's Intelligences to plan each day and monitor the week.

## Curriculum

- Adapt materials (use highlighter, tape recorder, rewrites, etc.). Allow for student choice. Use hands-on materials such as games or art media. Use computers and different software.

## Utensils (media and tools)

- Use visual and auditory aids. Teach meaning-making tools and strategies (short cuts, cue sheets, mnemonics, etc.). Teach when and how to use strategies.

## Level of difficulty

- Make the lesson easier or harder to challenge appropriately. Highlight text essentials. Change the amount of structure or supervision.

## Assistance

- Set up peer tutoring, flexible grouping, structure changes and prompts.

## Response

- Allow students to show what they know in a variety of ways. Use projects that call for a product or a performance. Distinguish between assessment, evaluation, and grading.

# Differentiating Using Tiered Lessons

A tiered lesson is a differentiation strategy that addresses a particular standard, but allows several pathways for students to arrive at understanding based on student readiness, interest, and learning style.

If growth is the focus...



group for readiness

If motivation is the focus...



group for interest

If efficiency is the focus...



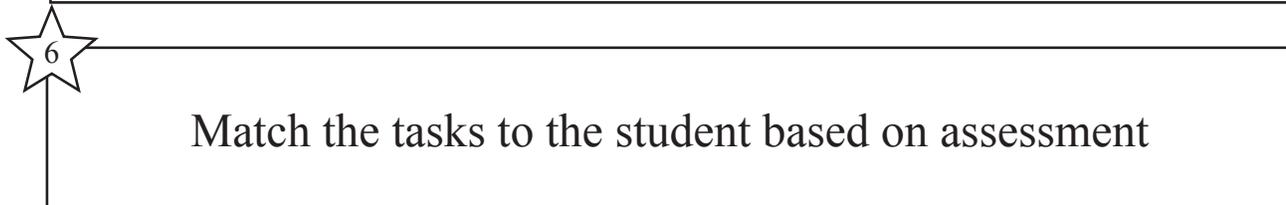
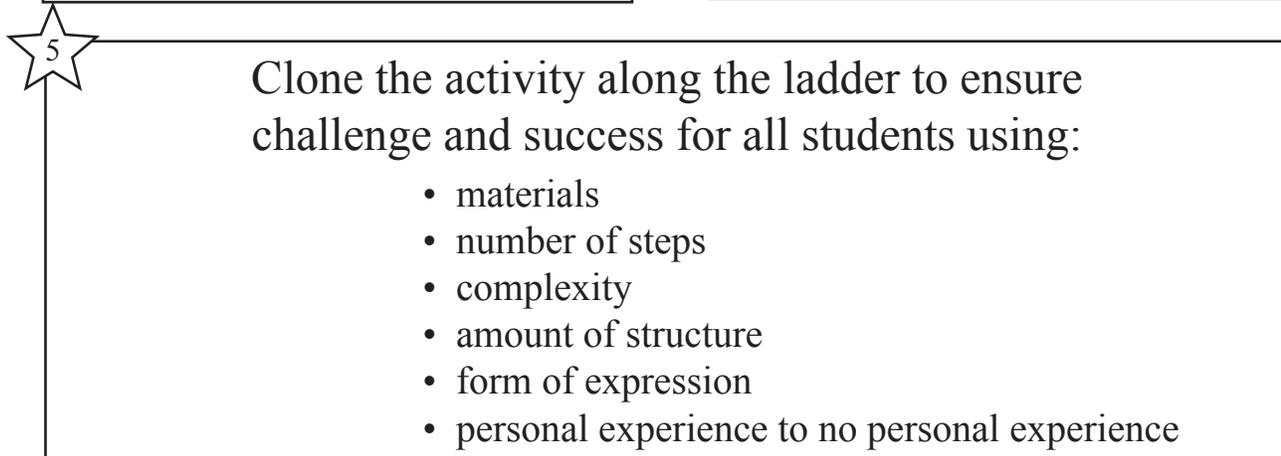
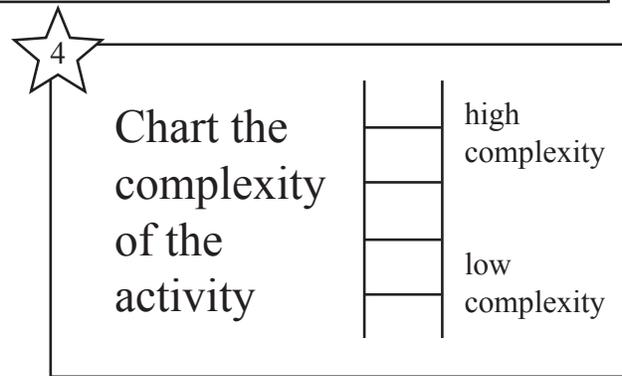
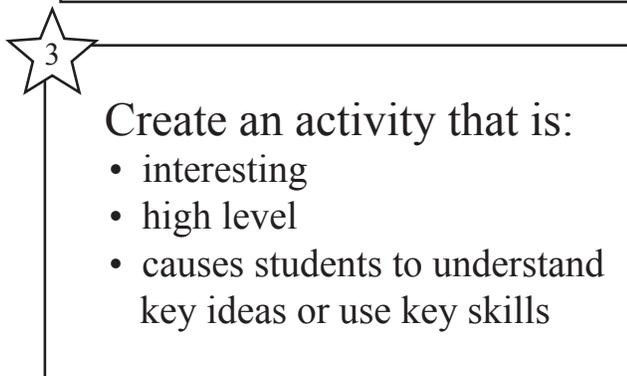
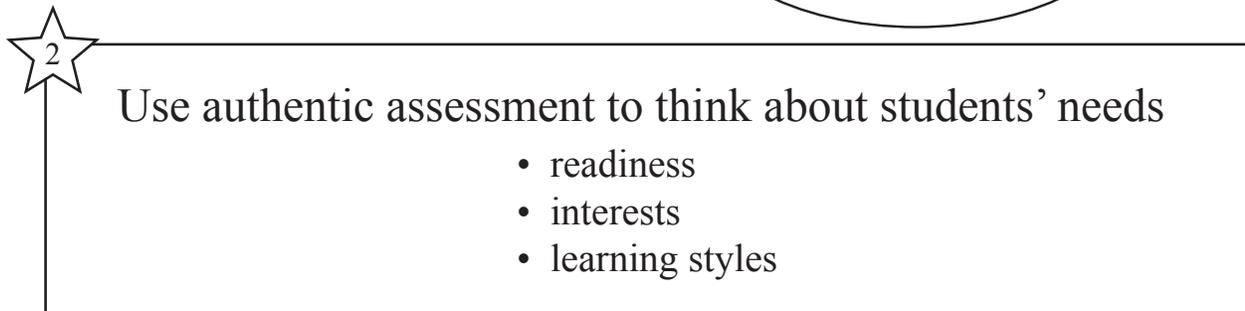
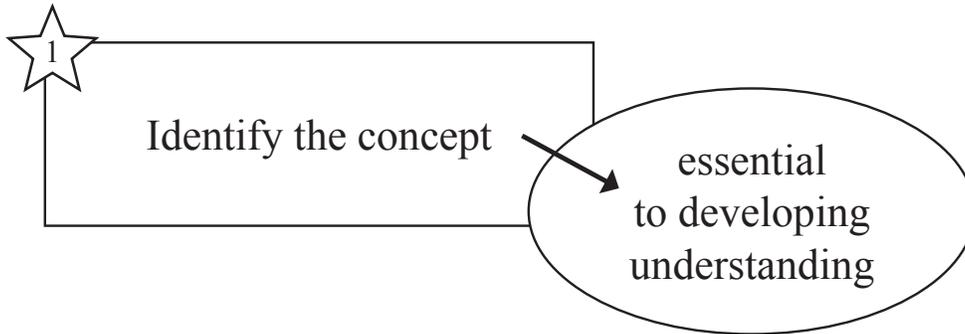
group for learning style

## What can be Tiered?

- Assessments
- Centers and Stations
- Assignments/Homework
- Experiments
- Activities
- Learning Contracts
- Materials
- Writing Prompts

# Developing a Tiered Activity

adapted from Carol Ann Tomlinson



# How to Write a Tiered Lesson

## Identify Outcomes

*What students should know, understand  
and be able to do*

## Assess Students

*For readiness, interest, or learning style for the purpose  
of grouping*

## Initiating Activities

*Common experience(s) for the  
whole class*

Tier the practice activities

Group 1  
task

Group 2  
task

Group 3  
task

# Tiered Lesson learning style

## Identify Outcomes

*Math Standard I; Objective 3*

Model and illustrate meanings of the operations of addition and subtraction and describe how they relate

## Initiating Activities

Read 12 Ways to Get to 11 (ISBN# 0-689-80892-5).

Demonstrate and practice joining different sets of twelve objects and record the results with pictures and numbers.

## Assess Students

*for learning style*

Consider students based on previously administered Multiple Intelligences Inventory.

### Group 1

Students draw at least 3 different pictures of ways to get to 12.  
(visual learners)

### Group 2

Students describe verbally at least 3 different ways to get to 12.  
(auditory)

### Group 3

Students will act-out 3 different ways to get to 12.  
(kinesthetic learners)

# Tiered Lesson interest

## Identify Outcomes

*Language Arts Standard 4000-07 Comprehension; Objective 3*  
Recognize and use features of narrative and informational text.

## Initiating Activities

*Read The Three Little Pigs.*

Work with students to identify key events from the story.

## Assess Students

*for interest*

Self-assessment: Students identify key events from a book of their choice.

## Grouping

Place a variety of book choices around the room. Allow students to group according to the story they are interested in reading. Assign each group to read the story and then identify key events from the story.

# Tiered Lesson learning style

## Identify Outcomes

*Math Standard I, Objective 2*

Identify relationships among whole numbers, fractions, decimals, and percents

## Initiating Activities

Activity to activate and review knowledge of comparing decimals.

## Assess Students

*for readiness*

Following initiating activity administer a 2 problem quiz on comparing decimals.

### Group 1

Students play Diabolical Decimals\* with a four-sided die to create the largest decimal.

### Group 2

Students play Diabolical Decimals\* with a six-sided die to create the biggest difference between two decimals

### Group 3

Students play Diabolical Decimals\* with an eight-sided die to create the smallest decimal and the smallest difference between two decimals.

\*Group directions for Diabolical Decimals are on the following page.

## **Diabolical Decimals**

Object of the game: Score ten points by creating the largest decimal

How to play

- Each player rolls the die and records their number on their own chart
- The player with the largest decimal scores a point
- The first player to reach ten points wins

## **Diabolical Decimals**

Object of the game: Score ten points by creating the largest difference between two decimals

How to play

- Each player rolls the die and records their number on their own chart
- Repeat step one so each player has created two decimal numbers
- Each players find the difference between the two decimals he/she created
- The player with the largest difference scores a point
- The first player to reach ten points wins

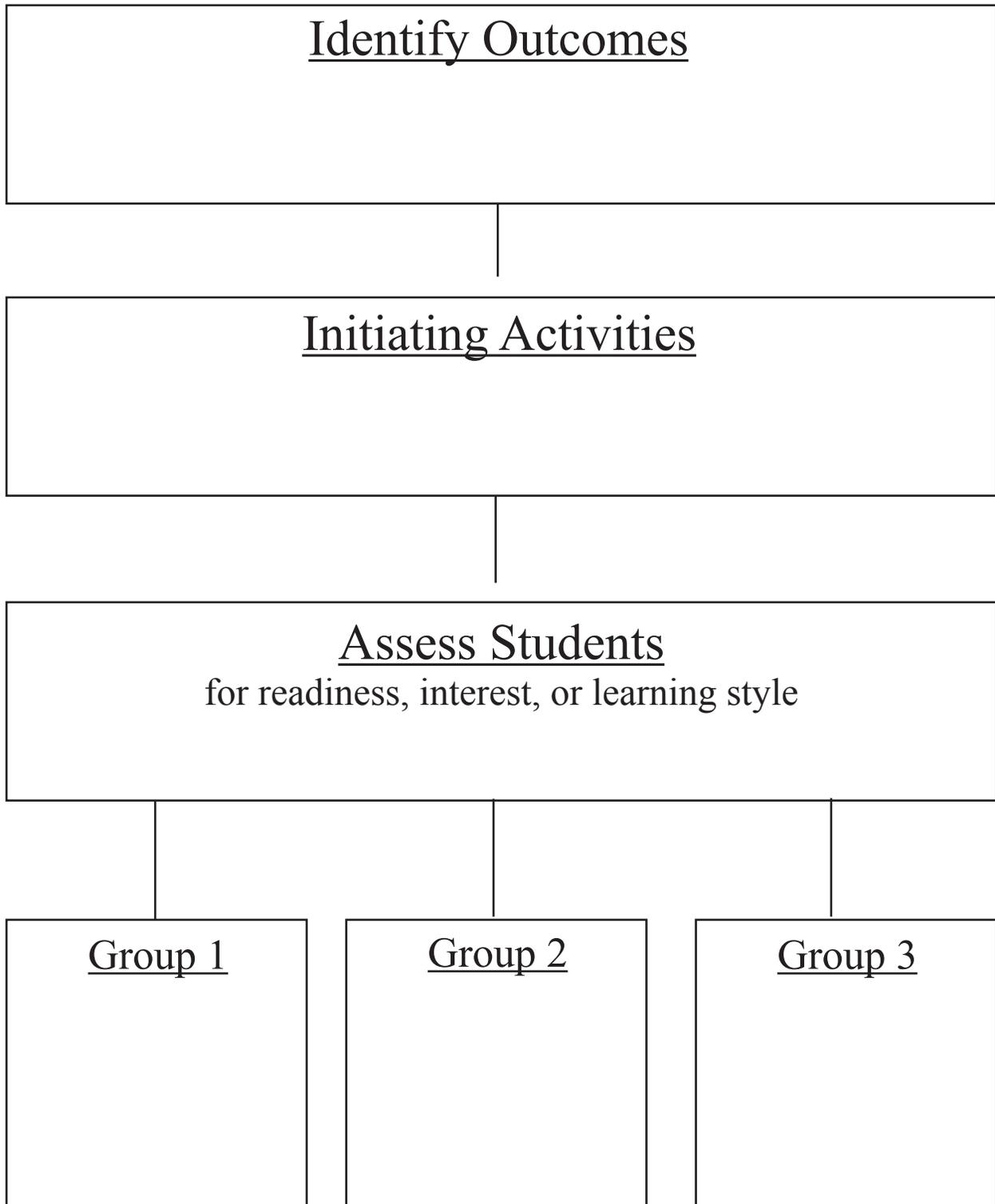
## **Diabolical Decimals**

Object of the game: Score twenty points by creating the smallest decimal and/or the smallest difference between two decimals

How to play

- Each player rolls the die and records their number on their own chart
- Repeat step one so each player has created two decimal numbers
- Each players find the difference between the two decimals he/she created
- The player with the smallest difference scores a point
- The player with the smallest decimal also scores a point
- The first player to reach twenty points wins

# Template for Planning a Tiered Lesson



# Differentiating Using Cubing

Cubing is a technique that can serve many purposes in differentiating instruction.

## Incorporating Bloom’s Taxonomy

Cubing can be used to have students think about a topic using each level of Bloom’s Taxonomy. It causes students to consider a subject from six points of view and work at higher levels of thinking. Cubes are passed out to groups of students with each side having a different Bloom’s verb, such as:

Describe It	Compare It	Associate It
Analyze It	Apply It	Argue for or against it

Students work in groups to respond to a prompt (for example, “migration”). They continue to roll the cube and generate ideas in response to the verbs until the allotted time is over.

## Multiple Intelligences

Cubing can also be used to tap into each of the 8 Multiple Intelligences. This provides students with the opportunity to work with concepts in a variety of ways that honor different learning styles. The cubes have a different activity on each side that honors one of the intelligences, such as:

- Create a jingle that uses the parts of speech and their definitions (musical-rhythmic).
- Write a poem that explains the parts of speech and their definitions (linguistic).
- Make up a game that teaches about the parts of speech (logical-mathematical).
- Create a mobile that explains the parts of speech (spatial).
- Conduct a talk-show that teaches the parts of speech (interpersonal).
- Design and make a diorama that explains the parts of speech (bodily-kinesthetic).

Students work in groups of 4-5, all members of the group sharing one cube. A student rolls the cube. If the first roll turns up an activity they don’t want to do, a second roll is allowed.

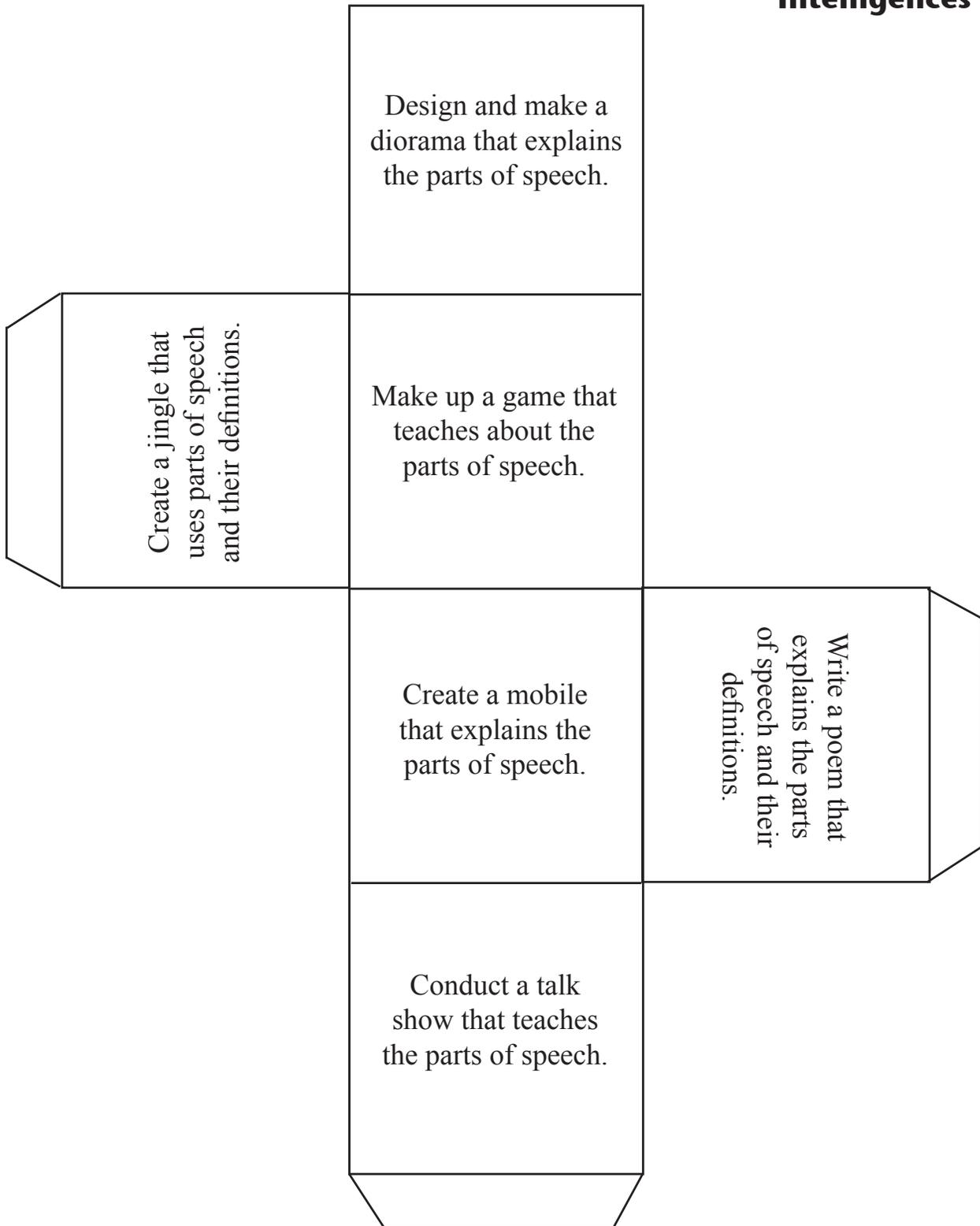
## Grouping for Readiness

Cubes can be used to create differentiated activities based on student readiness. Two (or more) sets of cubes are made, one with activities that require higher levels of thinking and one with activities at a more basic level. For example:

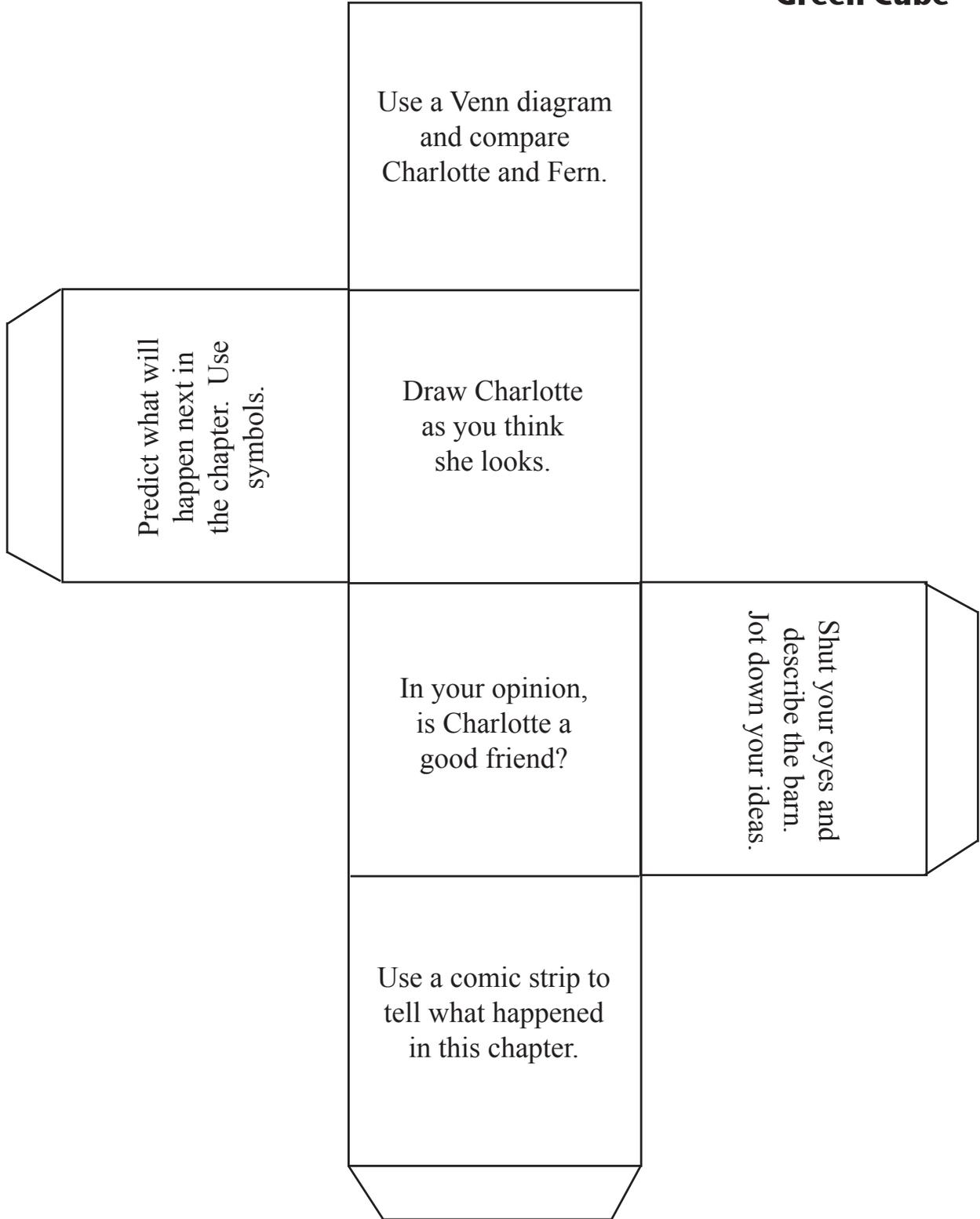
GREEN CUBE	YELLOW CUBE
Draw Charlotte as you think she looks.	Use a graphics program on the computer and create a character web for Wilbur.
Use a Venn diagram and compare Charlotte and Fern.	Use symbols on a Venn Diagram to compare Wilbur and Charlotte.
Use a comic strip to tell what happened in this chapter.	Use a storyboard to show the progress of the plot to this point.
Shut your eyes and describe the barn. Jot down your ideas.	Draw the farm and label the items, people, and buildings.
Predict what will happen next in the chapter. Use symbols.	What is the message you think the writer wants people to remember? Draw symbols that illustrate your idea
In your opinion, is Charlotte a good friend?	When you think of the title, do you agree or disagree that it is a good choice? Why or why not?

Students work in groups of 4-5, all members of the group sharing one cube. Students take turns rolling the cube. If the first roll turns up an activity they don’t want to do, a second roll is allowed. Students may collaborate as they work on their own tasks. After all the students are finished, they share their finished work with their group.

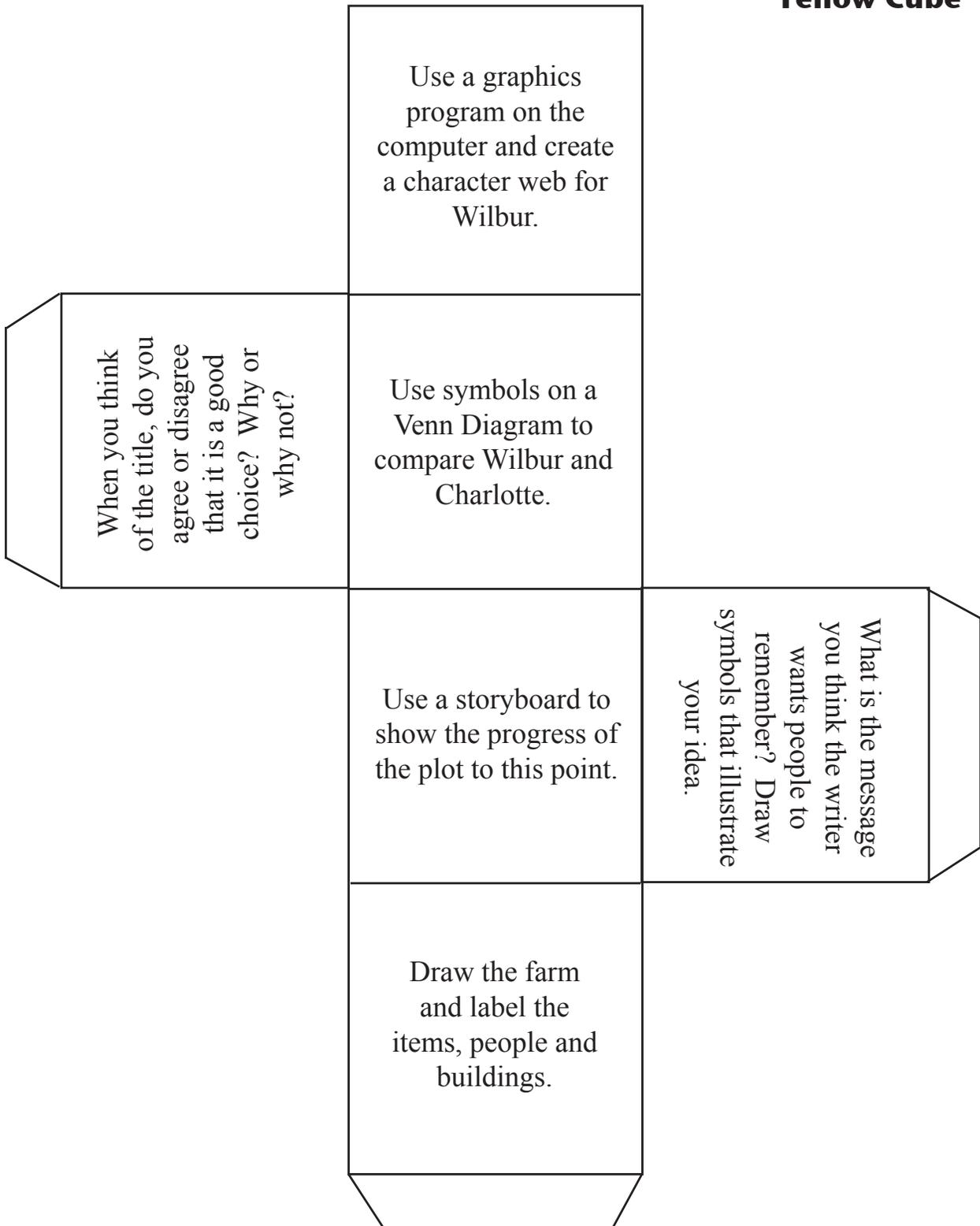
## Multiple Intelligences



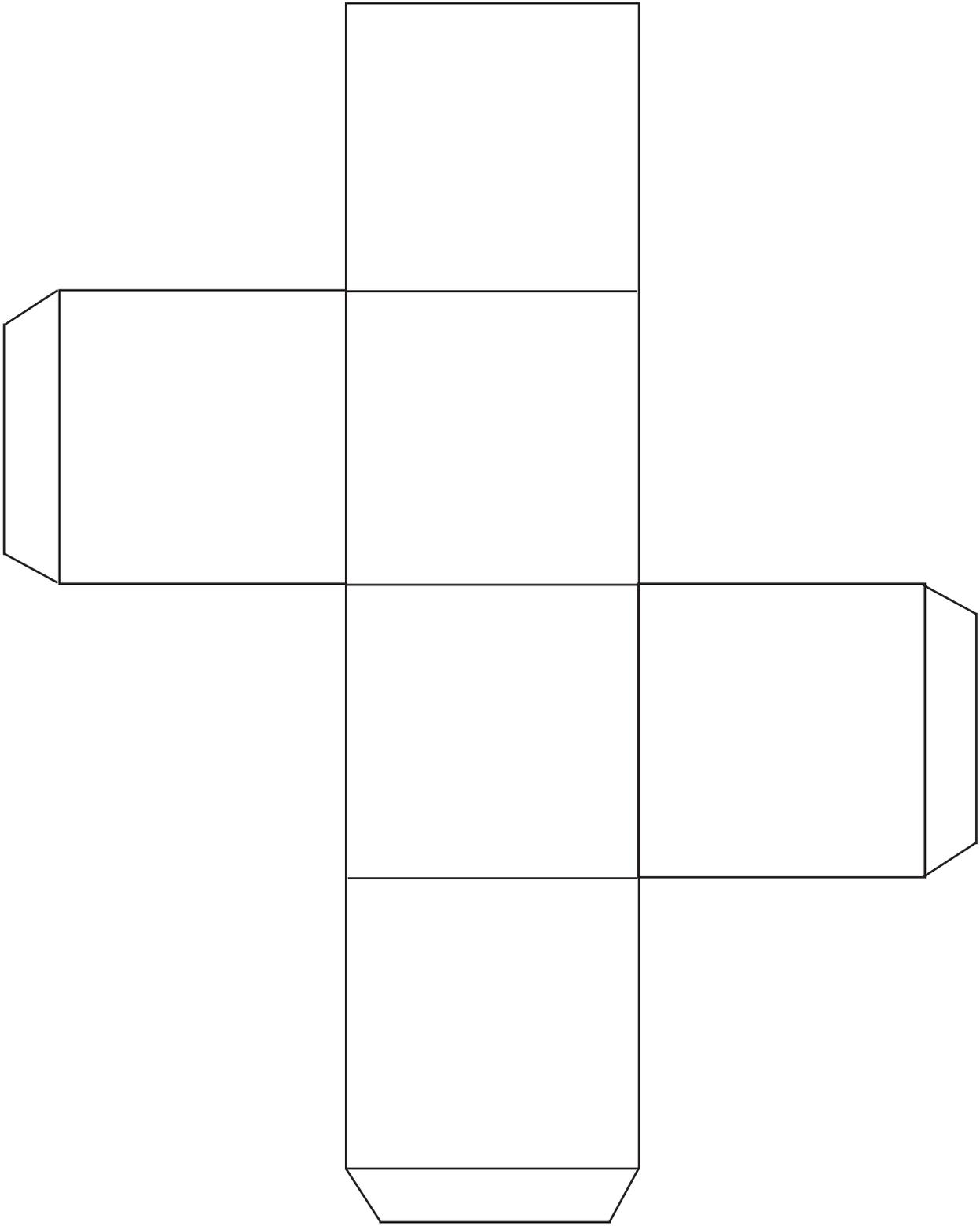
**Readiness  
Green Cube**



**Readiness  
Yellow Cube**



# Cubing Template



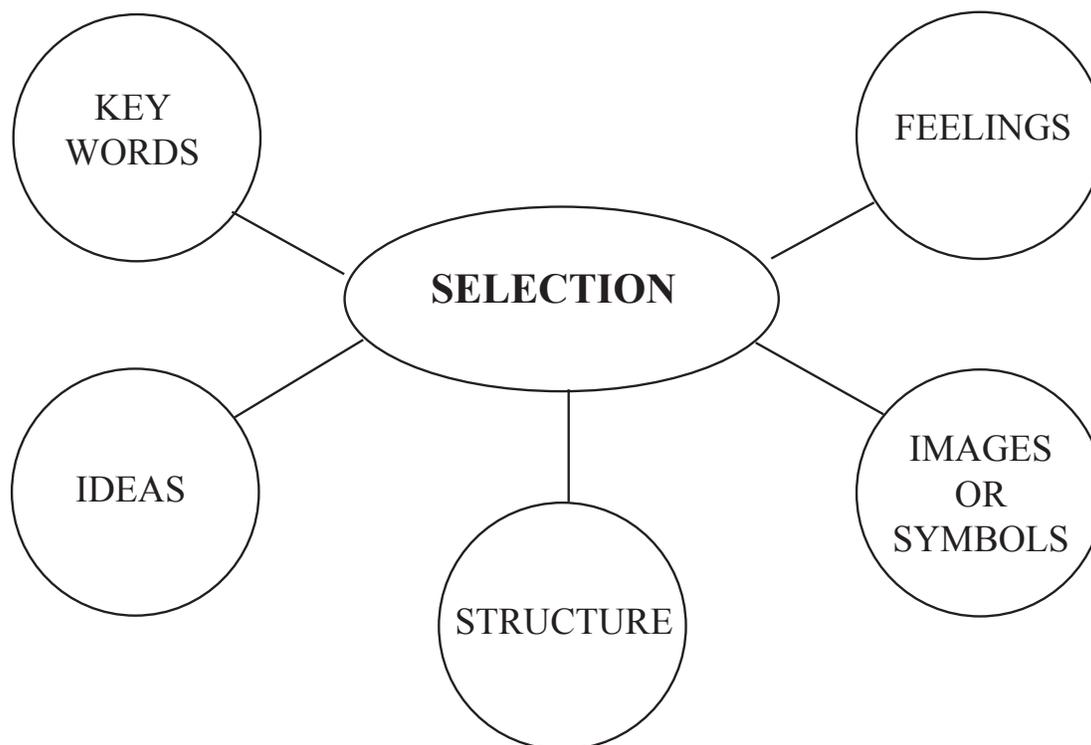
# Differentiating Using The Literature Web

## Literature Webs:

- Are used with the whole group
- Allow students to work at their own level of thinking
- Support curriculum across content areas
- Focus on higher level thinking skills
- Allow students to form their own understandings and meaning

Provide students opportunities to become familiar with the process by first working through several webs with the entire class.

- Distribute blank paper and have students draw six circles and label as below.
- Have students record the name of the selection and the author in the center circle.
- Allow students to fill in their own ideas using words or pictures as the teacher models each circle on the board or overhead.
- Encourage group discussion of each idea.



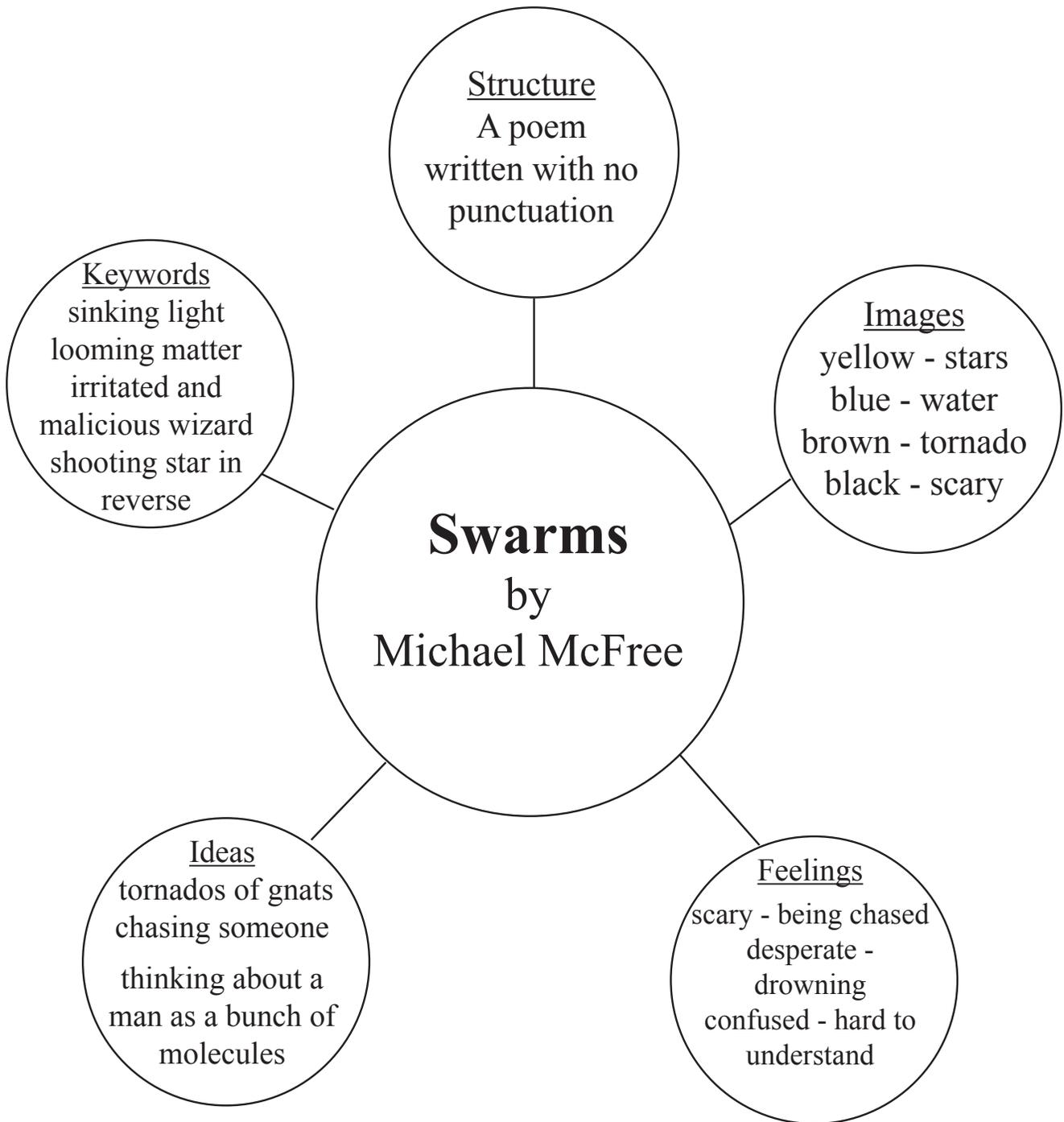
Key Words:	What are some key words you really liked or thought were important? Why?
Feelings:	What feelings did you get as you listened or read? Why?
Ideas:	What are some ideas the author was trying to talk about?
Images/Symbols:	What were some pictures that came to you as you listened or read? If you close your eyes and think of the story, what do you see? Why is that so?
Structure:	How was the story alike or different from others? What are some special things about this story? What did the author do to create the feelings.

\* adapted from Center for Gifted Education, College of William and Mary

## **Swarms**

A flurry of gnats hovers in late light  
like a funnel cloud unable to decide  
where to touch down, a glimmering vortex  
of tiny swirling bodies dead ahead,  
blocking my path like that mosquito cloud  
I once encountered on Portsmouth Island,  
a congestion of the air so darkly dense  
it seemed substantial as an acutal man  
or irritated malicious wizard  
taking on human form so he could chase  
like a thirsty humming shadow as I ran  
toward the inlet whose water might save me  
if only I could stay down long enough,  
giving up the ghost of my held breath  
bubble by bubble, a slow-motion swarm  
rising like shooting stars in reverse  
back to before the beginning  
of the universe, all that whirling gas  
and dust and other particles on the verge  
of taking shape and heading, eventually,  
toward me and that looming tornado of gnats  
and their later conversion into words,  
each of us a spinning suspension  
of matter and the necessary nothing  
constantly deciding where to go,  
holding the sinking light until it's gone.

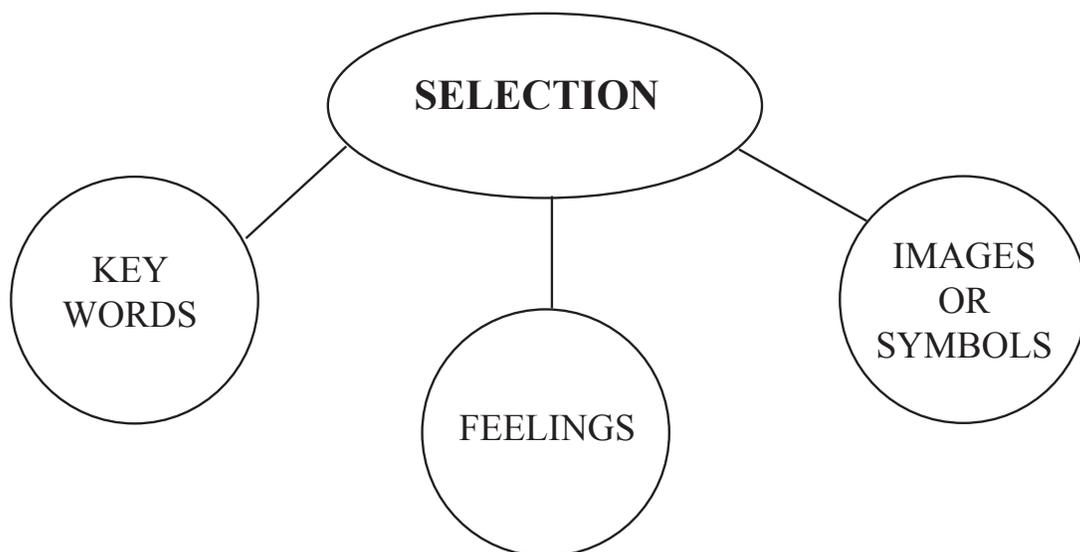
- *Michael McFree*



# The Literature Web using Art and Music

The literature web can be used across the curriculum. When studying art or music, students use analytical and evaluative thinking skills to create their own understanding of selections. It is also a valuable tool in social studies as students evaluate and analyze pictures of historical events to construct understanding and meaning.

- Handout or display a piece of art or play a piece of music.
- Distribute paper and have students draw and label four circles as below.
- Have students record the name of the picture or music selection.
- Display the picture or play the music selection and instruct students to write down the key words and feelings that come to mind.
- Allow more time for observation or play the piece again and have students fill in images and symbols.
- Lead a discussion on the thoughts and ideas that were generated.
- Have the students use their literature web to write a poem that expresses their feelings and ideas about the selection.



# Differentiating Using Multiple Intelligences with Science/Reading

<p><b>Core Curriculum Standards &amp; Objectives:</b></p> <p>Science Standard V, Objective 2: Describe how some characteristics could give a species a survival advantage in a particular environment</p> <p>Language Arts Standard 4000-07: Comprehension Objective 0702: Apply strategies to comprehend text</p>	
<p><b>Desired Results:</b></p> <p>Students will understand that similarities and differences must occur within a species of animals to allow them to survive in their respective environments.</p>	
<p><b>Essential Questions:</b></p> <ol style="list-style-type: none"> <li>1. What similarities and differences occur between animals of the same species?</li> <li>2. How do those differences give them an advantage in a particular environment?</li> </ol>	<p><b>Skills:</b></p> <p>Students will</p> <ol style="list-style-type: none"> <li>1. Read and comprehend informational text</li> <li>2. Compare and contrast animal characteristics</li> <li>3. Present information to a large group</li> </ol>
<p><b>Assessment</b></p> <p>Group product based on Multiple Intelligences. See rubric on page 4.29.</p>	

**Group Assignment:**

1. Divide students into 4 groups based on Multiple Intelligence preference.
2. Provide directions,\* markers, butcher paper, and reading materials to each group.
3. Explain the directions to the whole group and then allow small groups time to complete the task.

Group directions on following pages:



## Group Directions

Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

1. Read and discuss the provided information on two different animals from the same species.
  - a. Identify their similarities and differences.
  - b. Discuss how their differences affect their ability to survive in the environments in which they live.
2. Use butcher paper and markers to make a Venn Diagram that shows:
  - a. Which animals are being compared
  - b. What similarities and differences the two animals have
  - c. A summary of how the differences are related to the environments in which they live
3. Prepare to share the product with the whole class.



## Group Directions

Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

1. Read and discuss the provided information on two different animals from the same species.
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## Group Directions

Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

1. Read and discuss the provided information on two different animals from the same species.
    - a. Identify their similarities and differences.
    - b. Discuss how their differences affect their ability to survive in the environments in which they live.
  2. Create a song or rap that tells:
    - a. Which animals are being compared
    - b. What similarities and differences the two animals have
    - c. A summary of how the differences are related to the environments in which they live
  3. Prepare to share the product with the whole class.
- 



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Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

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  - c. A summary of how the differences are related to the environments in which they live
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## Group Directions



Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

1. Read and discuss the provided information on two different animals from the same species.
    - a. Identify their similarities and differences.
    - b. Discuss how their differences affect their ability to survive in the environments in which they live.
  2. Prepare a short skit that tells:
    - a. Which animals are being compared
    - b. What similarities and differences the two animals have
    - c. A summary of how the differences are related to the environments in which they live
  3. Prepare to share the product with the whole class.
- 

## Group Directions



Complete the following assignment within 15 minutes. Prepare to share the product you develop with the whole class.

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  - b. What similarities and differences the two animals have
  - c. A summary of how the differences are related to the environments in which they live
3. Prepare to share the product with the whole class.

## Animal Characteristics & Environments Assessment of Understanding

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title of Work: \_\_\_\_\_

Learning Objective	Criteria				Points
	1	2	3	4	
Students will describe how some characteristics could give a species a survival advantage in a particular environment.	Students presented facts about each animal from the reading materials.	Students presented comparisons of similarities and differences between the two animals.	Students presented comparisons of similarities and differences between the two animals and gave information about their respective environments.	Students presented comparisons of similarities and differences between the two animals and used inferences to explain how the differences relate to the animals' respective environments.	

**Teacher Comments:**

# Assessment & Identification



# Assessment for the Purpose of Identification

## Assessment and Instruction are Inseparable

The purpose of assessment is to provide students and teachers data on students' readiness for particular ideas, skills, interests, and learning profiles. In a differentiated classroom, assessment is ongoing and diagnostic.

Assessment is not what comes at the end of a unit to find out what students learned; rather, assessment is a means of understanding how to modify instruction. By thoughtfully using assessment data, the teacher can modify the content, process, and/or product according to students' needs.

### 10 Basic Purposes of Assessment

1. Selecting, clarifying and evaluating educational objectives
2. Planning instruction
3. Evaluating student work
4. Reporting and comparing student progress
5. Counseling
6. Motivating and encouraging students
7. Giving special recognition to students
8. Selecting students for special programs or instruction
9. Evaluating program effectiveness
10. Holding schools accountable

## Formal Formative Assessment

Formative assessment is information and data, which is used to improve, modify or revise a program, curriculum or unit of instruction in order to enhance student learning. This type of evaluation is helpful in guiding ongoing classroom instruction.

### Formative assessment may come from:

- Small-group discussions
- Whole class discussions
- Journal entries
- Portfolio entries
- Exit cards
- Skill inventories
- Pretests
- Homework assignments
- Interest surveys
- Etc.

## **Informal Assessment**

Other forms of assessment are more informal. Some informal assessments may be drawn from typical classroom activities. Other times it will be difficult to show student progress using actual work, so teachers will need to keep notes or checklists to record their observations from informal classroom interactions. Sometimes informal assessment is as simple as stopping during instruction to observe or to discuss with the students how learning is progressing.

### **Informal assessment may come from:**

- Group or individual projects
- Experiments
- Oral presentations
- Demonstrations
- Performances
- Assignments
- Reports
- Discussion groups
- Etc.

It is important to use a variety of forms of assessment. Particular activities or topics may inspire excellent performance in some students and not others. Teachers who include a variety of assessment types will ensure that students are provided with ample opportunities to demonstrate their abilities.

- Teachers will then have the information they need to construct a complete, balanced instructional plan for each student.
- Assessment yields an emerging picture of who understands key ideas and who can perform targeted skills, at what levels of proficiency, and with what degree of interest.
- Assessment should always have more to do with helping students grow than with cataloging their mistakes.

The following are **SOME** CHARACTERISTICS OF GIFTED/TALENTED CHILDREN that may help to determine students' instructional needs.

Gifted/Talented children may exhibit some of the following characteristics.....

- questions critically
- can memorize easily
- transfers learning to new situations
- learns rapidly and easily
- does some academic work 1-2 years in advance
- uses a large number of words easily and accurately
- can visualize mentally
- shows curiosity and originality
- has wide range of interests
- is an avid reader
- has a power of abstraction, conceptualization and synthesis
- can solve problems and process ideas in a complex way
- has a sense of humor
- may have a long attention span
- sometimes comes up with unexpected, even “silly” answers
- is often asked by peers for ideas and suggestions
- understands and accepts reasons for change
- anticipates outcomes
- is challenged by new ideas
- likes to improvise
- offers several solutions to the same problem
- shows ability to plan, organize, execute, and judge
- finds ways to extend ideas
- seems to know when, where, and how to seek help
- makes generalizations
- is perceptually open to environment
- is sensitive to feelings of others or to situations
- may sometimes dominate peers or situations
- is persistent
- gets excited about learning new ideas



# Assessing to Determine Students' Instructional Needs

As outlined in the state G/T rules using a three-pronged approach to identification is more effective.

Why is it necessary to identify gifted/talented students in the classroom?

- Once identified, it is more likely special arrangements will be made to accommodate needs
- Expectations for open-ended activities/assignments will be much greater
- Curriculum can be compacted for students who have already mastered the core content to free them up for enrichment or acceleration activities
- Identified students may be offered opportunities for independent or group study, and subject or skills acceleration

## Matching Assessment for the Purpose of Flexible Grouping

for example:

<p style="text-align: center;"><b>Assessing for Readiness</b> (Above Average Ability)</p> <ul style="list-style-type: none"><li>• Norm-referenced Test</li><li>• End-of-Year Test/Criterion referenced Test</li><li>• Pre/post Test</li><li>• Teacher Recommendation</li></ul>
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<p style="text-align: center;"><b>Assessing for Interest</b> (Task Commitment)</p> <ul style="list-style-type: none"><li>• Student Interest Surveys</li><li>• Classroom Observations</li><li>• Product Portfolios</li><li>• Parent Recommendation</li></ul>
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<p style="text-align: center;"><b>Assessing for Learning Style</b> (Creativity)</p> <ul style="list-style-type: none"><li>• Multiple Intelligence Inventories</li><li>• Multiple Talent Products</li><li>• Classroom Observations</li><li>• Talent Search</li><li>• Fun with Dots</li><li>• Torrance Test</li></ul>
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The following pages provide instruments that can be used to assess readiness, interest, and learning style.



# Student Interest Survey

Name \_\_\_\_\_ Grade \_\_\_\_\_ Date \_\_\_\_\_

What types of activities do you prefer? Please check the activities that interest you the most.

## Writing:

- short stories  
 newspaper articles  
 special class reports  
 cartoons, riddles  
 crossword puzzles, anagrams, word games  
 poetry  
 plays, skits  
 diary or journal  
 other (please describe) \_\_\_\_\_  
 \_\_\_\_\_



## Reading:

- newspapers  
 magazines  
 reference books, atlases  
 textbooks  
 comics  
 books (circle favorite kinds) biography, science, history, adventure, sports, hobbies, religion, science fiction, fairy tales, geography, fiction, other kinds \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Science:

- working on a nature trail  
 doing experiments  
 working with animals  
 making things (circle favorite things) thermometer, compass, astrolabe, battery, solar heating unit, greenhouse, telescope, chick hatchery, ant farm, computer, other kinds \_\_\_\_\_  
 chemistry  
 astronomy  
 nature, ecology  
 marine science  
 geology  
 other activity (please describe) \_\_\_\_\_  
 \_\_\_\_\_



## Dramatics:



- \_\_\_\_\_ acting in a play
- \_\_\_\_\_ directing a play
- \_\_\_\_\_ puppetry
- \_\_\_\_\_ pantomime
- \_\_\_\_\_ taking a course in filmmaking
- \_\_\_\_\_ acting in a radio broadcast
- \_\_\_\_\_ working on sets or a stage crew
- other \_\_\_\_\_

## Music:



- \_\_\_\_\_ learning about classical or folk music
- \_\_\_\_\_ making your own instrument
- \_\_\_\_\_ writing lyrics for songs
- \_\_\_\_\_ taking vocal lessons
- \_\_\_\_\_ learning to play an instrument
- \_\_\_\_\_ attending (circle favorite) a classical concert, a rock festival, an opera, a jazz concert, a piano recital, a ballet performance, new age concert
- \_\_\_\_\_ singing in a chorus
- \_\_\_\_\_ composing music
- \_\_\_\_\_ taping and recording music
- other \_\_\_\_\_

## Math:



- \_\_\_\_\_ making graphs or charts to show measurement
- \_\_\_\_\_ making up your own number system
- \_\_\_\_\_ learning about the stock market
- \_\_\_\_\_ solving different problems
- \_\_\_\_\_ working on problems with a calculator or computer
- \_\_\_\_\_ working with puzzles, mazes, games of logic
- other \_\_\_\_\_

## Art:



- \_\_\_\_\_ painting a mural
- \_\_\_\_\_ learning to use watercolors
- \_\_\_\_\_ visiting a sculptor's studio
- \_\_\_\_\_ drawing cartoons
- \_\_\_\_\_ learning to weave
- \_\_\_\_\_ experimenting with "junk" art
- \_\_\_\_\_ visiting an art museum
- \_\_\_\_\_ modeling things out of clay, etc.
- \_\_\_\_\_ taking a mini-course on art history, etc.
- other \_\_\_\_\_

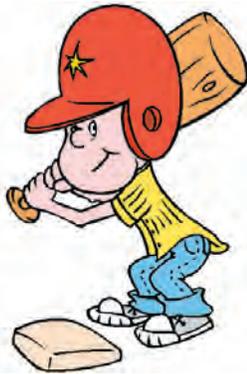
## Hobbies:

- \_\_\_\_\_ playing chess
- \_\_\_\_\_ photography
- \_\_\_\_\_ building models
- \_\_\_\_\_ playing with model trains
- \_\_\_\_\_ bird watching
- \_\_\_\_\_ cooking
- \_\_\_\_\_ hiking
- \_\_\_\_\_ raising or training pets

other \_\_\_\_\_

collection of (circle your interests) baseball cards, stamps, coins, old bottles, dolls, rocks, postcards, other (please describe) \_\_\_\_\_

\_\_\_\_\_



## Sports/Movement:

\_\_\_\_\_ ball games (circle your interests)  
football, baseball, tennis, basketball, soccer,  
other \_\_\_\_\_

- \_\_\_\_\_ swimming
- \_\_\_\_\_ skating, ice, roller
- \_\_\_\_\_ running
- \_\_\_\_\_ horseback riding
- \_\_\_\_\_ archery
- \_\_\_\_\_ hockey
- \_\_\_\_\_ dance

other \_\_\_\_\_

I'd like to be a spectator at \_\_\_\_\_

\_\_\_\_\_

## Things I'd like:

Occupation you would like to learn more about?

\_\_\_\_\_

Field trip you would like to take?

\_\_\_\_\_

Subject you would like to learn more about?

\_\_\_\_\_

What do you like to do best when you're alone?

\_\_\_\_\_

What do you like to do best when you're with friends?

\_\_\_\_\_



# Talent Search

(Adapted from the DeHaan Checklist)

TEACHER \_\_\_\_\_ GRADE \_\_\_\_\_ DATE \_\_\_\_\_

Please read the descriptors for each talent area to determine each student’s talents in your classroom. Note a student’s name in the box if he/she demonstrates several characteristics for that talent area.

	<b>Names</b>
<p style="text-align: center;"><b>Artistic Talent</b></p> <ul style="list-style-type: none"> <li>• Shows originality in choice of subject, technique, composition and perspective.</li> <li>• Fills extra time with doodling, drawing, painting or sculpturing activities.</li> <li>• Takes art work seriously.</li> <li>• Shows interest in new materials, other people’s art work, and in trying new techniques.</li> </ul>	
<p style="text-align: center;"><b>Creative Talent</b></p> <ul style="list-style-type: none"> <li>• Displays a great deal of curiosity about many things.</li> <li>• Constantly asks questions about anything and everything.</li> <li>• Generates a large number of ideas or suggested solutions to a problem.</li> <li>• Offers unusual or “off beat” interpretations.</li> <li>• Is often concerned with improving or changing things.</li> <li>• Finds humor in situations beyond what is typical for age level.</li> <li>• Is nonconforming, unconcerned about order and details.</li> <li>• Does not fear being different.</li> <li>• Shares elaborate fantasies.</li> </ul>	
<p style="text-align: center;"><b>Dramatic Talent</b></p> <ul style="list-style-type: none"> <li>• Uses voice to reflect changes of ideas and mood when reading orally.</li> <li>• Uses many facial expressions, gestures, and body language when speaking.</li> <li>• Shows unusual ability to dramatize feelings and experiences.</li> <li>• Role plays when telling stories.</li> <li>• Enjoys getting a reaction from listeners.</li> <li>• Seeks opportunities to perform in front of the class.</li> <li>• Can imitate or mimic people and animals.</li> </ul>	

	<b>Names</b>
<b>Leadership Talent</b>	
<ul style="list-style-type: none"> <li>• Takes the initiative and directs the activities of others.</li> <li>• Provides positive feedback related to performance of others.</li> <li>• Communicates effectively -adjusting to older or younger groups.</li> <li>• Is flexible, not disturbed by changes in routine.</li> <li>• Recognizes and carries out responsibilities when assigned a leadership role.</li> <li>• Classmates seek his/her assistance and leadership.</li> </ul>	
<b>Learning Talent</b>	
<ul style="list-style-type: none"> <li>• Demonstrates a quick mastery of facts and exhibits much practical information.</li> <li>• Shows common sense.</li> <li>• Has rapid insight into cause/effect relationships.</li> <li>• Asks provocative questions which are difficult to answer.</li> <li>• Has an advanced vocabulary for age.</li> <li>• Shares a large storehouse of information about a variety of topics -often above the usual interest of age group.</li> <li>• Demonstrates skills not specifically taught.</li> <li>• Is able to learn on own.</li> <li>• Initiates own learning by seeking mentors.</li> </ul>	
<b>Mathematical Talent</b>	
<ul style="list-style-type: none"> <li>• Understands the patterns of the number system at an early age.</li> <li>• Thinks and talks about quantities and comparisons of age, time, money, etc.</li> <li>• Poses work problems from his/her environment and seeks solutions.</li> <li>• “Plays with” calculators like toys.</li> <li>• Enjoys and works diligently on puzzles or brain teasers.</li> </ul>	
<b>Musical Talent</b>	
<ul style="list-style-type: none"> <li>• Shows a sustained interest in creating and listening to music.</li> <li>• Easily remembers melodies and can reproduce them accurately.</li> <li>• Perceives fine differences in rhythm, pitch, timbre, etc.</li> <li>• Eagerly participates in music activities, plays an instrument, or indicates a desire to do so.</li> </ul>	
<b>Oral Language Talent</b>	
<ul style="list-style-type: none"> <li>• Speaks directly to the point, but adapts to audience for maximum reception.</li> <li>• Explains clearly with descriptive words to help the listener “visualize.”</li> <li>• Enjoys speaking to an audience.</li> <li>• Uses an expressive voice.</li> <li>• May even change voice to fit each character speaking in a story.</li> <li>• Has a good grasp on vocabulary.</li> </ul>	

	<b>Names</b>
<p style="text-align: center;"><b>Physical Talent</b></p> <ul style="list-style-type: none"> <li>• Easily imitates movements of others.</li> <li>• Demonstrates balance, coordination, speed and or skill beyond age level expectations.</li> <li>• Enjoys many sports or large motor activities.</li> <li>• Is persistent in trying to improve skill.</li> <li>• Approaches physical challenges with confidence and usually succeeds with only a few tries.</li> </ul>	
<p style="text-align: center;"><b>Scientific Talent</b></p> <ul style="list-style-type: none"> <li>• Wants to know causes and reasons for things in the world.</li> <li>• Chooses to read scientific literature over fiction.</li> <li>• Likes to experiment.</li> <li>• May collect specimens, watch animals and insects or have an interest in outer space, etc.</li> <li>• Is aware of changes in or may express concerns about the environment.</li> <li>• Has a well-developed vocabulary related to science and shares knowledge of scientific facts.</li> </ul>	
<p style="text-align: center;"><b>Technology Talent</b></p> <ul style="list-style-type: none"> <li>• Demonstrates a variety of competent computer and word processing skills.</li> <li>• Needs little direction to master new material or expertise involving technology.</li> <li>• Use DVDs, computers, camcorders, calculators, etc. with ease.</li> <li>• Is comfortable sharing expertise and helping others with technological tasks.</li> </ul>	
<p style="text-align: center;"><b>Written Language Talent</b></p> <ul style="list-style-type: none"> <li>• Enjoys writing stories and poems at an early age.</li> <li>• Develops stories with good beginnings, builds up to climax, and adds interesting conclusions or perspectives “naturally.”</li> <li>• Adds details and descriptive words independently.</li> <li>• Creates mood or humor, and captures feelings in ways beyond age group.</li> <li>• Can be persuasive or informative in more technical writing.</li> </ul>	

# Jordan Assessment for Multiple Intelligences Elementary Level

Check all the items under each heading that apply to you.

I would rather:

- take music lessons (D)
- doodle and sketch (C)
- be at a party than be at home by myself (F)
- read books (A)
- play number games like dice and dominoes (B)
- play with things like blocks and Legos (E)
- work by myself than in a group (G)

I enjoy:

- working with numbers (B)
- playing games like tag, relays, soccer (E)
- looking at pictures and paintings (C)
- making new friends (F)
- a variety of music (D)
- telling jokes and riddles (A)
- thinking about how things are going for me (G)

I am best able to:

- learn new songs quickly (D)
- notice when other people feel differently than I do (F)
- memorize short stories and poems quickly (A)
- bounce and catch a ball (E)
- count by 2s and 3s easily (B)
- solve problems when I need to (G)
- draw and do artwork (C)

I learn best by:

- working in groups or at least with a partner (F)
- making up jingles and simple songs (I)
- seeing or making a picture or drawing of an idea (C)
- touching and feeling things rather than just looking at them (E)
- setting a goal and keeping it (G)
- listening, reading and writing (A)
- finding patterns in things (B)

I can:

- do jigsaw puzzles easily (C)
- get along well with friends and family (F)
- move to music and tap along with rhythms (D)
- usually get my friends to do what I want to do (A)
- act things out or do pantomimes (E)
- figure out how toys work (B)
- find things I'm good at and even some things I'm not so good at (G)

## Scoring

Verbal/Linguistic

How many "A's" did you mark? \_\_\_\_\_

Logical/Mathematical

How many "B's" did you mark? \_\_\_\_\_

Visual/Spatial

How many "C's" did you mark? \_\_\_\_\_

Music/Rhythmic

How many "D's" did you mark? \_\_\_\_\_

Body Kinesthetic

How many "E's" did you mark? \_\_\_\_\_

Interpersonal

How many "F's" did you mark? \_\_\_\_\_

Intrapersonal

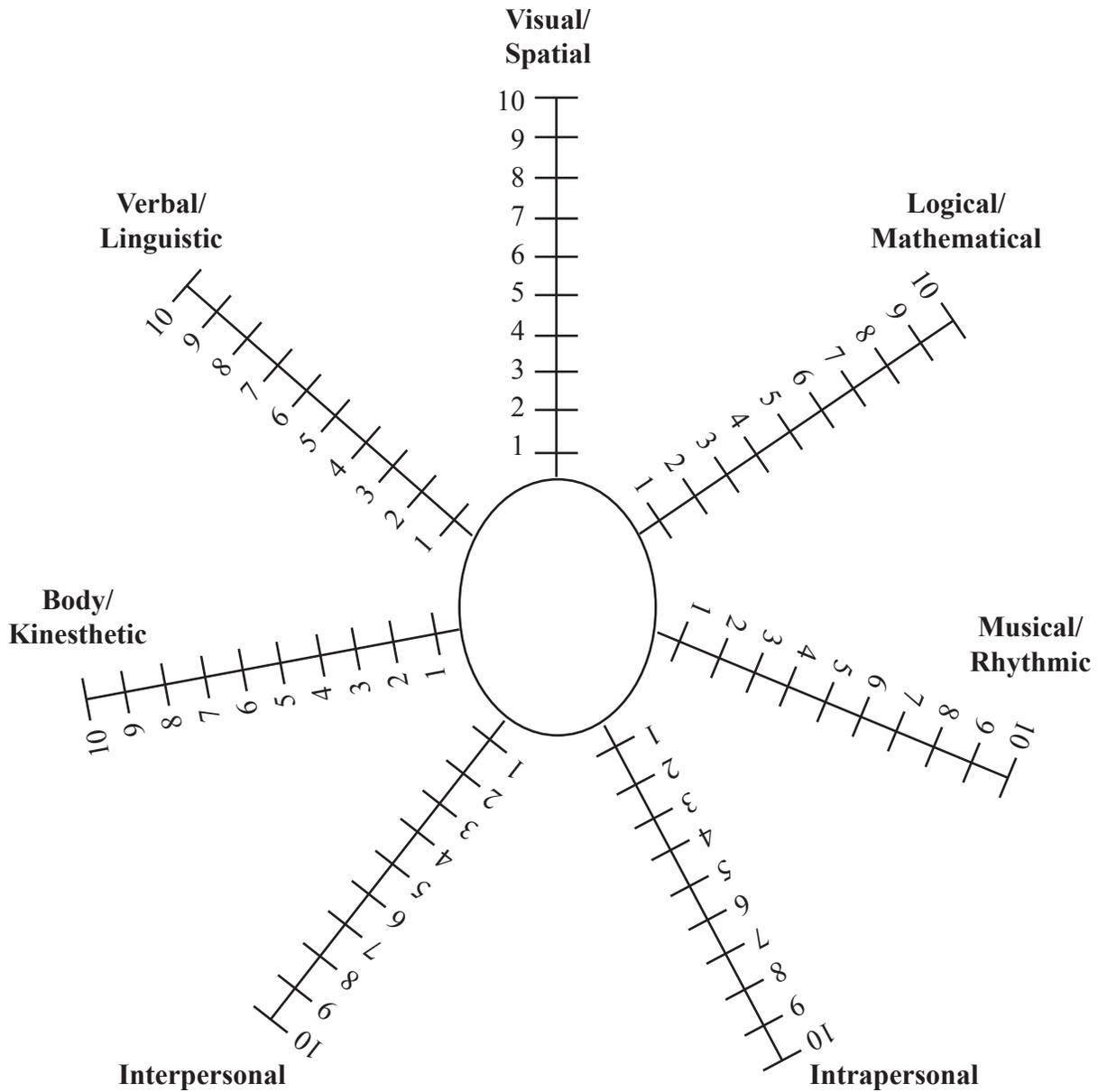
How many "G's" did you mark? \_\_\_\_\_

Which intelligence area has the highest score?

This reflects your area of strength.

# Self Assessment Web

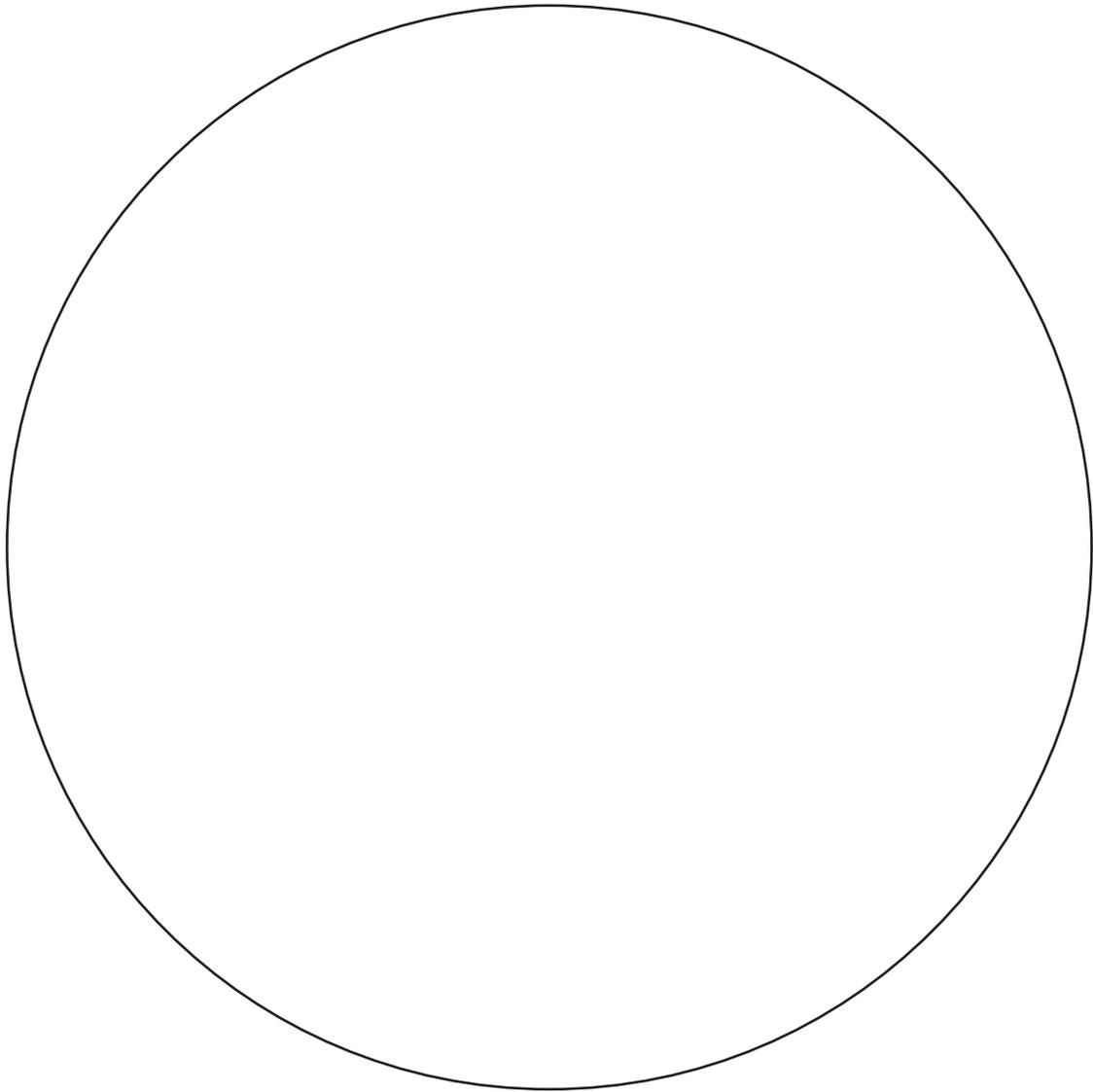
This web is to help you see your multiple intelligence strengths grow through the year. Mark the appropriate score on each strand of the web, then connect them to see visually where your strongest abilities lie.



# Charting Your Multiple Intelligences

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Directions: You have recently learned that you have many intelligences: Verbal/Linguistic, Logical/Mathematical, Visual/Spatial, Body Kinesthetic, Musical/Rhythmic, Interpersonal, Intrapersonal. Analyze your preferences for each intelligence by utilizing the circle below as a pie chart. Divide the circle proportionately based on your percentage or preference for each intelligence. Give more space for an intelligence you prefer or score higher in. If you rarely use an intelligence or score lower designate a smaller portion for this intelligence. Mark each section with the name of the intelligence represents.



# Jordan Assessment of Multiple Intelligences (JAMI) Secondary Version

Respond to the following statements by scoring the number that applies to you most of the time.

1 - disagree					2 - disagree somewhat					3 - neutral					4 - somewhat agree					5 - agree strongly						
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1.	I like to draw.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	2.	I love to figure out how things work.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	3.	I like to participate in sports.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	4.	I enjoy listening to music.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	5.	I like to sit and think.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	6.	I can talk my friends, family and others into doing what I want them to do.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	7.	Writing things like stories and poems comes easily to me.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	8.	When I talk, I use my hands a lot.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	9.	I have lots of friends.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	10.	I can learn new songs quickly.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	11.	I like mathematics.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	12.	I like looking at pictures, paintings, and artistic stuff.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	13.	I don't usually get lost or turned around.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	14.	I am good at trivia games like "Trivial Pursuit."
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	15.	I like to act in plays or skits.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	16.	I enjoy dancing.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	17.	I know what I am good at in school and the things I am not so good at, too.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	18.	When I have a problem to solve, I can think of several ways to solve it.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	19.	I would rather work by myself than in a group.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	20.	I like to read.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	21.	I learned my multiplication tables easily.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	22.	Even if I have to clean it myself, I enjoy having my room neat and orderly.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	23.	I enjoy spelling and word games - like Scrabble.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	24.	Sometimes, I doodle on my worksheets or while I am taking note in class.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	25.	I like working in groups better than working by myself.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	26.	Friends come to me to talk when they are upset.
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	27.	I hum and sing a lot.

- |   |   |   |   |   |     |  |
|---|---|---|---|---|-----|--|
| 1 | 2 | 3 | 4 | 5 | 28. | I can do or easily learn different kinds of crafts, such as woodworking, sewing of all kinds or mechanics.     |
| 1 | 2 | 3 | 4 | 5 | 29. | I am not clumsy, even when learning new sports drills or steps to a dance.                                     |
| 1 | 2 | 3 | 4 | 5 | 30. | I can tell funny jokes and not forget the punch line.  |
| 1 | 2 | 3 | 4 | 5 | 31. | If someone gives me a lot of different objects, I can think of different ways to organize and categorize them. |
| 1 | 2 | 3 | 4 | 5 | 32. | Other students come to me for help with math or science.   |
| 1 | 2 | 3 | 4 | 5 | 33. | I like to create new and different things.   |
| 1 | 2 | 3 | 4 | 5 | 34. | Reading a map is easy for me.  |
| 1 | 2 | 3 | 4 | 5 | 35. | I set lots of goals and think about them often.  |
| 1 | 2 | 3 | 4 | 5 | 36. | I can do what I set my mind to do.   |
| 1 | 2 | 3 | 4 | 5 | 37. | I enjoy listening to and thinking about music.   |
| 1 | 2 | 3 | 4 | 5 | 38. | I enjoy activities such as basketball, skateboarding and hiking.   |
| 1 | 2 | 3 | 4 | 5 | 39. | I like to learn about and play with words.   |
| 1 | 2 | 3 | 4 | 5 | 40. | I like to figure out the solutions to mysteries of all kinds.  |
| 1 | 2 | 3 | 4 | 5 | 41. | It is easy for me to make pictures of things in my mind.   |
| 1 | 2 | 3 | 4 | 5 | 42. | I am one of the fastest runners in my class.   |
| 1 | 2 | 3 | 4 | 5 | 43. | I keep a journal or diary.   |
| 1 | 2 | 3 | 4 | 5 | 44. | Speaking in front of other students in class does not scare me.  |
| 1 | 2 | 3 | 4 | 5 | 45. | I would rather be at a party than home by myself   |
| 1 | 2 | 3 | 4 | 5 | 46. | Songs get “stuck” in my head.  |
| 1 | 2 | 3 | 4 | 5 | 47. | Music helps me remember things.  |
| 1 | 2 | 3 | 4 | 5 | 48. | People of all ages usually like me.  |
| 1 | 2 | 3 | 4 | 5 | 49. | I like to think about different goals so I can get what I want in life.  |
| 1 | 2 | 3 | 4 | 5 | 50. | I can make a song out of anything.   |
| 1 | 2 | 3 | 4 | 5 | 51. | I am a good storyteller.   |
| 1 | 2 | 3 | 4 | 5 | 52. | I like playing strategy games, like chess or checkers.   |
| 1 | 2 | 3 | 4 | 5 | 53. | I can remember fine details of things I have seen.   |
| 1 | 2 | 3 | 4 | 5 | 54. | The idea of running for a student government office sounds fun.  |
| 1 | 2 | 3 | 4 | 5 | 55. | I can tell when someone is off-beat or off-key, and it drives me nuts!   |
| 1 | 2 | 3 | 4 | 5 | 56. | I enjoy being in charge of a group or project.   |

## Scoring Your JAMI

**Scoring:**

Write your score beside each number in the proper column, then add each column. Your score interpretation follows the scoring columns.

V/L	L/M	V/S	B/K	M/R	IR	IA
6 _____	2 _____	1 _____	3 _____	4 _____	9 _____	5 _____
7 _____	11 _____	12 _____	8 _____	10 _____	25 _____	17 _____
14 _____	21 _____	13 _____	15 _____	27 _____	26 _____	18 _____
20 _____	22 _____	24 _____	16 _____	37 _____	44 _____	19 _____
23 _____	31 _____	33 _____	28 _____	46 _____	45 _____	35 _____
30 _____	32 _____	34 _____	29 _____	47 _____	48 _____	36 _____
39 _____	40 _____	41 _____	38 _____	50 _____	54 _____	43 _____
51 _____	52 _____	53 _____	42 _____	55 _____	56 _____	49 _____

**TOTALS:** \_\_\_\_\_

**SCORING GUIDE:**

- 32-40 - This intelligence is definitely one of your strong points. You probably prefer to use this intelligence when faced with something new or challenging.
- 24-31 - This intelligence is a potentially strong one for you. With little practice, and some effort, it could provide strategies to learn new things.
- 16-23 - While you are competent in this intelligence, it is probably not your favorite. It, too, can be strengthened.
- 8-15 - This intelligence is probably one with which you don't feel comfortable. In fact, you probably avoid using this intelligence unless absolutely necessary. With a little work, though, you could become comfortable in using the learning strategies associated with this intelligence.



- |   |   |   |   |   |     |  |
|---|---|---|---|---|-----|--|
| 1 | 2 | 3 | 4 | 5 | 1.  | I enjoy word games, such as Scrabble.  |
| 1 | 2 | 3 | 4 | 5 | 2.  | I can visualize clear, sharp images in my mind.  |
| 1 | 2 | 3 | 4 | 5 | 3.  | I have a tendency to talk with my hands a lot.   |
| 1 | 2 | 3 | 4 | 5 | 4.  | I easily remember trivia and seemingly unimportant facts.                                |
| 1 | 2 | 3 | 4 | 5 | 5.  | Being able to experience and enjoy music, in all its varieties, enriches my life.        |
| 1 | 2 | 3 | 4 | 5 | 6.  | I get along well with my peers.  |
| 1 | 2 | 3 | 4 | 5 | 7.  | When it comes to my profession and/or personal life, I know my strengths and weaknesses. |
| 1 | 2 | 3 | 4 | 5 | 8.  | Music helps me to remember things.   |
| 1 | 2 | 3 | 4 | 5 | 9.  | I have quick physical responses and reflexes.  |
| 1 | 2 | 3 | 4 | 5 | 10. | I would rather work by myself than in a group.   |
| 1 | 2 | 3 | 4 | 5 | 11. | I enjoy reading and am a good reader.  |
| 1 | 2 | 3 | 4 | 5 | 12. | I can read a may easily and accurately.  |
| 1 | 2 | 3 | 4 | 5 | 13. | As a child, I was able to learn math calculation easily.                                 |
| 1 | 2 | 3 | 4 | 5 | 14. | People come to me when they need help with math or technical problems.                   |
| 1 | 2 | 3 | 4 | 5 | 15. | I enjoy art museums.   |
| 1 | 2 | 3 | 4 | 5 | 16. | I like to sit and think.   |
| 1 | 2 | 3 | 4 | 5 | 17. | I actually enjoyed the music lessons my parents made me take.                            |
| 1 | 2 | 3 | 4 | 5 | 18. | I am able to do different kinds of crafts (woodworking, sewing, mechanics, etc.).        |
| 1 | 2 | 3 | 4 | 5 | 19. | Politics intrigue me.  |
| 1 | 2 | 3 | 4 | 5 | 20. | I can tell intuitively when someone is upset.  |
| 1 | 2 | 3 | 4 | 5 | 21. | I enjoy dancing.   |
| 1 | 2 | 3 | 4 | 5 | 22. | When faced with a problem, I can usually think of several solutions.                     |
| 1 | 2 | 3 | 4 | 5 | 23. | Songs get stuck in my head.  |
| 1 | 2 | 3 | 4 | 5 | 24. | Pantomime/drama comes easily for me.   |
| 1 | 2 | 3 | 4 | 5 | 25. | I can remember numbers by making numerical patterns out of them.                         |
| 1 | 2 | 3 | 4 | 5 | 26. | I can usually persuade my friends and associates to think the way I do.                  |
| 1 | 2 | 3 | 4 | 5 | 27. | I love to be creative.   |
| 1 | 2 | 3 | 4 | 5 | 28. | I prefer to categorize tasks, objects and ideas.   |
| 1 | 2 | 3 | 4 | 5 | 29. | I know words can be powerful, so I always choose them carefully.                         |
| 1 | 2 | 3 | 4 | 5 | 30. | I would rather spend my free time with my friends than alone.                            |
| 1 | 2 | 3 | 4 | 5 | 31. | I have a tendency to hum a lot and find myself tapping sounds and rhythms.               |
| 1 | 2 | 3 | 4 | 5 | 32. | I love participating in sports.  |
| 1 | 2 | 3 | 4 | 5 |     |  |
| 1 | 2 | 3 | 4 | 5 |     |  |

# Scoring Your JAMI

Scoring:

Write your score beside each number in the proper column, then add each column. Your score interpretation follows the scoring columns.

	V/L	L/M	V/S	B/K	M/R	IR	IA						
1	_____		2	_____	3	_____	5	_____	6	_____	7	_____	
4	_____	13	_____	12	_____	9	_____	8	_____		10	_____	
11	_____	14	_____	15	_____	18	_____	17	_____	19	_____	16	_____
26	_____	25	_____	27	_____	21	_____	23	_____	20	_____	22	_____
29	_____	28	_____		24	_____	31	_____	30	_____	34	_____	
			36	_____									
		41	_____		32	_____	33	_____	35	_____	38	_____	
45	_____	40	_____	42	_____	43	_____	37	_____	52	_____	39	_____
48	_____	44	_____	46	_____	50	_____	51	_____	55	_____	53	_____
54	_____	47	_____	59	_____				56	_____			

**TOTALS:** \_\_\_\_\_

## SCORING GUIDE:

- 32-40 - This intelligence is definitely one of your strong points. You probably prefer to use this intelligence when faced with something new or challenging.
- 24-31 - This intelligence is a potentially strong one for you. With little practice, and some effort, it could provide strategies to learn new things.
- 16-23 - While you are competent in this intelligence, it is probably not your favorite. It, too, can be strengthened.
- 8-15 - This intelligence is probably one with which you don't feel comfortable. In fact, you probably avoid using this intelligence unless absolutely necessary. With a little work, though, you could become comfortable in using the learning strategies associated with this intelligence.

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Grade \_\_\_\_\_

School \_\_\_\_\_ Teacher \_\_\_\_\_

# FUN WITH DOTS

## Instructions

On the following pages, blocks of dots will be presented with incomplete figures in them. By adding curved or straight lines, make some more interesting and different objects or pictures. Try to think of some pictures or objects that no one else will think of. Your lines do not have to follow the dots, but you can follow them if you wish. Write a title at the bottom of each picture you complete. Try to work quickly and complete as many of the pictures as you can. Are there any questions?

STOP HERE. WAIT FOR SIGNAL

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Institute for Behavioral Research in Creativity  
1570 South 1100 East  
Salt Lake City, Utah 84105

# **Fun With Dots: Preliminary Description and Scoring Instructions**

## **Introduction**

Fun with Dots is a non-verbal instrument designed to help fill the need for assessment of student creativity at the elementary grade levels. Three scores can be obtained from this instrument: Fluency, Originality, and Adaptation. These scores represent three different dimensions of creativity. Higher levels of independence, originality, and a willingness to redefine or reinterpret the stimulus items are necessary to obtain high scores on Originality and Adaptation.

The instrument consists of 27 items; each item consists of a set of dots with an incomplete figure or object drawn within the dots. The instructions tell the student to complete each picture by “drawing something no one else will think of.” The stimulus figures were designed to promote common responses. The nature of the student responses to the items are analyzed according to the scores described below.

### **Score #1: Fluency**

This score represents the total number of responses to the perceptual items which meet minimal standards; excluded are responses dealing with designs, scribbling, or other non-recognizable figures.

### **Score #2: Originality**

A high originality score is obtained by the student who is able to resist the common response called for by the stimulus and instead responds with greater individuality. Original responses are operationally defined as those responses to any given stimulus which occurred in less than 10% of the responses.

### **Score #3: Adaptation**

This score is based upon the student’s ability to interpret independently and adapt to the stimulus situation of any of the following kinds of responses.

1. Draw an object which has been rotated in the space provided (the response is either upside down or sideways)
2. Draw an object which extends clearly beyond the dots
3. Include the stimulus lines in more than one object

### **Objective Scoring**

One of the objectives in the development of the instrument was to design items which could be scored objectively with few, if any, subjective judgments involved and yet to measure meaningful differences in the responses of the participating students. Thus, items and scoring rules were developed that were effective for the majority of cases, were easier to apply, and resulted in greater inter-scorer reliability than a complicated set of rules which attempted to cover complex combination of responses. An attempt was made to limit the scoring to binary decisions only.

### **Definition of a Design**

A design is any response which has been so titled or which cannot be determined either by title or drawing to represent anything specific. A response which is titled patterns, funny lines, squiggles, weird shapes, etc., would be scored as a design. A response which contains one or more geometric shapes--circles, squares, triangles--would be scored as a design unless titled in some way to indicate that the figure represented something beyond the shape (e.g., marble ring, hopscotch, kites, signs, boxes). Design responses are not counted in any of the three scores.

An effort should be made not to penalize for lack of artistic skills. When a response has been made which would be considered a design (and therefore receive no point) but has been titled other than a design or squiggly lines, etc., if there is any possible connection between what was drawn and how it was titled, the response should be scored as if it were drawn as titled. However, if there is no title and the intended response is not obvious, then it would be considered to be a design and would not receive any score.

### **Scoring Instruction**

#### **Score #1: Fluency**

This score is obtained by giving one point to each response which is not a design and which can be interpreted as some recognizable object. See the preceding definitions.

#### **Score #2: Originality**

This score is obtained by giving one point to each response considered uncommon or original. Only two decisions must be made to score each item for originality.

1. Has the student made a response to the particular item (according to the preceding definition)?
2. Is that response common for that item? A frequency tally should be made of the responses of a representative sample of students before scoring is done for Originality. After the tally is completed, those responses occurring in 10% or more of the responses to a given item should be listed for each item. The list presented as Table 1 is provided only as an example of such a list. Score one point only for those responses which are not listed as being common for a particular item. To allow for the possibility of combining two or more blocks of dots into one response, the items within the instrument have not been numbered. However, they are referred to throughout this scoring procedure as if they were numbered from 1 to 27 reading from left to right across the page in rows and not from top to bottom in columns. That is, item #2 is the center item of the top row.

#### **Score #3: Adaptation**

This score assesses three different kinds of responses which all represent a personal adaptation or interpretation of the stimulus items. The score is obtained in the following manner. One point is given for drawing outside of the block of dots; one point is given if the block of dots has been rotated in any direction (that is, when the response is upside down or sideways in the block); one point is given if the student makes more than one object from the stimulus lines. It is possible for a single response to receive 3 points. Four decisions must be made to score each item for Adaptation.

# Table 1

## Common Responses Which Receive No Originality Score

(An Example of the Results of a Tally to Determine Common Responses)

### Page 1

Item 1: Design P	Item 2: Design Heart Face*	Item 3: Design Teepee/tent Triangle
Item 4: Design Match Candle	Item 5: Design H/h	Item 6: Design Arrow/spear
Item 7: Design Tree Y	Item 8: Design Ice cream cone	Item 9: Design Footwear/foot

---

### Page 2

Item 10: Design	Item 11: Design Bullet Face*	Item 12: Design Ear Question mark
Item 13: Design Baseball bat	Item 14: Design Face*	Item 15: Design Y
Item 16: Design Chair(s) H	Item 17: Design Hammer	Item 18: Design Snowman 3

---

### Page 3

Item 19: Design B 5, 15, 51	Item 20: Design Head/face*	Item 21: Design M
Item 22: Design Can (all kinds) Glass	Item 23: Design 4, 41 Flag	Item 24: Design Face *
Item 25: Design Ladder	Item 26: Design 10	Item 27: Design S Face*

\*The response is considered a face for this score if the stimulus lines are a part only of the face even though a stick body or small body has been attached.

**(Score #3: Adaption continued)**

1. Has the student made a response to the particular item? If not, there is no score given. If so, the next three questions are considered.
2. Have any of the lines extended beyond the block of dots? If so, one point is given.
3. Is the response shown as upside down or sideways within the space? If so, one point is given.
4. Are the stimulus lines used as part of two different objects? If so, one point is given.

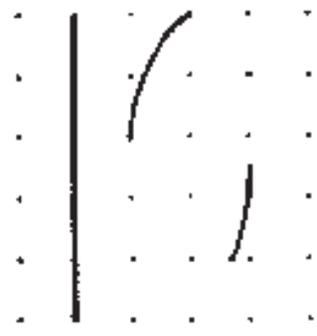
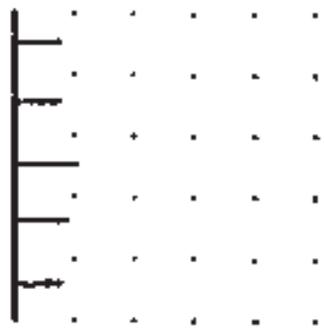
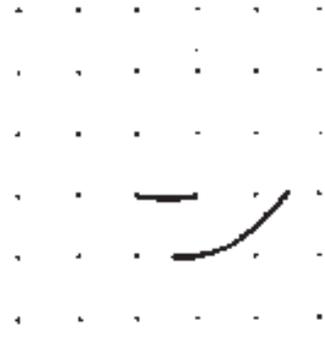
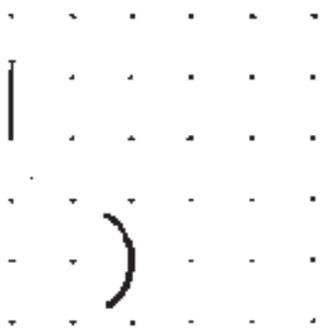
If the answer is yes to all four questions, the student receives 3 points for the item. If the answer is yes to the first question, then the student receives one point for each additional question to which the answer is yes. Further information is given below.

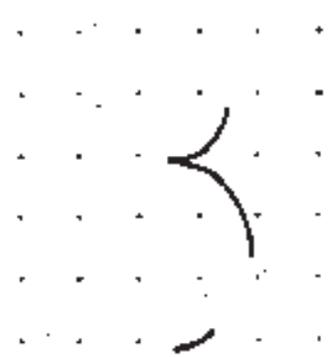
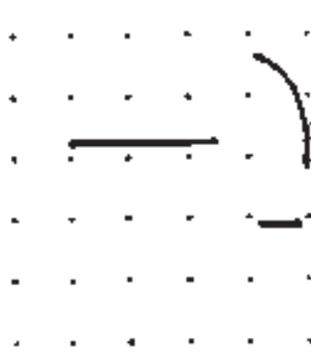
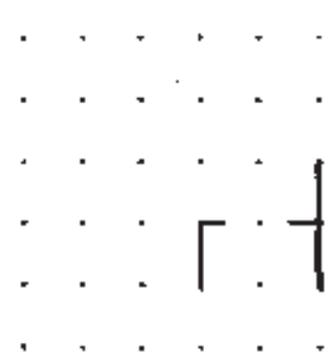
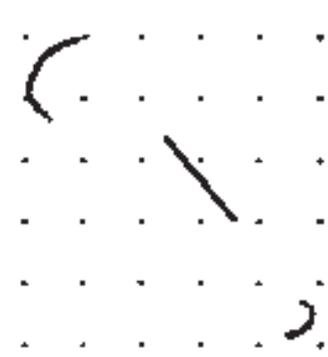
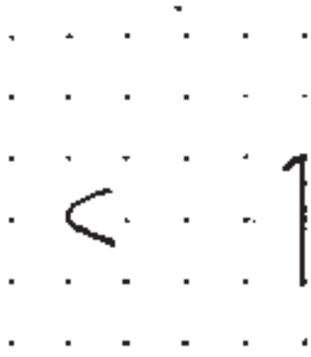
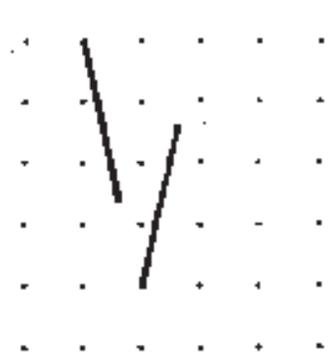
- a. Has the student made a response to the particular item? Refer to the definition given earlier.
- b. Have any of the drawn lines extended beyond the block of dots? This does not apply to random scribbles in the margin, front, or back page of the booklet, but only to very obvious lines which are part of a response. The extension of a line must be a meaningful part of the response and not just evidence of lack of motor control or carelessness. That is, if part of the response has been to draw lines from one dot to another and some lines extend a small amount beyond the square of dots, no point would be given. A figure which was drawn with one line even with the edge of the dots might intrude into the surrounding space because the line was not drawn straight; no point would be given for this response. But, if the response is, for example, a rocket the end of which is near the edge of the block of dots and has flame drawn from the rocket extending beyond the dots, 1 point would be given.
- c. Is the response shown as upside down or sideways within the space? That is, is it necessary to rotate the page to see the response right side up? If the answer is yes, one point is given to the response. This does not apply to objects which have no obvious top or bottom (a football) or which occur naturally in such positions (i.e., a rocket ship, a bullet, a pencil, a stick, a hammer, an axe, etc.). Note: Numbers and letters are sometimes written left-to-right or upside down. Since it cannot be determined whether the person responding in such a way did so from lack of knowledge or skill (as might be the case at the lower grade levels especially) or if he/she knew that it was upside down or sideways, the assumption is made in all such cases that it was in fact a rotation of the space, and one point is given.
- d. Are the stimulus lines a part of two different objects? For example, one stimulus line may be used to write a number and another stimulus line within the same block of dots used to write another number, the resulting two digit number would receive one point for this score. (The exception to this is item #26 where the number 10 is the intended common response and receives no adaptation score for responding with more than one object from the stimulus lines.) The same would apply to two letters which each contained a stimulus line. Further examples include:
  1. A boat and a cloud, each containing a stimulus mark, were given as a response to item #2
  2. A person sitting in a chair (with stimulus mark in each object) was given a response to item #8
  3. A table and a chair with a stimulus mark in each were given as a response to item #16

Each of these examples would receive one point.



GO ON TO THE NEXT PAGE





STOP HERE. CHECK TO SEE THAT YOU COMPLETED ALL THE BLOCKS.

# Torrance Test of Creative Thinking

## Directions

In ten minutes see how many objects you can make from the circles on page 50. A circle should be the main part of whatever you make. With pencil and crayon add lines to the circles to complete your picture. Your lines can be INSIDE the circle, OUTSIDE the circle, or BOTH inside and outside the circle. Try to think of things that no one else in the class will think of. Make as many things as you can and put as many ideas as you can in each one. Add labels or titles, if the identity of the object is not clear. (Raise your hand if you have a questions; the teacher will come to your desk.)

## Scoring

**Fluency:** The score for fluency is determined simply by counting the NUMBER of responses that the subject makes; i.e., the number of objects drawn. Do NOT count the number of circles used as some objects may have required two or more circles.

**Originality:** The score for originality is made by counting all of the responses with the exception of these:

balloons (only toy balloons)	balls
buttons	donuts
Earth, moon, or sun (excluding models, globes, etc.)	fruits
the two examples of glasses and jack-o-lanterns	tires
human faces (excluding definitely expressive or fantasy faces)	wheels
	pans (excluding pans with some contents, such as fried eggs)

The list may vary according to the responses from the particular group. For example, if thirty children take the test and only two mention the response of “buttons,” then “buttons” would be given a point for originality. Whether the response is original or not depends on if it is frequently mentioned or not frequently mentioned.

In the case that an original category of response (bicycles, tables, numbers, hats, etc.) is repeated with LITTLE or NO modification, all repeated responses are not scored. An example would be the use of circles in construction of letters, “p,” “q,” and “b.” The category of response-letters is repeated; however, only the first response “p” would be regarded as original and “q” and “b” would not be. However, if there is a shift in script style, or change in capitalization, then all the responses are scored.

**Elaboration:** The score for elaboration is determined by giving one point for each extra line added to the picture that means a new and significant detail. Thus, an apple might be elaborated to include a stem, leaves, a rotten spot, a worm coming out of the apple, a pitted shape, or mixed coloration. One point would be added for each of these. If the stem, etc., is filled in with many lines, it still receives only one point; for the person is elaborating in the same manner. Only when the person changes his style of elaboration does the individual receive additional points for scoring. An illustration of how several lines might count only one point would be that of a clock. You would give one point each for the hour hand, the minute hand, the pin which these hands would be attached to, all of the numbers, a stand, an alarm bell at the top, and a handle for a total of seven points, even though the number of lines and extra figures would number possible 20 or more. A point should be added for each new idea or significant detail or change in style of elaboration, but not for repetition of the detail needed to complete it, such as the numbers of the hours.

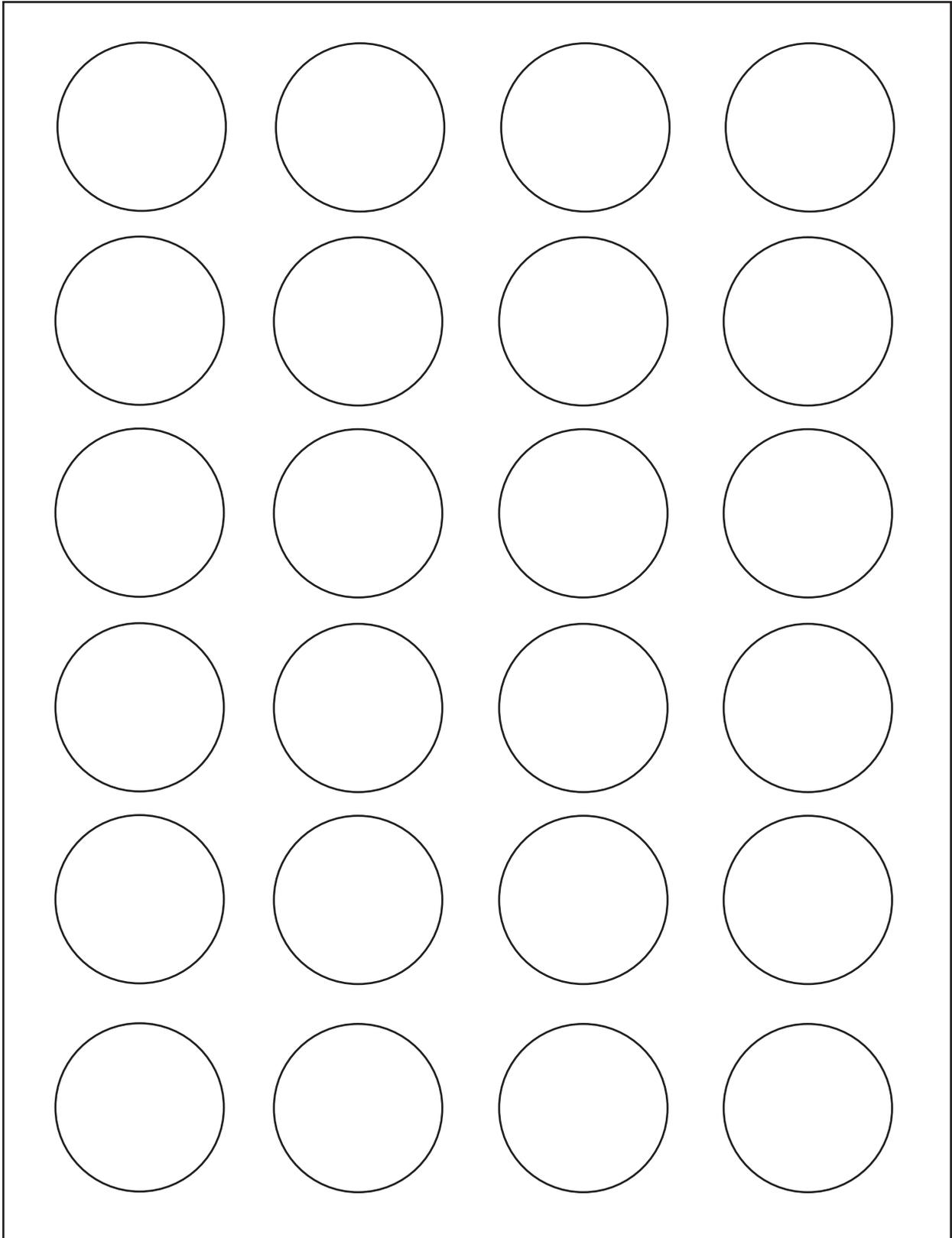
**Flexibility:** Give one point for each category referred to by a response (if a category appears twice or more, do not give more than one point for it). If a response fits into two categories, give points for each such category.

## Categories

1. animals
2. animal faces
3. animal parts
4. buildings
5. building parts
6. candy
7. clocks and watches
8. coins
9. containers
10. cooking utensils
11. covers of any kind
12. decoration
13. designs
14. devices--audiovisual
15. dial instruments
16. flowers
17. fruits
18. furniture
19. games--parts of
20. heavenly bodies--artificial
21. heavenly bodies--natural
22. household items
23. humans
24. humans--fantasy
25. humans--parts
26. human faces
27. human faces--fantasy
28. human faces--parts
29. jewelry
30. kitchen utensils
31. letters
32. mechanical equipment
33. musical instruments
34. nails, nuts, bolts, etc.
35. numbers
36. optical instruments
37. pastry
38. plants--other than flowers and trees
39. school supplies
40. signs
41. sports equipment
42. symbols
43. tableware
44. tools
45. toys
46. transportation--means of
47. transportation--parts
48. trees, parts of trees
49. vegetables
50. weapons
51. or any other category that is not mentioned above.

\*Permission has been given by the author to duplicate for classroom or school wide use.

**Circle Creativity Test - Draw many, varied, unusual things using each circle.**



# Creative Talent Test List

The following exercises can be scored to provide measures of higher-level thinking skills. Except as noted, these exercises should each be scored by counting the total number of appropriate responses. Inappropriate responses (not reasonably related to the question) should be ignored. If needed, adapt exercises for primary grades where written answers are not feasible.

**NOTE:** In using these exercises as selection measures, be extremely careful to make the testing conditions as uniform as possible: avoid interruptions, observe time limits closely, prevent students from looking at each other's answers, provide exactly the same instruction to all students, discourage talking or sharing of ideas, develop a standard guide for scoring responses, etc.

1. **FUN WITH DOTS**  
Recommended to be used. If you do not use Fun With Dots, choose two items below.
2. **WHAT IS IN THIS PACKAGE** (6 minutes)  
Show students a box or package. Ask them to think of all the things that might be in the package. Have students pass the package around so that they can handle it. Then ask them each to write down a list of all the things the package might contain. Stop them after 6 minutes. Score the list for the total number of appropriate responses no matter how unusual, implausible, or unlikely. A response is inappropriate only if it would be physically impossible (in terms of size or weight) for the package to contain the object listed.
3. **WEATHER FORECASTS** (6 minutes)  
Ask students "What are all the benefits of having reliable weather forecasts?" Have each student list all the possible benefits on a piece of paper, stopping them after 6 minutes. The score is the total number of appropriate responses, ignoring completely unreasonable responses and excessively self-centered responses, (e.g., "My father is a weatherman," "I like them," etc.).
4. **TITLES** (6 minutes)  
Show students a painting or picture. Tell them to list as many titles for the picture as they can and that the titles can be as short as a single word or as long as a single sentence. Stop them after 6 minutes. Score the students' list for the total number of responses.
5. **NEW KID IN CLASS** (6 minutes)  
Ask each student to list all things the teacher and the student can do to make a new kid feel comfortable and welcome in the classroom. Score the list for the total number of responses, ignoring only the extremely off-target responses.

6. **POLAR ICE CAPS** (6 minutes)

“Pretend that both polar ice caps are melting. All the frozen snow and ice at the North and South Poles are melting and turning to water. What effects will this have on plant, animal, and human life?” Have the student list their answers in point form, rather than in paragraphs. Score by counting the total number of responses, ignoring only responses which are not even remotely plausible.

7. **PLAN A FIELD TRIP** (6 minutes)

“Pretend that you are a teacher and that you have been put in charge of planning a class field trip for a full day at the zoo. No one but you knows about it yet. What are all the plans and arrangements you would make?” Have students list the elements of their plan on paper. Score their lists by counting the first 3 responses in each of the following general categories of things that should be covered. (These categories are not sacred—you may revise them if you see a need.) For example, a kid listing a thing in one category would only get a score of 3 (because only the first three things in a category count). The categories are:

Time - what day, when to go, when to return, when to eat, etc.

Transportation - how many buses, cars, where to put them, etc.

Notification/Permission - parents, pupils, the zoo people, others

Food - what food, how provided, etc.

Clothing - what to wear, what kind of shoes, coats, etc.

What to see - bears, lions, monkeys, camels, etc.

Group movements - how to stay together, what to do if lost, where to meet, etc.

Costs - admission fee, bus fare, lunch money, etc.

Who will help - aides, parents, principal, zoo people, etc.

# **Instructional Strategies**

- **Flexible Grouping**
- **Multiple Talents**
- **Thinking Skills Models**
- **Special G/T Programs**



# Flexible Grouping



# Flexible Grouping

Flexible grouping is a vital component of differentiation. Students are continually regrouped by readiness, interest, and/or learning style based on ongoing assessment.

## What is flexible grouping?

- Changes regularly to match students’ needs to the concept being taught
- Group size varies, depending on number of students with similar learning needs
- Encourages both independent and collaborative work
- Encourages teachers to look at each student individually
- Provides teachers and students a voice in work arrangements
- Encourages teachers to observe students in an assortment of work settings
- Promotes success for every student

## Why implement flexible grouping into classroom practice?

- Allows for pacing and mastery of information and ideas
- Instructional time improves by directing suitable learning goals for all students
- Provides an instructional match between individual students and their needs
- Provides an optimal learning environment for all students
- Allow students to feel engaged and confident when activities are adapted to their learning needs and preferences
- Allows students to work with a variety of peers
- Maintains classroom sense of community

## What are some of the most frequently used flexible grouping options?

<b>Whole Class</b>	<b>Mixed Readiness (Ability Grouping)</b>	<b>Similar Readiness (Cluster Grouping)</b>	<b>Individual (Independent Study)</b>
<ul style="list-style-type: none"> <li>• Successful when presenting new concepts, presentations, enrichment activities, guest speakers, and Type I activities</li> </ul>	<ul style="list-style-type: none"> <li>• Combines students with differing abilities or interests</li> <li>• Facilitates the learning of common objectives and standards</li> </ul>	<ul style="list-style-type: none"> <li>• Clusters students with similar abilities and interests</li> <li>• Can be used for remediation, acceleration, and/or enrichment</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitates the management of many achievement levels</li> <li>• Allows for self pacing and monitoring</li> <li>• Teaches independent learning</li> <li>• Develops responsibility, time management, organizational skills, and Type III activities</li> </ul>

## How does flexible grouping compare to other types of grouping?

<b>Flexible Groups</b>	<b>Cooperative Groups</b>	<b>Ability/Appititude Groups</b>
Created by teacher observation or evidence of learning	Created by teacher or students' choice	Created by teacher through formal or informal assessments
Based on readiness, interest or learning style	Based arbitrarily on students ability or learning preferences	Based on performance or achievement
Fluid group membership	Fluid group membership	Skill-based group membership
Group members work on activities based on readiness, interest and/or learning style	Group members work on the same task or activity	Group members work on the same task or activity
Students are appropriately grouped and regrouped for activities	Students may be purposely mixed as to learning needs, academic abilities and leadership abilities	Students are grouped based on instructional needs
Takes place when appropriate	Takes place when appropriate	Takes place when appropriate

# Multiple Talents



# Multiple Talents

Multiple talents is a creative and critical thinking model created by Calvin Taylor. Taylor's model describes the talent areas as productive thinking, communication, planning, decision making, and forecasting. Many Jordan School District, G/T Cites, and other publisher materials can be and are often used to integrate these strategies into curriculum.

## ***Productive Thinking (Brainstorming)***

\* Used in product, impromptu and presentation problem solving

**Productive Thinking** requires students to think of many and unusual ideas in a variety of categories using creative thinking skills.

### **Productive Thinking Outcomes**

1. The student is able to express many ideas.
2. The student is able to express a variety of responses.
3. The student is able to express unusual, uncommon responses though not all of the ideas prove to be useful.
4. The student is able to build onto a basic idea by adding details to make it more interesting and complete.
5. The student is able to see relationships between apparently unrelated ideas or objects.

### **Four kinds of productive thinking skills:**

**Fluency:** Think of many ideas, quantity rather than quality:

1. *List as many boy's names as you can.*
2. *List as many words as you can that start with A.*
3. *Write math problems that have a sum of 48.*
4. *List as many things as you can think of that are found in a lake.*

**Flexibility:** Think of a variety of categories:

1. *"Categorize 20 items related to Utah" "How many categories did you come up with?"*
2. *"Look at your list of words that start with A. How many categories did you think of?" (foods, pets, names)*
3. *"List and categorize as many famous musicians as you can?"*
4. *"How many ways can you show the number 100?"*

**Originality:** Think of creative ideas - unique and clever responses:

1. *"What new idea could your class come up with for a PE game?"*
2. *"What A words from your list are unusual, unique or clever?"*
3. *"Make up new lyrics to a song."*
4. *"Give an example of how you would improve school lunch."*

**Elaboration:** Build on a basic idea by adding details to make it more interesting and complete.

1. *Choose an A word from your list “How could you elaborate on that word?”*
2. *Hold up a math book. “How could we elaborate on the cover to make it more interesting and attractive?”*
3. *“Draw a triangle, elaborate on this shape to change its appearance.”*
4. *“Add details to a piece of writing to make it more interesting and complete.”*

## **Student Ground Rules for Productive Thinking (Brainstorming)**

1. **Rule out criticism:**
  - Welcome all ideas
  - There are no wrong answers
  - No judgments or criticism should be made
2. **Be creative in contributions:**
  - Be open to original ideas
  - Say whatever comes to mind, don’t hold back
  - Wild, offbeat, and impractical ideas often trigger useful ideas
3. **Quantity is wanted:**
  - The greater the number of ideas produced, the greater the likelihood of useful, original ideas
  - Contribute a high quantity of ideas in a short time
4. **Combine, change, improve ideas:**
  - Add to, modify, or improve on other ideas
  - Adapt, modify, magnify, substitute, rearrange, reverse, or combine ideas

## **Communication**

\* Used in product, impromptu, presentation

**Communication** requires students to use word fluency, expressional fluency, and association fluency.

## **Communication Outcomes**

1. The student produces many words that fit different categories.
2. The student uses a variety of words to describe feeling and values.
3. The student expresses words and ideas to make comparisons among things and to show relationships.
4. The student understands another’s feelings or ideas by sharing similar experiences or thoughts.
5. The student can organize words into meaningful networks of ideas yielding a single product or multiple responses.
6. The student can effectively interpret and use non-verbal forms of communication to express ideas, feelings, and needs.

## **Communication (cont.)**

### **Communication Outcomes**

- Give a variety of single words to explain things
- Give a variety of single words to describe feelings
- Think of a variety of things that are like another thing in a specific way
- Tell your feelings and needs without using words
- Let others know that you understand how they feel
- Make a network of ideas using complete thoughts

## **Planning**

\* Used in product, impromptu, presentation

**Planning** requires students to elaborate which considers details concerning operation; sensitivity to problems which need consideration; and organization of materials, time, and manpower.

### **Planning Outcomes**

1. The student can identify project or activity with enough details about his basic idea to explain what he wants to do.
2. The student is able to organize the materials, time and resources necessary to carry out his project or activity.
3. The student is able to organize all the steps necessary to complete the project.
4. The student is sensitive to problems that could arise as he works on the project or activity.
5. The student is able to evaluate the results of the plan according to its strengths and weaknesses.

## **Decision Making**

\* Used in product, impromptu, presentation

**Decision making** requires students to use careful evaluation of data prior to making a judgement.

### **Decision Making Outcomes**

1. The student is able to outline many alternatives to the problem he wishes to solve in terms of limitations, relevancy, and people affected.
2. The student is able to think of difficult questions he needs to ask.
3. The student is able to weigh each alternative to the problem he wishes to solve, in terms of his needs and/or goals.
4. The student is able to make a final judgement between the alternatives.
5. The student is able to defend his/her decision, giving as many responses as he can for his choice.

## **Decision Making (cont.)**

**Decision making** requires students to:

- Think of a variety of possible solutions
- Establish criteria to judge each alternative
- Identify the most appropriate solution
- Give a variety of reasons for a choice

## **Forecasting**

\* Used in product, impromptu, presentation

**Forecasting** requires students to consider what he/she wants to do, what the effects of his/her actions will be, what consequences he/she may anticipate.

### **Forecasting Outcomes**

1. When given a task or a problem, the student can state a variety of causes for the problem to have happen.
2. When given a task or a problem, the student can state or write a variety of explanations of why something happened.
3. Before initiating a course of action, the student can state and define what situations or considerations.

**Forecasting** requires students to:

- Examine cause and effect relationships and make predictions.

# Thinking Skills Models



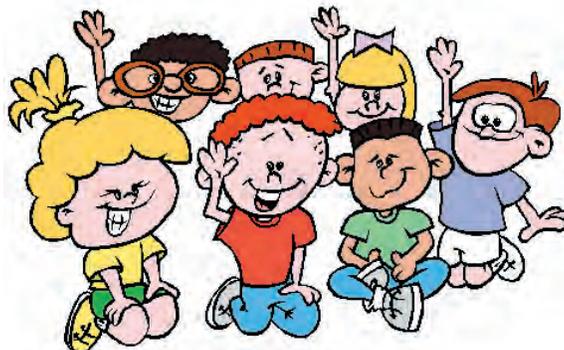
# Models in Gifted Education

## What is a model?

A model provides a system for designing and developing appropriate learning activities for a target audience. Models in gifted education focus on meeting the needs of learners who have demonstrated the need for acceleration and/or enrichment opportunities.

## Why use a model in my school or classroom?

The use of a specific model (or multiple models) gives teachers a framework for how to meet the needs of accelerated students in their classrooms.



## Overview of G/T Models

<b>Models that focus on Enrichment</b>	Autonomous Learner Model	Moves students through a five stage model that provides cognitive and affective skills necessary to complete an independent investigation
	Feldhusen's Three Stage Model	Stimulates cognitive abilities and develops increased self-concept as students develop necessary to complete an independent investigation
	The Schoolwide Enrichment Model	Outlines a comprehensive school-wide plan for providing type I (exposure), type II (process skills training), and type III (independent research projects) experiences and curriculum modifications for students
<b>Talents and Intelligences Models</b>	Gardner's Eight Intelligences	Encourages purposeful planning of learning activities and assessments based on eight research-proven intelligences, or ways of "knowing"
	Talents Unlimited	Improves students' critical and creative thinking skills within the context of classroom curriculum through identified "talent areas" that meet a wide variety of learner needs
<b>Models that include Enrichment AND Acceleration</b>	Treffinger's Independency Learning Model	Promotes effective independent learning and/or acceleration based on learners individual strengths and talents, creating an Independent Programming plan for students
<b>Curriculum Writing</b>	Differentiated Curriculum Model	Creates differentiated curriculum for gifted learners based on content (thematic), process (basic and higher level), and product (showing what was learned)
<b>Curriculum Writing Models</b>	Parallel Curriculum	Uses four curriculums (core curriculum, curriculum of connection, curriculum on practice, and curriculum of identity) either together or individually to help students understand essential concepts, principles, and skills of a discipline using analytical learning activities
<b>Thinking Skills Models</b>	Creative Problem Solving Model	Integrates convergent and divergent process skills in a 6 step model for effective problem solving
	Parnes	Integrates convergent and divergent process skills in a 6 step model for effective problem solving
	Bloom's Taxonomy	Focuses on six levels of cognitive thinking, from recall or recognition of facts at the lowest level to more complex, abstract levels, such as evaluation
	Six Thinking Hats	Uses six ways of thinking to teach creative and critical thinking skills
	Integrative Education Model	Encourages development of the four main functions of the brain (thinking function, physical function, emotional function, and intuitive function) to allow students to reach their full potential
	Covey's Seven Habits of Highly Effective People	Presents a principle-centered approach for teaching students to have integrity, fairness, honesty, and dignity as they face personal problems.

# Adapting and Selecting Models

## Assessing the Situation

The first step in adapting or selecting models involves factors related to the setting, teacher, and students that would influence the choice of a model or models. One of the factors relating to the situation is the kind of grouping arrangement used for the program, such as a regular classroom with a consulting teacher, resource rooms in each building, resource centers across the district, or a self-contained classroom. Another factor is the attitude of regular classroom teachers toward the program. If a particular approach requires the cooperation of teachers who refuse to cooperate, the program will fail unless a different choice is made. Factors relating to the student would include their ages, achievement levels, interests, background experiences, and learning style preferences.

Research on the effectiveness of educational approaches show that the single most important variable in determining success **is the teacher**. If the teacher does not have the necessary skills for implementing the approach and does not believe in its value, the program cannot be effective. Teacher factors to consider can be separated into three groups: philosophical, personal, and professional. Philosophical characteristics include those related to the philosophy of education for the gifted, its purpose and implementation. Personal traits include personality, intelligence, motivation and self-confidence. Professional characteristics include the skills possessed by the teacher, educational background and past experiences. All these aspects must be taken into account when selecting or adapting a teaching-learning model (or models) for a program.

## Assessing the Model

The next step in choosing an approach is to assess the model's appropriateness based on the situational factors identified. Five general criteria have been selected for evaluating a model (others could be added):

- appropriateness to the situation
- comprehensiveness as a framework for curriculum development for the gifted
- flexibility or adaptability
- validity
- practicality

Following are some specific questions that can be asked during this assessment:

### Appropriateness to the Situation

- To what extent do the purposes of the model match the needs of the students, the school philosophy, parental values, and teacher characteristics?
- To what extent do the underlying assumptions made in the model fit reality? (For example, if the model makes assumptions about the characteristics of gifted students, are these characteristics true of the students in the program?)

### **Comprehensiveness**

- What content modifications are provided by the model?
- What process modifications are provided by the model?
- What product modifications are provided by the model?
- What learning environment modifications are provided by the model?
- Which of the modifications, not actually provided by the model, could easily be generated by or integrated into the approach?

### **Flexibility or Adaptability**

- How easily can the model be adapted to all content areas or subject matter covered in the program?
- How easily can the model be adapted to present administrative structure of the school and program?
- How easily can the model be combined with other models to provide a comprehensive program?
- How easily can the model be used with the age levels of children served by the program?
- How adaptable is the model to individual differences in gifted education?

### **Practicality**

- What materials or services are available to implement the approach?
- What is the cost of materials or services? (See Budgeting page in How to Get Started section)
- How much training of the special teacher or regular classroom teacher is needed to implement the model effectively?
- How easily could the approach be implemented in the present situation?

### **Validity**

- What was the model developed using appropriate methods?
- How much research is available to show its effectiveness as an approach to use with gifted students?
- How much evidence is there to indicate that the model is internally valid (or structurally sound)?
- Is the approach defensible as a qualitatively different program for gifted students?

# **Bett's Autonomous Learner Model**

The Autonomous Learner Model for the Gifted and Talented (K-12) was developed to meet the diversified cognitive, emotional and social needs of gifted and talented students. As the needs of the gifted are being met, they will develop into autonomous learners, with the abilities to be responsible for the development, implementation and evaluation of their own learning.

# **The Autonomous Learner Model For the Gifted and Talented (Grades K-12)**

The Autonomous Learner Model by George Betts is designed to meet the diversified cognitive, emotional and social needs of gifted and talented students in the public and private schools. 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. The student becomes an “autonomous learner,” which is defined as one who solves problems or develops new ideas through a combination of divergent and convergent thinking and functions with minimal external guidance in selected area of endeavor.

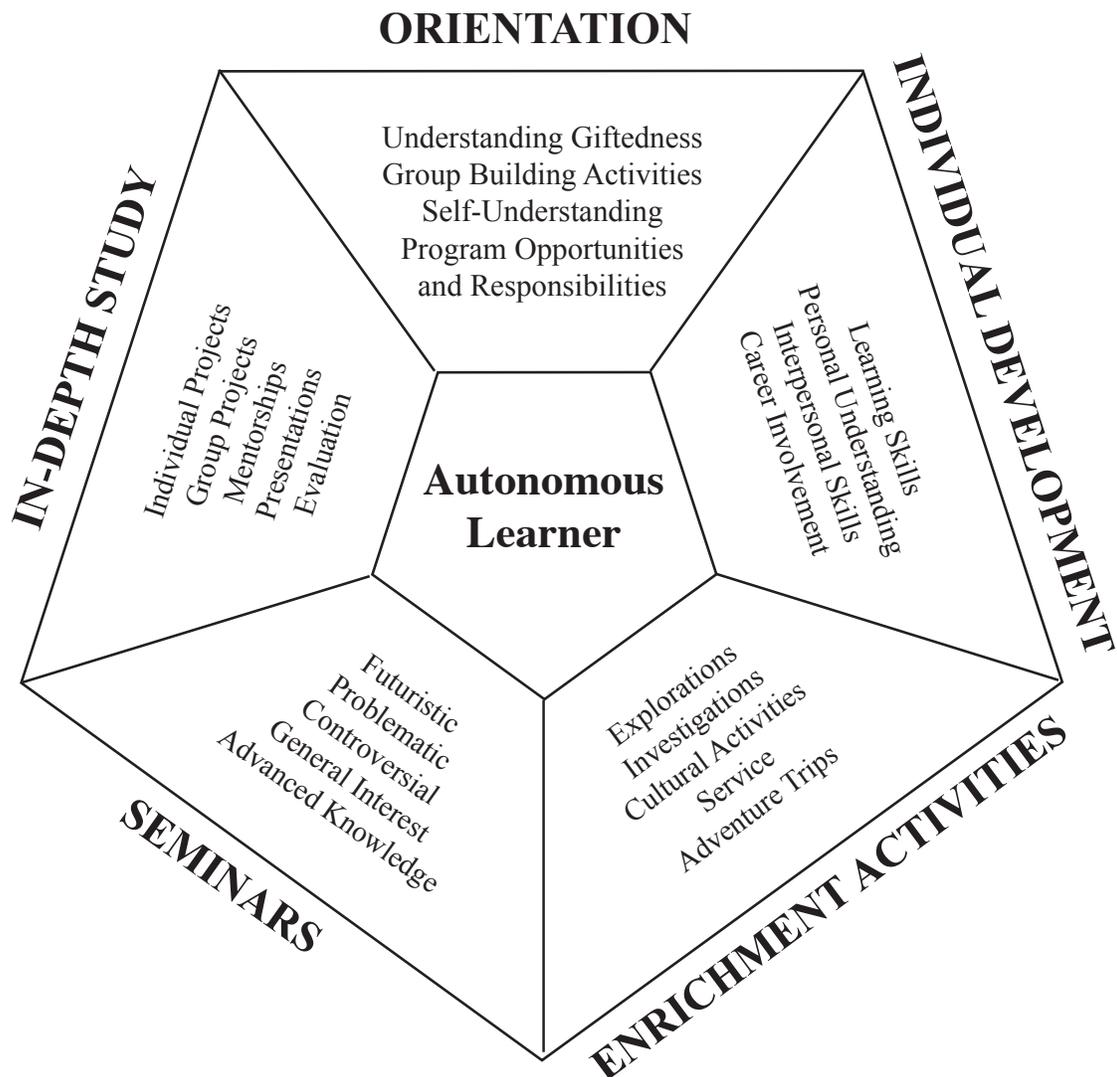
The basic model is divided into five major dimensions:

- I. Orientation
- II. Individual Development
- III. Enrichment Activities
- IV. Seminars
- V. In-depth Study

These five major dimensions are designed to provide gifted and talented students with the appropriate experiences which are necessary to facilitate their growth as autonomous learners. Each dimension gives information, experiences, attitudes, skills and concepts necessary for the growth of the students.

Dr. George Betts  
University of Northern Colorado

# The Autonomous Learner Model For Gifted and Talented



George Betts and Jolene Knapp

## **The Autonomous Learner Model Student/Learner Goals**

Student Learners will:

- Develop more positive self-concepts.
- Comprehend their own giftedness in relationship to self and society.
- Develop the skills appropriate to interact effectively with peers, siblings, parents and adults.
- Increase their knowledge in a variety of subject areas.
- Develop their thinking, decision making and problem-solving skills.
- Participate in activities selected to facilitate and integrate the cognitive, emotional and social development of the individual.
- Demonstrate responsibility for their own learning in and out of the school setting.
- Ultimately become responsible, creative, independent learners.

## **Basic Principles of the Model**

- Emphasis is placed on the emotional, social, and cognitive development of the individual.
- Self-esteem is encouraged and facilitated.
- Social skills are developed and enhanced.
- Curriculum is based on the interests of the student.
- Students are involved in guided, open-ended learning experiences.
- Responsibility for learning is placed on the student/learners.
- Students need experiences which allow them to become life-long learners.
- Higher-level thinking skills are integrated, reinforced and demonstrated in the learning process.
- Students develop appropriate questioning techniques.
- Varied responses are sought from the students.
- Content topics are broad based, with emphasis on major themes, problems, issues and ideas.
- Time and space restrictions for schools are removed for in-depth learning.
- Students develop new and unique products.
- Varied responses are sought from the students.
- Students use varied resources in the development of in-depth studies.
- Cultural activities provide new and unique growth experiences.
- Seminars and in-depth studies are essential components of the learning process.
- Mentorships provide adult role-modeling, active support and individual instruction and facilitation.
- Completions and presentations of in-depth studies are integral in the learning process.

# Bloom's Taxonomy

The purpose of Bloom's Taxonomy is to provide a set of criteria that can be used to classify educational objectives according to the level of complexity of the thinking required. They are generic in that they apply to the academic subject area and level of instruction from kindergarten through adult education (including graduate school).

# Bloom's Taxonomy: A "Snapshot"

Level of Thinking	Goals	Key Question Words	Behaviors
<b>Evaluation</b>	to state opinions and infer emotions given the situations; to justify answers	decide, judge, discuss, choose, recommend, give opinion, explain why	can generate opinions and support them with reasons
<b>Synthesis</b>	to compare the relationships among ideas; to extract from previous knowledge to form new ideas	create, develop, devise, suppose, predict, what if, think of, invent	can put parts together to form a new whole
<b>Analysis</b>	to take a situation apart, list the components, and discuss how it was done	why, how, describe, give reasons, identify, analyze	can break a whole into its parts
<b>Application</b>	to use previously learned knowledge to solve problems in new situations	solve, what else, list, name some other, instead of, choose, apply, what is, sort	can use what is already known in a new situation
<b>Comprehension</b>	to demonstrate knowledge by describing or explaining events in the student's own words	describe, explain, use your own words, compare, contrast	can understand information given, but may not yet relate it to other material
<b>Knowledge</b>	to learn basic facts and information; to remember information long enough to answer simple questions	who, what where, when, which, how many, name, identify, remember	can recall bits of information

# Learning Process Verbs

Adapted from S. Kaplan, N/S-LTI-G/T (1979) based on Bloom's Taxonomy

## EVALUATION:

interpret	judge	justify	criticize	solve	decide	infer
verify	conclude					

## SYNTHESIS:

add-to	predict	assume	extend	hypothesize	design	reconstruct
rename	reorganize	substitute	vary	symbolize	formulate	systematize
modify	minimize	maximize	alter			

## ANALYSIS:

compare/contrast	take-apart	part of...	fill-in	take-away	put-together	combine
differentiate	divide	isolate	order	separate	distinguish	dissect
associate	relate	pattern				

## APPLICATION:

organize	group	collect	apply	summarize	order	classify
model	construct	relate	code			

## COMPREHENSION:

explain	translate	group	regroup	restate	connect	conclude
summarize	describe					

## KNOWLEDGE:

explain	show	list	demonstrate	describe	uncover	observe
experiment	recognize	discover				

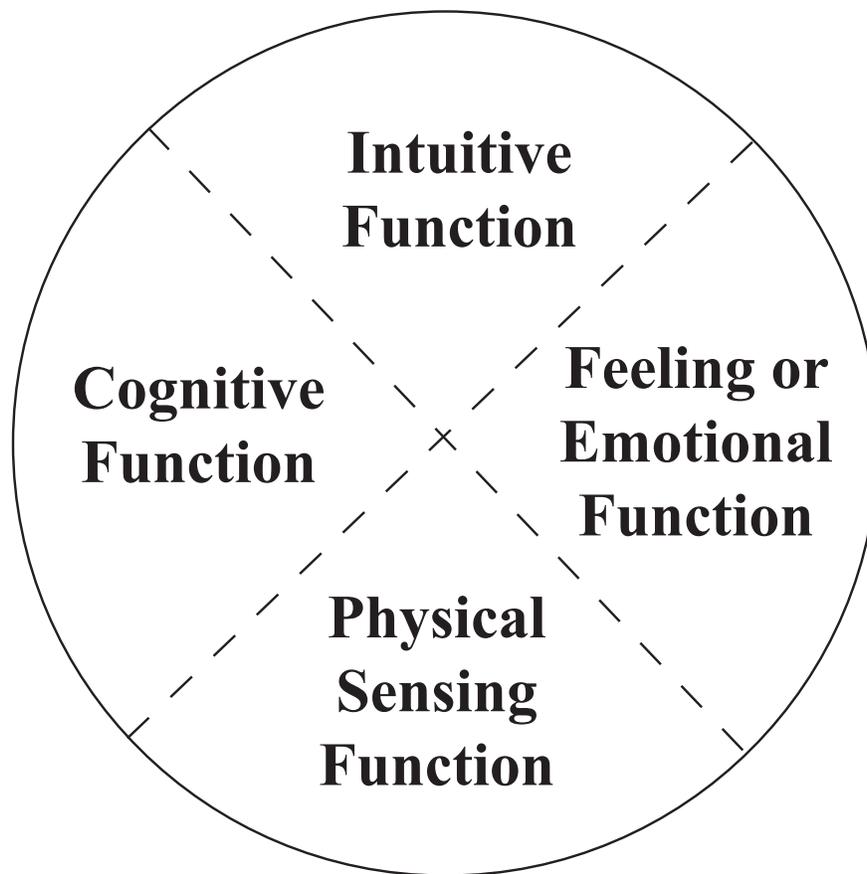
# Clark's Integrative Education Model

The Integrative Education Model, a model for developing programs, curriculum and strategies, is based on the synthesis of the four major functions of the human brain. By combining the thinking functions (both the linear, rational and the spatial, gestalt), the physical sensing function, the feeling or emotional function, and the intuitive function, learners have powerful access to their potential. This model began with the work of Plato, Foebel and Dewey, and continues to be validated in the classrooms of the New Age School (NAS) and those of the NAS faculty.

## **Barbara Clark's The Interactive Education Model**

Most of the traditional program structures used with gifted learners have focused on the cognitive area of the intellect and have provided curricular strategies to enhance the growth of cognition. However, within the past two decades, findings have been reported from a variety of disciplines that dramatically affect concepts of teaching and learning. Intelligence can no longer be defined as only a rational, analytic thinking function, but also the more spatial, holistic processes of functions as well. While these functions can be regarded separately, it is the integration of these functions that creates high levels of intelligence and the optimal development of human potential. This is the basis for the Integrative Education Model.

In every subject area the Integrative Education Model combines the experiences of cognition with experiences in feelings or emotions, intuition and physical sensing. Through this Model each function of the brain is allowed to support the others, resulting in a very coherent, powerful learning experience.



Integrative Education: A Model for Developing Human Potential  
Barbara Clark, Author of Growing Up Gifted, Merrill McMillan Publishers

# Covey's Seven Habits of Highly Effective People

In *The Seven Habits of Highly Effective People*, author Stephen R. Covey presents a holistic, integrated, principle-centered approach for solving personal and professional problems. With penetrating insights and pointed anecdotes, Covey reveals a step-by-step pathway for living with fairness, integrity, honesty, and human dignity - principles that give us the security to adapt to change, and the wisdom and power to take advantage of the opportunities that change creates.

# DeBono's Creative Thinking Model

## Six Thinking Hats

Dr. De Bono's approach to the teaching of thinking uses the "tools method" which is easy to teach and easy to transfer. Deliberate creative tools can be developed and used in order to generate new ideas. Dr. DeBono's six hats method is a mutual exploration instead of adversarial and, as such, promotes collaborative discussion. This model is like having a set of golf clubs and pulling out the one thinking approach that is most appropriate to the situation.

# Edward De Bono's Six Thinking Hats Classroom Applications

Ann Larson, Ph.D.  
Weber State University, Ogden Utah

One of the main difficulties of thinking is that we try to do too much at once. Emotions, information, logic, hope, and creativity all crowd in on us. It is like juggling with too many balls.

The concept of thinking hats allows the thinker to do one thing at a time. He or she becomes able to separate emotion from logic, creativity from information, and so on. Putting on any one of the six thinking hats defines a particular types of thinking.

## Values of Using Six Thinking Hats

**Role Playing:** The hats allow us to think and say things that we might not otherwise think and say without risking our egos. Wearing the clown costume gives you full permission to play the clown.

**Attention Directing:** The six hats allow us to direct attention to six different aspects of the matter.

**Convenience:** The symbolism of six different hats provides a very convenient way of asking someone, including yourself, to switch gears.

**Rules of the Game:** The six thinking hats establish certain rules for the game of thinking.

# **Edward De Bono Six Thinking Hats (Penguin Books)**

## THE WHITE HAT (Facts and Figures)

White is neutral and objective.  
The white hat is concerned with objective facts and figures.

## THE RED HAT (Emotions and Feelings)

Red suggests anger (seeing red), and rage and emotions.  
The red hat gives the emotional view.

## THE BLACK HAT (What is wrong with it?)

Black is gloomy and negative.  
The black hat covers the negative aspects - why it cannot be done.

## THE YELLOW HAT (What is right with it?)

Yellow is sunny and positive.  
The yellow hat is optimistic and covers hope and positive thinking.

## THE GREEN HAT (Creative Thinking)

Green is grass, vegetation, and abundant, fertile growth.  
The green hat indicates creativity and new ideas.

## THE BLUE HAT (Control of Thinking)

Blue is cool, and it is also the color of the sky which is above everything else. The blue hat is concerned with control and organization of the thinking process. The blue hat is used to access the other hats and helps them compliment one another.

# Feldhusen's A Three-Stage Model

The Feldhusen Model was developed for the purpose of providing a foundation for the enrichment of gifted elementary students. Goals for the model include the development and maintenance of good self-concepts, the stimulation of abilities of bright students by providing opportunities for interaction, and independent work in challenging areas.

# **Gifted Education and the Curriculum**

## **John Feldhusen**

### **Purdue University**

One of the major problems facing the gifted education movement is how to provide for the gifted within the basic curricular areas. Creative enrichment programs with special resource teachers are being developed in many school systems throughout the United States. For the most part these programs focus on language arts activities, reading, and art experiences with superordinate goals of teaching research and thinking skills and providing realistic, high level creative project experience. The educational needs of gifted children in the curricular areas of science, mathematics and social studies, are frequently neglected in creative enrichment programs.

One tempting solution to this problem would be to relate gifted programs directly to the special academic talents or creative abilities of the gifted. Since the multi-talent approach to identification of the gifted is now widely advocated, it makes some sense to provide special learning experiences for the gifted in relation to their areas of high potential. Thus, the child with high science talent would be routed to a science program and the child with high artistic ability to an art program. However, many gifted children have special aptitudes in a number of areas, and others whose potential may be limited to one or two areas may still have much interest in other areas which may complement the abilities in their area(s) of giftedness. Thus, narrow focusing of instruction only on a gifted child's high ability area, may be counter productive to his/her general intellectual development.

The ultimate goals of gifted programs should be to help those with high potential develop their talents to the highest level possible, to help them make the best contribution possible to our society, and to help them achieve fully satisfying lives. To achieve these goals a broad general development of the individual is probably necessary along with the opportunity to achieve the highest levels in an ear of specialization.

This argument then suggests two directions for gifted programs: breadth and depth. The breadth may come from a creative enrichment program with offers a diversity of higher level, challenging experiences in thinking, aesthetics, problems solving, and project activities. The creative enrichment program with a resource teacher fills this need in many schools. The attention to depth may come from program opportunities which offer opportunities for specialized study in a curriculum area.

# Feldhusen's Three-Stage Model

The major effects of the Gifted Education Resource Institute in designing curriculum for gifted, creative, talented, and high-ability students are embodied in a three-stage model developed for educating the gifted at the elementary and junior high school levels (Feldhusen & Killoff 1978). This model operates within a format of integrated acceleration or enrichment, aspects of which are listed here.

## ★ Stage 1

- Basic convergent and divergent thinking skills.
- Essential curriculum content.

## ★ Stage 2

- Inquiry skills
- Research methods
- Creative problem solving
- Convergent problem solving
- Synetics
- Morphological analysis
- Logical analysis and deduction
- Brainstorming

## ★ Stage 3

- Independent projects
- Inquiry activities
- Self-directed research



# Gardner's Multiple Intelligences

It is important to realize that people are multi-talented and dynamic individuals. Howard Gardner defined seven distinct ways in which people can show intelligence, and illustrated domains of behavior which could be seen as demonstrating and enhancing the different kinds of intelligence he observed. There may be more than seven intelligences; the central idea is that intelligence is a plural concept.

Everyone possesses each of these intelligences to some degree, but not all of them are developed equally. Old and young people alike change over time. Certain talents take longer to develop than others.

Understanding the theory of multiple intelligences is of tremendous value for educators. It helps them to recognize the individuality of their students and sensitizes them to recognize the many ways in which people learn. Armed with this awareness, educators can choose to develop lessons which actively address different perceptual and cognitive styles. They can model ways in which students can use their talents (traditional and nontraditional) in productive ways, and validate their students to discover, understand, and accept themselves and others.

# The History of Multiple Intelligences

In 1979 Dr. Howard Gardner, a researcher at Harvard University, was asked by the Bernard Van Leer Foundation, a Dutch philanthropic group, to investigate human potential. The result became the theory of Multiple Intelligences (MI) as published in this book, *Frames of Mind* in 1983.

Gardner started on the premise that intelligence should show evidence of localization in the brain; it should be describable as a specific set of core operations or rules of functioning; it should be observable in isolated forms of extreme exceptional; and should be present in human beings universally, regardless of where or how they live. He found seven basic categories that fit this criteria.

Dr. Gardner felt that intelligence was not static, and questioned the validity of tests that “measured” intelligence outside of a learning environment and isolated from any recognizable use. Rather than a number or score, he felt that intelligence had more to do with the capacity to solve problems and fashion products that “are of consequence in a particular cultural setting.”

Gardner also insisted that while each of us has multiple intelligences, they are developed equally, or used as effectively as they could be.

Though not originally theorized for the benefit of those in education, Gardner’s theory proved to be an “aha!” experience for teachers who wondered how to reach those students who did not test well but were obviously bright; those students who perhaps couldn’t spell, but could take a VCR apart and put it back together; or who couldn’t do simple math calculations without help, but were obvious leaders.

Many educators and researchers have added their talents to Gardner’s to help teachers implement and develop ways to utilize the MI theory in the classroom. David Lazear, Thomas Armstrong, and Brigham Young University’s Keith Rogers, among others, have developed strategies beneficial for every teacher in any discipline or age group.

For teachers who want to reach each student and help them understand how they learn and areas where they excel, Gardner’s theory of multiple intelligences has become a bag of tricks - a Strategy Bag if you will, that can give any student a chance to be a better one.

# Gardner's Multiple Intelligences

## **Verbal/Linguistic Intelligence**

Verbal/linguistic intelligence is the realm of language. It is first awakened by the human voice. Humor, persuasive speaking, writing, storytelling, and reading are under its domain. Without verbal/linguistic intelligence, it is difficult to teach or learn. This intelligence can be measured easily in testing situations, therefore, is valued by school systems. As with every other intelligence, it can be strengthened with us.

## **Logical/Mathematical Intelligence**

Another easily-measured intelligence, logical/mathematical intelligence is valued by traditional schools. Logical/mathematical intelligence is awakened by problem solving, categorizing, inductive and deductive thinking and reasoning, as well as pattern recognition. Numbers, scientific reasoning and logic are all under the domain of logical/mathematical.

## **Visual/Spatial Intelligence**

Artistic skills of all kinds, the ability to read a map, and being able to find yourself in space are all part of visual/spatial intelligence. Those gifted with this intelligence are likely to have an active imagination and be very creative. It is stimulated by visual delights such as patterns, colors, shapes, and pictures. Although those without the gift of sight can still develop this talent in different ways.

## **Body/Kinesthetic Intelligence**

Those who are strong in body/kinesthetic intelligence are easy to spot; they are active, enjoy participating in sports and probably talk with their hands and bodies to excess. Students talented in this area can also be good at drama or crafts. The gym teacher or team coach is usually in charge of this intelligence at school, but it can be used by any teacher to motivate and teacher students.

## **Musical/Rhythmic Intelligence**

This intelligence is an observable "talent" in some students. They hum, use the desk top for a drum, sing, or play an instrument. Students gifted in musical/rhythmic intelligence may be able to tell when someone is singing off key, or repeat a tonal pattern after hearing it only once. It is triggered by music, rhythm, the cadence of the human voice and even nature sounds. While it may be considered an extra in some schools, this intelligence can be used as a mnemonic aid to help students memorize and understand information in any subject area.

## **Interpersonal Intelligence**

Interpersonal intelligence is activated by encounters with other human beings. We learn from our mother's first touch how to associate, communicate and cooperate with others. Interpersonal intelligence is coming to be recognized as vitally important to business and society. Those students gifted in this intelligence are usually leaders, well-liked by their peers.

## **Intrapersonal Intelligence**

Intrapersonal intelligence awakens through introspection, self-awareness, self-reflection, and even spirituality. This is an intelligence that looks inside and helps to self-monitor learning. Once students are enabled in this area, they can think about their own thinking (metacognition). The intrapersonal learner may seem quiet and thoughtful, but there is a log going on inside.

## **Naturalist Intelligence**

Those strong in naturalist intelligence seem to thrive while participating in outdoor activities. They get along well with animals and enjoy being out of doors.

# The Language of Multiple Intelligences

Use the following words and phrases associated with the various intelligences to help you plan curriculum. This is by no means a comprehensive list. Use in conjunction with Bloom's is encouraged.

## Verbal/Linguistic Intelligence

list	recite	compose	write	tell	define
relate	memorize	explain	debate	persuade	infer
describe	detail	research	convince	revise	summarize
discuss	clarify	criticize	translate	read	record

## Logical/Mathematical Intelligence

calculate	decipher	solve	outline	categorize	detect
formulate	discover	prioritize	arrange	compute	order
analyze	experiment	hypothesize	develop	estimate	adapt
inquire	justify	conclude	solve	prove	apply

## Visual/Spatial Intelligence

draw	visualize	model	paint	develop	create
sculpt	describe	design	chart	graph	cluster
contrast	portray	rearrange	depict	design	construct
layout	recreate	embellish	illustrate	adapt	detail

## Body/Kinesthetic Intelligence

dance	invent	mimic	interpret	move	rehearse
demonstrate	role play	design	build	imitate	dramatize
adapt	perform	manipulate	produce	apply	synchronize
respond	react	solve	synthesize		

## Musical/Rhythmic Intelligence

sing	hum	create	count out	rewrite	compose
interpret	advertise	present	accompany	demonstrate	harmonize
synthesize	accompany	produce	reproduce	differentiate	compare
manipulate	contrast	sequence	arrange	lyricize	apply

## Interpersonal Intelligence

tell	relate	cooperate	respond	find	share
discover	debate	resolve	conduct	encourage	motivate
defend	direct	assist	praise	explain	judge
intervene	guide	assist	teach	persuade	consult
empathize	negotiate	sympathize	collaborate		

### **Intrapersonal Intelligence**

think	interpret	reflect	self-assess	describe	relate
explain	analogize	react	evaluate	determine	predict
select	rank	criticize	diagnose	appraise	investigate
prioritize	analyze				

### **Naturalist Intelligence**

appreciate	interact	imitate	gather	grow	care
classify	communicate	investigate	relate	explore	conserve
experiment	watch	aware	involve	reproduce	demonstrate
observes	encounter	participate			

# Emerging Intelligences

Howard Gardner never limited his theory to seven intelligences and is currently investigating several others, including Naturalist Intelligence and Emotional Intelligence. Dr. Phyllis Embley, Jordan School District, has also proposed an intelligence: Technology/Data Facilitating Intelligence.

## **Emotional Intelligence**

Emotional intelligence encompasses empathy, the ability to engage with others, evoke emotions, and even “button push.” Emotional intelligence can be manifest in confidence, self-control and curiosity.

## **Technology/Data Facilitating Intelligence**

More than the ability to manipulate machinery and/or assimilate the data generated, technology/data facilitating intelligence is used while working with computers either as tutors or programmers. Those strong in this intelligence are almost instinctively able to understand and use computers and programs. They may even be able to improve existing applications and invent new ones.

# Kaplan's Differentiated Curriculum Model

The definition of differentiated curriculum, translated into a set of learning experiences related to a given theme, provides for comprehensive and integrated educational opportunities for gifted students. Most importantly, the definition of curriculum referenced against accepted elements of differentiated curricula is an assurance that gifted students are provided with substantive rather than superficial learning opportunities. The grid is one model which facilitates the curriculum developer's task of determining what constitutes differentiated curriculum and how such a curriculum can be constructed.

The purposes of this model are therefore as follows: (1) to translate the principles that govern an appropriately differentiated curriculum for the gifted into practice, (2) to define the process for constructing differentiated curricula for the gifted and (3) to develop a comprehensive, articulated and integrated curricula framework to guide the teaching/learning of the gifted. The elements of learning experiences - content, processes and product - are delineated in this chapter.

# Curriculum Development Model - The Grid

## Sandra N. Kaplan

**PURPOSES OF MODEL:**

1. To translate the principles that govern appropriately differentiated curriculum for the gifted into practice.
2. To define the process for constructing differentiated curricula for the gifted:
3. To develop a comprehensive, articulated and integrated curricula framework to guide the teaching/learning of the gifted.

**UNITY:**

A curricular framework is organized around either a teacher-directed or student-selected issue, problem, theme, question or skill. The organizer provides focus and continuity to the curriculum.

CONTENT	PROCESS	PRODUCT	AFFECTIVE
<p>The subject matter selected for the curriculum reflects knowledge that is mandatory for all students to learn, knowledge that is commiserate with the level of conceptualization responsive to the gifted and knowledge particular to the individual needs and interest of the gifted.</p>	<p>The skills or competencies the gifted are expected to master include, but are not limited to, fundamental, rudimentary or basic skills, productive (logic, creative problem-solving and critical-) thinking skills, research skills or the skills of accessing, interpreting, summarizing and reporting information, and personalized skills or those particular to the individual aptitude of the gifted.</p>	<p>The forms of communication or the products by which the gifted summarize and transmit the knowledge they have assimilated and the skills they have mastered should include experiences in a variety of media, learning the technology and materials for appropriate and accurate production, and developing outlets for sharing and gaining feedback relative to the developed work.</p>	<p>The attitudes, appreciation and values introduced to the gifted are an integral feature of, rather than an adjunct to the curriculum. An understanding of the self as a gifted individual and contributor, a value for learning and productivity, an awareness of the roles and responsibility for leadership are some of the affective learnings to be included in the curriculum.</p>

**LEARNING EXPERIENCE:** The intersection of the elements (content, processes, product and affect) constitutes the objective or learning experience that guides the teaching/learning process. Learning experiences are essentially fixed ends or the perceived anticipated outcome of teaching and/or learning. They provide the framework for units or courses of study, lesson plans and independent study. The teacher and/or students use the learning experience to develop and plan the activities to attain this end.

Sandra Kaplan has further materials for differentiating by identifying ways for students to be able to delve into depth and complexity of curriculum. These materials are available from your area G/T Specialist.

# Parnes' Creative Problem Solving

The Parnes *Creative Problem Solving* model provides a structured method for approaching problems in an imaginative way. It is different from the usual problem-solving methods in its emphasis on the generation of a variety of alternatives before selecting or implementing a solution. In each of the five steps of the process, the problem solver defers judgement during ideation or generation of alternatives to avoid inhibiting even the wildest possibilities, which may turn out to be the best ideas. Judgment is then exercised at a more appropriate time.

Purposes of the model are twofold: (1) to provide a sequential process that will enable an individual to work from a “messy situation” to arrive at a creative, innovative, or effective solution; and (2) to enhance an individual’s overall creative behavior.

# Scoping the Levels of Creative Problem Solving

Level I      Sensing Problems and Challenges

Being alert to situations and conditions needing improvement.  
Noticing and getting the feeling that things are not as good as they should be

Level II      Fact-Finding

Getting information as an aid to understanding the situation.  
Digging in and getting at the cause of things.  
Asking questions, finding, out about it for sure.

Level III      Problem-Finding

Looking at the whole puzzle to see how the pieces fit together.  
Using facts to identify the parts of a big problem.  
Selecting and stating a manageable problem.

Level IV      Idea-Finding

Coming up with lots of ways to solve a problem. Thinking of ways that are different and far out. Thinking up things that nobody else will think of.

Level V      Solution-Finding

Looking at our ideas to see which one might work.  
Coming up with some measures to see how good our ideas really are.  
Picking out the ideas that measure out as the best.

Level VI      Acceptance-Finding

Preparing a plan to put our ideas to work.  
Figuring out what needs to be done and how to do it.  
Finding out about other things that need to be improved.

Note: The levels appear and should be taught in hierarchical or stair-step order. Each level is an outgrowth of the preceding level and follows in sequential order.

The five stage process described by Parnes and his colleagues has been modified for use by children (Parnes, 1967; Noller, Parnes, and Biondi, 1976; and Noller, 1977). Permission to reprint the five stage process appearing in *Scratching the Surface of Creative Problem Solving, A Bird's Eye View of CPS* (Noller, 1977) has been granted by the C.O.K. Publishing Company of Buffalo, New York 14214, and The Creative Education, Buffalo, New York 14222.

# Parallel Curriculum

Teachers can use the parallel curriculum model in both heterogeneous and homogeneous classroom settings and with students working at basic skill levels as well with their highest ability students ready for more complex learning options. The four parallel approaches to curriculum development illustrate ascending intellectual demand as a means of extending the intensity of challenge for students as they work toward expertise in learning. The term “parallel” refers to four formats through which educators approach curriculum design.

- The Core Curriculum refers to the skills, knowledge, and understanding most relevant to a discipline and includes state and district standards.
- The Curriculum of Connections expands the core curriculum by guiding students to make connections across time, cultures, disciplines, or places.
- The Curriculum of Practice expands the core by engaging students in the discipline as professionals would function, given their expertise in the discipline.
- The Curriculum of Identity expands the core by guiding students to understand themselves in relation to the discipline by helping them make personal connections.

<b>The Core or Basic Curriculum</b>	<b>The Curriculum of Connections</b>	<b>The Curriculum of Practice</b>	<b>The Curriculum of Identity</b>
<p>The Core Curriculum is the foundational curriculum that establishes a rich framework of knowledge, understanding, and skills most relevant to the discipline. It is inclusive of and extends state and district expectations. It is the starting point or root system for all of the parallels in this model.</p> <p>The Core or Basic Curriculum:</p> <ul style="list-style-type: none"> <li>• Is built on key facts, concepts, principles, and skills essential to discipline</li> <li>• Is coherent in its organization</li> <li>• Is purposefully focused and organized to achieve essential outcomes</li> <li>• Promotes understanding rather than rote learning</li> <li>• Is taught in a meaningful context</li> <li>• Causes students to grapple with ideas and questions, using both critical and creative thinking</li> <li>• Is mentally and effectively engaging and satisfying to learners</li> <li>• Results in evidence of worthwhile student production</li> </ul>	<p>This curriculum is derived from and extends the Core Curriculum. It is designed to help students encounter and interact with the key concepts, principles, and skills in a variety of settings, times, and circumstances.</p> <p>The Curriculum of Connections is designed to help students think about and apply key concepts, principles, and skills:</p> <ul style="list-style-type: none"> <li>• In a range of instances throughout the discipline</li> <li>• Across disciplines</li> <li>• Across time and time periods</li> <li>• Across locations</li> <li>• Across cultures</li> <li>• Across times, locations, and cultures</li> <li>• Through varied perspectives</li> <li>• As impacted by various conditions (social, economic, technological, political, etc.)</li> <li>• Through the eyes of various people who affected and are affected by the ideas</li> <li>• By examining links between concepts and development of the disciplines</li> </ul>	<p>This curriculum is derived from and extends the Core Curriculum. Its purpose is to help students function with increasing skill and confidence in a discipline as professionals would function. It exists for the purpose of promoting students' expertise as practitioners of the discipline.</p> <p>The Curriculum of Practice asks students to:</p> <ul style="list-style-type: none"> <li>• Understand the nature of the discipline in a real world application manner</li> <li>• Define and assume a role as a means of studying the discipline</li> <li>• Understand the impact of this discipline on other disciplines and other disciplines on this discipline</li> <li>• Become a disciplinary problem solver rather than being a problem solver using the subject matter of the discipline</li> <li>• Understand and use the discipline as a means of looking at and making sense of the world</li> <li>• Develop a means of escaping the rut of certainty about knowledge</li> <li>• Comprehend the daily lives of workers or professionals in the discipline: working conditions, hierarchical structures, fiscal aspects of the work, peer or collegial dynamics</li> <li>• Define and understand the implications of internal and external politics that impact the discipline</li> <li>• Value and engage in the intellectual struggle of the discipline</li> <li>• Function as a producer in the discipline</li> <li>• Function as a scholar in the disciplines</li> </ul>	<p>This curriculum is derived from and extends the Core Curriculum. It is designed to help students see themselves in relation to the discipline both now and with possibilities for the future; understand the discipline more fully by connecting it with their lives and experiences; increase awareness of their preferences, strengths, interests, and need for growth; and think about themselves as stewards of the discipline who may contribute to it and/or through it. The Curriculum of Identity uses curriculum as a catalyst for self-definition and self-understanding, with the belief that by looking outward to the discipline, students can find a means of looking inward.</p> <p>The Curriculum of Identity asks students to:</p> <ul style="list-style-type: none"> <li>• Reflect on their skills and interests as they relate to the discipline</li> <li>• Understand ways in which their interests might be useful to the discipline and ways in which the discipline might serve as a means for helping them develop their skills and interests</li> <li>• Develop awareness of their modes of working as they relate to the modes of operation characteristic of the discipline</li> <li>• Reflect on the impact of the discipline in the world, and self in the discipline</li> <li>• Think about the impact of the discipline in the world, and self in the discipline</li> <li>• Take intellectual samplings of the discipline for the purpose of experiencing self in relation to the discipline</li> <li>• Examining the ethics and philosophy characteristic of the discipline and their implications</li> <li>• Project themselves into the discipline</li> <li>• Develop self in the context of the discipline and through interaction with the subject matter</li> <li>• Develop a sense of both pride and humility related to both self and discipline</li> </ul>

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# Renzulli's Enrichment Triad

The Enrichment Triad/Revolving Door Model is a comprehensive plan for school wide enrichment that is designed to overcome many of the problems that have hindered special programs for highly able student in the past. The model is based on research about the characteristics of creative and productive individuals. This research, which has been summarized under the title, *The Three Ring Conception of Giftedness*, has resulted in placing emphasis on the development of gifted behaviors and the labeling of programs and services rather than students. (Renzulli, Systems and Models, pg. 217)

# Overview of the Enrichment Triad Model

## Type I Enrichment

Type I Enrichment consists of experiences and activities that are designed to bring the learner in touch with the kinds of topics of areas of study in which he or she may develop a sincere interest. Through involvement in Type I experiences, students will be in a better position to decide if they would like to do further research on a particular problem or area of interest.

## Type II Enrichment

Type II Enrichment consists of materials, methods and instructional techniques that are concerned with the development of higher-level thinking and feeling processes. These processes include critical thinking, problem solving, inquiry training, divergent thinking, awareness development and creative or productive thinking. Type II activities are open-ended and allow students to escalate their thinking processes to the highest levels possible. Type II activities are also designed to introduce students to more advanced kinds of studies.

## Type III Enrichment

Type III Enrichment consists of activities in which the student becomes an actual investigator of a real problem or topic by using appropriate methods of inquiry. The success of a Type III activity depends on the interest and task commitment of the individual student. Examples of intensive, long-range Type III activities include: the creating of a walking robot; the production of a dramatic marionette show which outlines the development of clowns from the thirteenth century to the present; a continuation of Tolkien's *Lord of the Rings* in form of a novel; the writing and illustration of a Children's Christmas Book; etc.

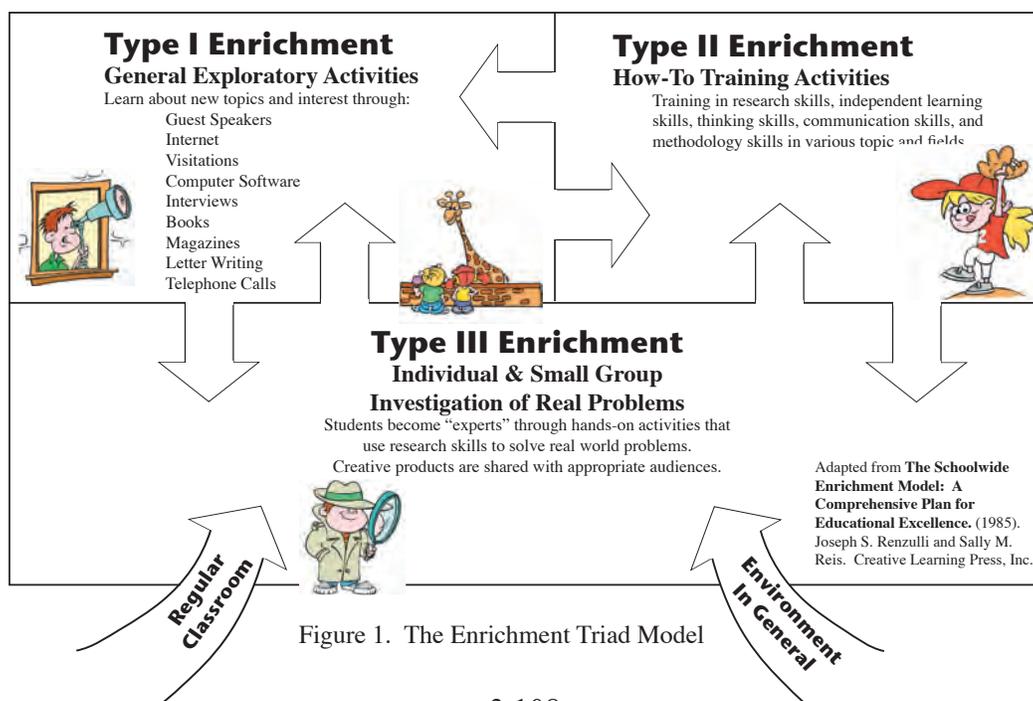


Figure 1. The Enrichment Triad Model

# Taylor/Schlichter Talents Unlimited

Talents Unlimited is a teaching/learning model for thinking skills instruction - it represents a classroom level, research-based implementation of the multiple talent approach to teaching (Taylor, 1967). The model features four major components: (1) a description of specific skill components in the multiple talent clusters of productive thinking, decision making, planning, forecasting and communication; (2) model instructional materials which demonstrate the function of the multiple talent thinking skills to enhancing academic learning; (3) an inservice training program to assist teachers in the recognition and nurturing of students' multiple thinking abilities; and (4) an evaluation system for the assessment of student development in the thinking skill components.

# Description of the Talents Unlimited Model

Talent Area	Definition	Sample Activity
Productive Thinking	To generate many, varied and unusual ideas or solutions and to add detail to the ideas to improve or make them more interesting. (fluency, flexibility, originality, elaboration)	Students working in a math unit on surveying and graphing are asked to think of a variety of unusual topics for a survey they will conduct and graph during the day.
Decision Making	To outline, weigh, make final judgements, and defend a decision on the many alternatives to a problem.	Students who are preparing to order materials through the Scholastic Books campaign are assisted in making final selections by weighing alternatives with such criteria as cost, interest, reading level, etc.
Planning	To design a means for implementing an idea by describing what is to be done, identifying the resources needed, outlining a sequence of steps to take, and pinpointing possible problems in the plan.	Students who are studying the unusual characteristics of slime mold are asked to design experiments to answer questions they have generated about the behavior of mold.
Forecasting	To make a variety of predictions about the possible causes and/or effects of various phenomena.	Students who are conducting a parent poll on their school's dress code are encouraged to generate predictions about the possible causes for low returns on the survey.
Communication	To use and interpret both verbal and nonverbal forms of communication to express ideas, feelings, and needs to others.	Fifth graders studying the American Revolution role play reactions of both Loyalists and Rebels, as they hear the reading of the Declaration of Independence, in an attempt to describe the different emotions of these groups of colonists.
Academic	To develop a base of knowledge and/or skill about a topic or issue through acquisition of information and concepts.	Students read from a variety of resources to gain information about the Impressionist Period and then share the information in a discussion of a painting by Monet.

# Talents Unlimited

## Why Talents Unlimited?

1. Talents training helps students identify individual talents.
2. Every person finds he is worthwhile because of his own individual talents.
3. With Talents Unlimited training, thinking strategies are tied to specific curriculum areas and the talents become life skills.
4. With Talents Unlimited training, students become productive individuals in tomorrow's society.

## Personal Background Experience

1. Cal Taylor's research done at the University of Utah drew national attention to the ideas of multiple talents in all people.
2. Project Implode in 1971 placed a classroom group of students on the talent totem pole.
3. Talent activities were disseminated throughout Jordan School District and other districts.
4. National Trainers for Talents Unlimited from Mobile, Alabama came to Utah and taught Talents Unlimited.
5. The World Conference of Gifted Children was held in Salt Lake City and brought attention to the need for creativity and thinking strategies being taught in schools.
6. ASCD, Nation-At-Risk report, etc. increased a national thrust in teaching and using thinking strategies.
7. A renewed emphasis on the need for at-risk students to learn thinking strategies and how to effectively use them to their best advantage, increased a need for methods of teaching talents.

## Reasons for Shift to Talents Unlimited

1. Teachers found that students liked the talent activities, they improved with practice, and were becoming better thinkers.
2. Providing materials for every curriculum area was difficult so the use of talents was limited.
3. Talent training became activity oriented, an add on to the curriculum, rather than an integral part of the teaching learning process.
4. Because prior talent training had become a smattering of activities, used here and there, it hadn't caused metacognition to develop or transfer to occur.
5. Because talent training wasn't directly tied to the curriculum or measurable the academic world didn't value it.

## Value of Talents Unlimited Program

1. Talents Unlimited has a scope and sequence as well as measurability.
2. Talents Unlimited has a process method for the direct use of thinking strategies in the curriculum.
3. Talents Unlimited provides the process for understanding and using the content, and leads students to a product.
4. Talents Unlimited was supported by the National Diffusion Network since its inception for many years.
5. Talents Unlimited develops higher level thinking strategies and opens doors for all students.
6. The teaching/learning process becomes exciting and motivational.

# Treffinger's Effective Independent Learning Components

In order to promote the development of effective, independent learning based on students' strengths and talents, it is necessary for us to be able to define and recognize the importance of several dimensions of cognitive ability, performance and personality that are closely associated with effective independence. This includes the student's learning ability and unique talents in specific areas, creativity, motivation, learning styles and preferences, and particular areas of experience and interest. These serve as foundations for effective instructional programming.

# USU Pyramid Model

for working with the gifted/talented  
within the regular classroom

# USU PYRAMID MODEL for working with the GIFTED/TALENTED within the regular classroom

