

## CUBING

**CUBING:** An instructional strategy designed to help students think about a topic or idea from many different angles. A cube includes 6 commands, one on each of its six faces, followed by a prompt that describes that task the students should do related to the command. Cubing can help students think at different levels of Bloom's Taxonomy.

**Remembering:** Recognize, list, describe, identify, retrieve, name...

*Can the student RECALL information?*

**Understanding:** Interpret, exemplify, summarize, infer, paraphrase...

*Can the student EXPLAIN ideas or concepts?*

**Applying:** Implement, carry out, use...

*Can the student USE the new knowledge in another familiar situation?*

**Analyzing:** Compare, attribute, organize, deconstruct...

*Can the student DIFFERENTIATE between constituent parts?*

**Evaluating:** Check, critique, judge, hypothesize...

*Can the student JUSTIFY a decision or course of action?*

**Creating:** Design, construct, plan, produce...

*Can the student GENERATE new products, ideas or ways of viewing things?*

**An example cube could have the commands:**

Describe it: Look at the subject closely (perhaps with your physical senses as well as your mind).

Compare it: What is it similar to? What is it different from?

Associate it: What does it make you think of? What comes to your mind when you think of it? Perhaps people? Places? Thanks? Feelings? Let your mind go and see what feelings you have for the subject.

Analyze it: Tell how it is made. What are its traits and attributes?

Argue for or against it: Take a stand. Use any kind of reasoning you want—logical, silly, anywhere in between.

Apply it: Tell what you can do with it. How can it be used?

**Or you can...**

Rearrange it, Illustrate it, Question it, Satirize it, Evaluate it, Connect it, Cartoon it, Change it, Solve it

**How are cubes used?**

- Step 1: Identify the concept or targeted skill that will be the focus of the activity.
- Step 2: Create commands for the cubes that align with the key concept. The commands on each cube should be differentiated to meet the needs of the learners
- Step 3: Make sure that students understand the commands and the directions of the tasks.
- Step 4: Group students according to readiness, interest, or learning profile. Cubes or task cards can be different colors in order to align with the needs of the different groups.
- Step 5: Students in each group take turns rolling the die. To provide choice, allow the student to roll again if he/she did not want to do the first command. Each student rolls the die and completes his or her given task. The group members should all be doing different tasks.
- Students each roll the cube 2-4 times, depending on the magnitude of the assignments.

**What are the advantages to using Cubing?**

- Incorporates higher level thinking skills.

- It is a simple way to differentiate, while still instructing each student on the same topic or skill. Each cube may contain the same commands, but the tasks on the cubes will be different according to the needs of the various groups.
- Rolling the die adds excitement and anticipation. It takes what may be a “boring” assignment and makes it fun and engaging.
- Cubing is an excellent strategy for the tactile/kinesthetic learners.

### **Things to Remember:**

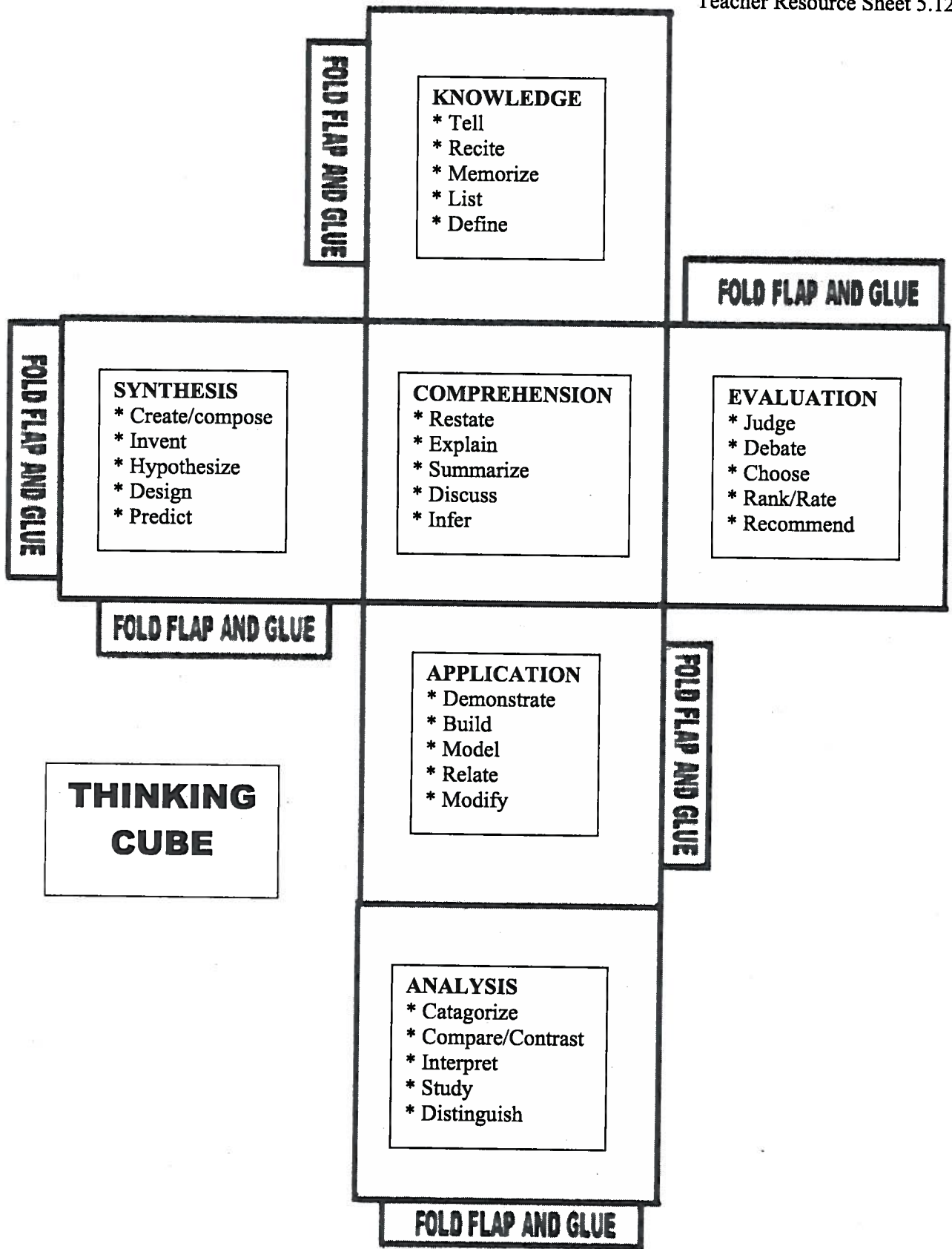
- Cubes are differentiated by readiness, interest, and learning profile.
- Each side of a cube must have a command followed by a prompting question or statement.
- Cubing doesn't have to only be used in small groups. It can also be used independently or with pairs of students.
- All of the cubes should cover the same types of questions and skills, just at various levels.

### **Terrific Tips for Cubing:**

- Use more than one cube. Each cube should contain commands and tasks that are aligned with the ability levels of the different groups.
- Create 1 average ability cube first. Then, use those tasks as a guide to create 2 other cubes- low ability and high ability.
- Allow students to roll the die 2-4 times (if they choose) depending on the length and magnitude of the assignment.
- Leave one face on the cube as an opinion task where there is no right or wrong answer.
- Always have one easier question and one harder question on each cube, regardless of the level the cube is intended for.
- For some cubing activities, students may be responsible for doing more than one of the sides of the cube.
- Differentiate cubing questions by color-coding the cubes. Ex. Blue=Knowledge and Comprehension (Low) Green=Application and Analysis (Average) Red=Synthesis and Evaluation (High). But remember to change the colors periodically to align with different levels so that students do not get “labeled” as the low blue group, etc...
- Differentiating by Interest or Learning Profile: Create many cubes for learning or review activities. 2-3 sides of all the cubes can have the same task. The remaining 3-4 sides can have tasks related to specific interests or learning profiles.

### **Example of how a command and task can be related to the same topic, but differentiated in order to meet the needs of lower ability and higher ability students:**

1. Lower Question- Describe the desert using as much information as you can, and involve your five senses in the description.
2. Higher Question- Describe how your life would change if you moved to the desert. Use your senses and explain why changes would occur.



## Example: Onomatopoeia

<p><b>Side One</b></p> <p>Find an example of <b>onomatopoeia</b> in a poem from our anthology</p>	<p><b>Side Two</b></p> <p>Make a list of all the examples of <b>onomatopoeia</b> that you can think of in two minutes. Have your partner time you.</p>	<p><b>Side Three</b></p> <p>Write a letter to Webster's Dictionary from <b>onomatopoeia</b> on the topic, "We are words, too! Include us!"</p>
<p><b>Side Four</b></p> <p>Write a limerick, concrete poem, or haiku using at least one example of onomatopoeia</p>	<p><b>Side Five</b></p> <p>Why do you think writers use onomatopoeia? What purpose does it serve?</p>	<p><b>Side Six</b></p> <p>Research the origin of the word "onomatopoeia." Where does it come from? What do its parts mean?</p>

## Example: Fractions

<p><b>Side One: Locate It</b></p> <p>In two minutes, make a list of all of the places in which we find fractions in every day life. Have your partner time you.</p>	<p><b>Side Two: Define It</b></p> <p>What is a fraction? How would you explain what a fraction is to a first grader?</p>	<p><b>Side Three: Solve It</b></p> <p>Complete fraction problems 1-10 on page 65. Have your partner check your work.</p>
<p><b>Side Four: Analyze It</b></p> <p>What are the parts of a fraction? Define each part and describe their relationships to one another.</p>	<p><b>Side Five: Think About It</b></p> <p>When dividing fractions, why do we have to "invert and multiply"? Show your thinking on paper.</p>	<p><b>Side Six: Illustrate It</b></p> <p>Create a children's picture book about fractions. Use "Give Me Half!" as an example.</p>

# SCORING GUIDE FOR CUBING

## Outstanding

Focus is on key concepts, stated in a concise manner and linked to specific curricular objectives.

Cubin reflects a consistent variety of interest, readiness, and/or learning profiles.

Uses Bloom's Taxonomy.

Instructions are clear and concise.

Tasks designed in cubing consistently provide for varying levels of readiness and/or academic abilities.

Assessment criteria for quality and success are clearly established and thoroughly communicated to the student.

## Successful

Focus is on key concepts, stated and link to curricular objectives.

Cubing reflects frequent use of interest, readiness and/or learning profiles.

Uses some parts of Bloom's Taxonomy.

Instructions are somewhat clear and concise.

Tasks designed in cubing sometimes provide for varying levels of readiness and/or academic abilities.

Assessment criteria for quality and success are established and communicated to the student.

## Needs Improvement

Key concepts stated, but not linked to curricular objectives.

Cubing sometimes reflects interest, readiness, and/or learning profiles.

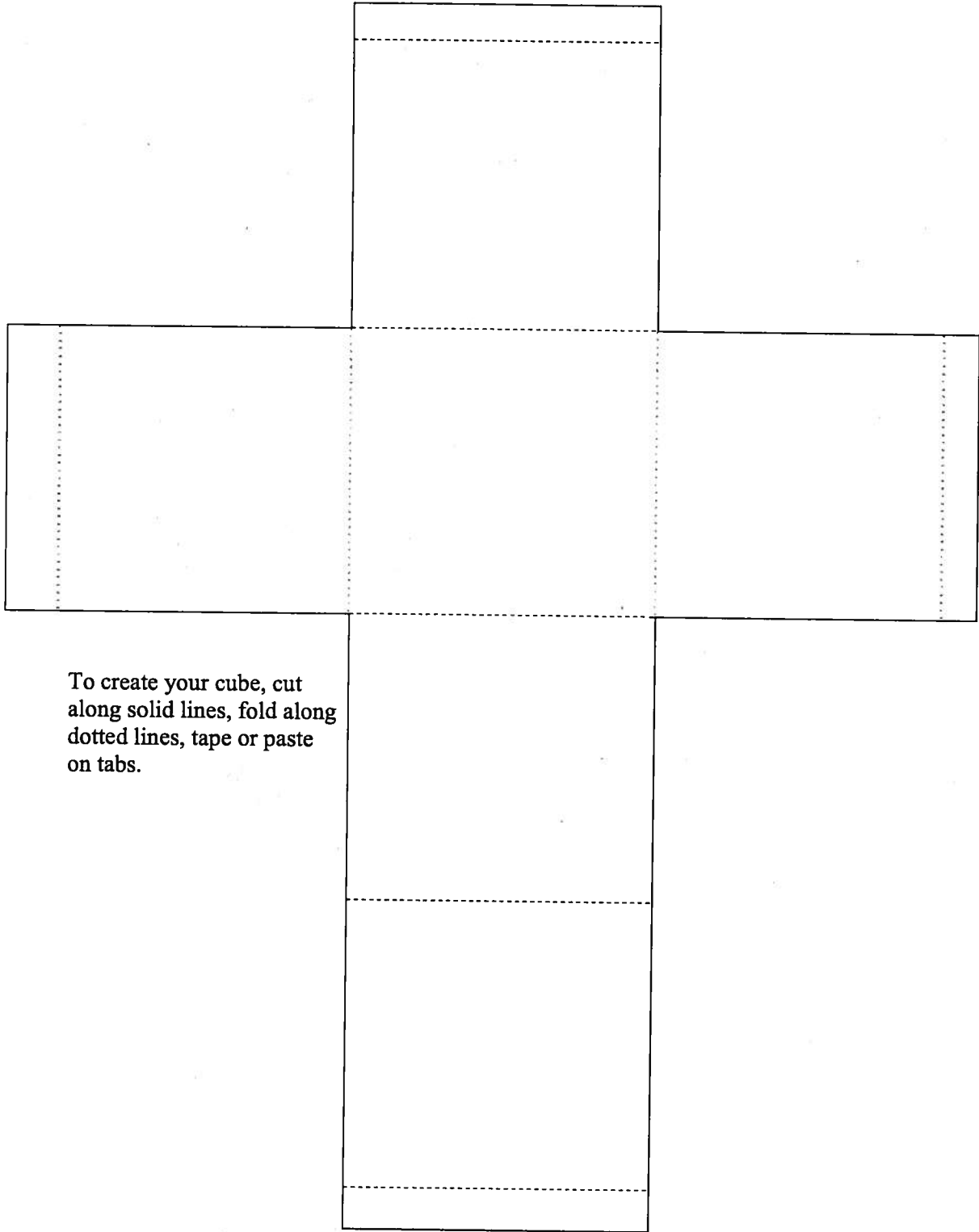
Does not use Bloom's Taxonomy.

Instructions are difficult for students to follow.

Tasks designed in cubing seldom provide for varying levels of readiness and/or academic abilities.

Assessment criteria for quality and success are vague and/or incomplete.

\* Be sure to include Differentiated Lessons cover sheet and Teacher Reflective page.



To create your cube, cut along solid lines, fold along dotted lines, tape or paste on tabs.