Cubing

Rolling for Success

What is “cubing”?

- Cubing is an instructional strategy that asks students to consider a concept from a variety of different perspectives.
- The cubes are six-sided figures that have a different activity on each side of the cube.
- A student rolls the cube and does the activity that comes up.

How is Cubing differentiated?

- Not all students receive the same cube.
- You can differentiate cubes according to readiness, learning profile, or interest (see differentiated cubing examples included).

How it works:

- Students can work alone, in pairs, or in small groups with the appropriate cube.
- In pairs or small groups, each student takes a turn rolling the cube and doing the activity that comes up. Students have the choice to roll again once if they don't like the activity that turns up.
- Students each roll the cube 2-4 times, depending on the magnitude of the assignments.

Using Cubing to Hone Thinking Skills

- Cubing originally was created to have students use a variety of thinking skills to consider a single concept.
- When used this way, each side of the cube has a different prompt: describe it, compare it, associate it, analyze it, apply it, evaluate it.

Cube Sides Suggestions…

Describe it * Compare it * Associate it * Analyze it * Apply it * Connect it * Illustrate it * Change it * Solve it* Question it * Rearrange it * Satirize it * Evaluate it * Relate it to something else * Contrast it * Investigate it * What is the significance of it? * Put it in historical perspective * What are the cause/effects of it * Cartoon it * Tell the parts of it * Argue for/against it *

Cubing

Topic:_____

1. Describe it:_____
   What does it look like?

2. Compare it: _____
   What is it similar to or different from?

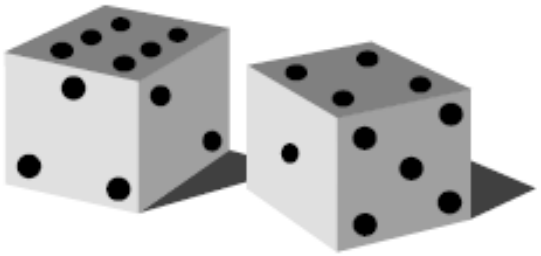
3. Associate it: _____
   What does it make you think of?

4. Analyze it: _____
   How is it made or what is it composed of?

5. Apply it: _____
   What can you do with it? How is it used?

6. Argue for or against it: _____
   Take a stand and list reasons for supporting it.

Spend only 5 or 10 minutes on each side of the cube.



Example: Onomatopoeia

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

Example: Fractions

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

What is the point?

- Cubing gives students who like to use their hands and move around a chance to feel like they are “playing” while learning.
- Cubing gives students a chance to look at a concept from a series of different perspectives.
- Cubing allows the teacher to differentiate for readiness in a very un-obvious way. Since all students are working with cubes, students are not aware that their neighbors might be doing something a little different.

Concerns?

- Here is one… you may have more:
  - Cubes *can* turn into glorified worksheets– but not if all activities are *purposeful* and focused on getting students to understand a concept in a multitude of ways.

Cubing Fact Sheet

What is it? Cubing is a versatile strategy, similar to a contract, which allows you to plan different activities for different students or groups of students based on student readiness, learning style, and/or interests. You will create a cube-usually different colored cubes for different groups of students. On each of its six faces, you will describe a different task related to the subject and/or concept being learned.

Why use it? Cubing provides a way for all students to explore one important topic or idea but to accomplish tasks at their readiness levels, in their preferred learning styles, and/or in areas of personal interest. All students are working on activities dictated by their cubes; the activities are differentiated for individual students or groups of students. Groups are very flexible. One cubing activity might group gifted learners for more challenging, higher-level activities; another cubing activity might group gifted and nongifted
students alike according to their interests.

How to use it? Print out the blank cube template with these instructions. Then think of many different commands which might go on the faces of a cube (describe, diagram, apply, analyze, connect, argue, evaluate, and create, for example).

Example #1: To differentiate according to different levels of student readiness, two or more different cubes could be created with the same commands but with tasks at different levels of difficulty. Using "Describe" as the command, the task might be to describe the rainforest using as much information as you can and involving as many of your senses as possible in your description. Using the same command, you might ask the students to describe how their life would change if they moved to the canopy of the rainforest, using as many of their senses as possible in their description and being sure to explain why these changes would take place.

Example #2: To differentiate an activity according to interest or learning profile, you might set up several cubes for a single review activity. Two or three faces on all the cubes might be identical. The remaining faces on one of the cubes might contain tasks appropriate for students who enjoy writing (creating a poem, writing a journal entry, creating a pun). Another cube might be better for oral learners, with tasks such as telling a story, presenting arguments for or against, or writing a song. You might create a third cube with activities which appeal to students with spatial strengths-making models, drawing or sketching, or making a Venn diagram with pictures rather than words.

To differentiate instruction through the strategy of cubing, you will create different activities for different cubes. You would then assign students to tables with cubes that match their specific needs and abilities. Each student rolls a cube a specific number of times, and the face that points up on each roll becomes a task for a student to complete.

Where can I find more information about cubing?

How to Differentiate Instruction in Mixed Ability Classrooms, Carol Ann Tomlinson, ASCD.

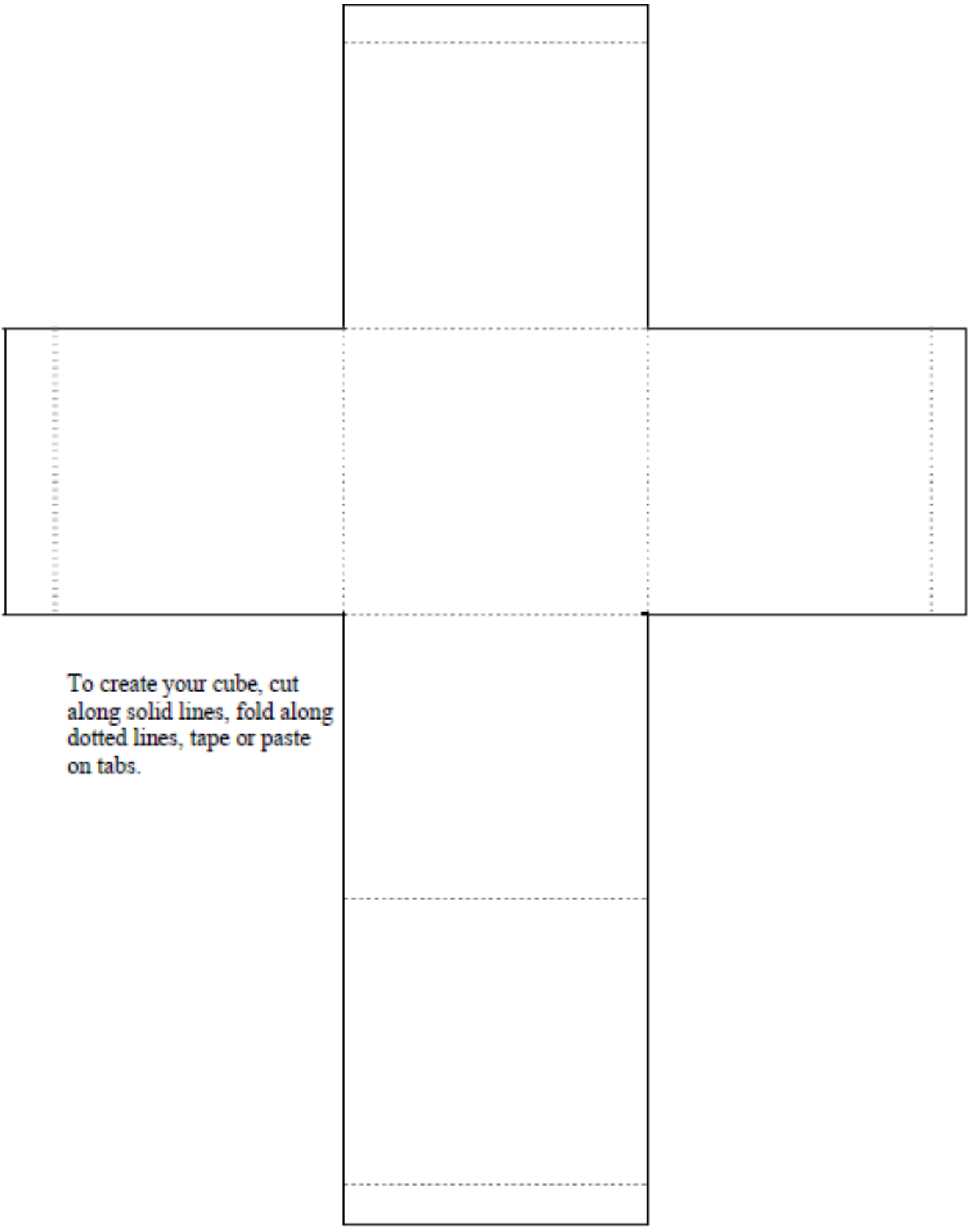
http://www.mcps.k12.md.us/departments/eii/eiiscrapbook.html Photographs of differentiation strategies in use; look for cubing activities

http://www.bsu.edu/teachers/services/ctr/javits/Instruction/Cubing.htm Examples of on-level cubing activities; you'll need to modify up and down; a template for making your cube.

Updated 3/29/02
Eulouise Williams
file:///E:/Strategies%20Materials%20for%20Participants/Cubing.Think%20Dots%20Folder/Cubing%20article.htm

Options

- You can use a worksheet with six assignments and have student roll a die.
- You can use the template on the next page.
- You can just use a box and tape the assignments to it. Some teachers make a generic cube with Describe It, Compare It, Associate It, Apply It, Analyze It, and Argue For or Against It. The IT can be whatever you want.
- Some teachers use a permanent marker and write these on a beach ball. The ball is tossed, and the student must respond to whatever task is facing him or her.



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