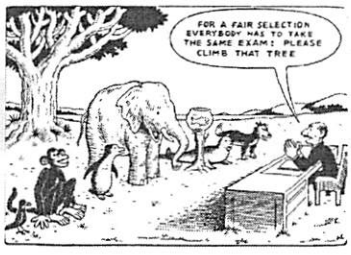
Differentiated Instruction Articles and Presentations

Tiered Assignments



What are Tiered Assignments?

- Teacher-prescribed learning activities that are specifically designed to respond to differences in readiness, interests, and learning preferences
- Can be managed through use of flexible instructional grouping or independently.

Why use tiered assignments?

- ★ Provide a better instructional match between students and their individual needs.
- ★ Highly motivating because they allow students to be successful at their level of readiness.
- ★ Allow students to work in their specific learning styles or preferences.
- ★ Add depth and breadth to students' understanding of essential questions and unit questions.

Making Tiering Invisible

- Seen as a class norm
- Supportive classroom environment
- Flexible group membership
- Introduced in equally enthusiastic manner
- Alternate which activity is introduced first
- Vary teams' task assignments

Tiered assignments should be:

- → Different work, not simply more or less work
- → Equally active
- → Equally interesting and engaging
- → Fair in terms of work expectations
- → Require the use of key concepts, skills or ideas

Tiered Assignments can Address Different Needs:

- ★ Readiness / Resources
- ★ Level of challenge and complexity
- ★ Degree of structure
- ★ Degree of abstraction
- ★ Level of support
- ★ Learning style preference

Tiered Chocolate Activities

At your table, there is an basket with 6 different activities, centered around the key concept "Attributes of Chocolate".

Take a moment to make sure you all know what the activities are and then divide the papers so everyone at your table has a different activity.

Take two minutes to complete your activity independently. You may write directly on the paper.

Tiering Assignment - example

TASK 1

1. Describe an ant community in pictures or words.
2. Compare an ant community to your community in pictures or words.
3. List words that describe your feelings about watching an ant community.
4. Tell the parts of an ant community and what goes on in each part by using words or pictures or by building it.
5. Tell a way that an ant community helps you understand living and working together in a community.
6. Tell the good and bad things about an ant community.

TASK 2

1. Describe an ant community using at least three sentences with at least three describing words in each sentence.
2. Use a Venn diagram to compare an ant community with the community of the animal you selected.
3. Pretend that ants think like people. Draw a cartoon showing what you think an ant feels like as it goes through a day in its community. Do the same thing with another kind of animal from a different sort of community.
4. Make a diagram of an animal community with parts labeled and tell what each part is for. Write a rule for living together in a community and tell how it would be useful in two different

Debrief example:

With a partner:

- What was different about the two tasks?
- Which students would you assign which tasks? What do you need to know to decide?
- What would be different about the resources you would provide students?
- Would you want students to work independently or in groups? What kind of grouping would work best?

Tiering - example

Ecosystems: Task 1

1. Review words in word bank.
2. Identify the four ecosystems.
3. Determine which words are characteristics that describe each ecosystem.
4. Create your own chart, diagram or graphic organizer to present characteristics of each ecosystem

Ecosystems: Task 2

1. Review words in word bank.
2. Find the characteristics in the word bank that go with each ecosystem.
3. Use the chart provided and put characteristics into the box of the ecosystem it describes.

forests	water
deserts	grasslands

Ecosystems: Task 3

1. Review words in word bank.
2. Select the words from the word bank that match each ecosystem.
3. You have one graphic organizer for each ecosystem. The boxes on each graphic organizer tell you how many facts you need to find for each ecosystem. Copy the words from the word bank onto the correct graphic organizer.

Debrief example:

With a partner:

- ❑ What was different about the three tasks?
- ❑ What do you have to know about each student to decide who to assign which tasks?
- ❑ What will be different about the products the students finish with?
- ❑ Would you want students to work independently or in groups?

You DON'T Have to Start Over!

1. ADD to existing lesson activities to meet the needs of advanced and catch-up students.
2. Find activities that represent different Multiple Intelligences that could be matched to students with like learning preferences.
3. Find activities or questions that represent different levels of Bloom's Taxonomy that can be used as tiers.
4. Find activities noted for "reteaching" or "reinforcing" and for "extensions" or "challenges" to make part of a tiered assignment.

You DO have to be explicit

- Make sure students will be able to work independently.
- Provide exemplars or models to clarify the task.
- Present the directions in sequential steps.
- Always consider 504 plans, IEPs, ALPs, and language learners when designing activities and directions.

Some points on student grouping...

Think creatively how to have students work in varied groups so they do not label themselves or others.

For example: You can have all students go to different work stations, moving at their own pace, but "green group" kids have different activities than "blue group" kids at each station.

Go forth and do, but remember ...

The intent of tiered assignments is to accommodate the unique diversity of learners, not to divide students into leveled groups.

Begin or extend your tiered instruction by varying one lesson. Then, reflect upon that success and consider tiering another learning experience.

Be not afraid of moving slowly.
Be afraid only of standing still.

Bertie Kingore

Additional Resources for Tiered Assignments

- *Differentiating Instruction in the Regular Classroom* by Diane Heacox
- *How to Differentiate Instruction in the Mixed-Ability Classroom* by Carol Ann Tomlinson
- *Tiering Assignments & Compacting Curriculum: It's for Everyone!* By Lynda Rice

Standards-Based Activities and Assessments for the Differentiated Classroom by Carolyn Coil

Website Resources

Key words: **tiered assignments or differentiated instruction**

Sample layered curriculum units:
http://www.help4teachers.com/samples.htm

Examples of tiered lessons for all grade levels:
http://www.doe.in.gov/highability/tiered-curriculum-project

On your own

Using your own subject matter and curriculum, differentiate a lesson by readiness.

Consider:

- Reading level and reading materials
- Can products be the same but thinking process be different (find solutions in text vs. create new solutions)?
- Can you use symbols and pictures in the product to help ELLs?
- Can you use simpler or more complex note catchers or graphic organizers for different students?
- Will students work individually or in like-groups?

On your own

Using your own subject matter and curriculum, differentiate a lesson by level of support.

Consider:

- What scaffolds do your ELL students or Catch-up students need to successfully manage your content vocabulary?
- Can you design activities that would benefit all students in a mixed-level group?
- Do you need different resources for different students to complete your tiered assignment?

How to Write Tiered Lessons and Units

Writing tiered lessons and units can be challenging. Below are some steps to guide your planning.

_____ 1. Establish which standards, objectives, knowledge or skills all students need to know at the end of this lesson or unit. Use your curriculum standards as your guide.

_____ 2. Think about activities you have done with students in the past to reach the standards or objectives. Make a list of all activities you can think of.

_____ 3. Add more activities to your list as you brainstorm with other teachers or get ideas from the textbook, Internet or other resources.

_____ 4. Decide which of these are appropriate learning activities for all students. These will become your whole class activities.

_____ 5. Some of the activities on your list will most likely be easier than others. Put an indication of the level of tier you think each activity might be. Consider your class and decide on how many levels you need to have. You usually will have two or three levels but occasionally you may have four levels.

_____ 6. Think about ways to expand or extend the easier activities so they will be challenging for higher ability students and ways to simply the more difficult activities so that your struggling students can do them successfully.

_____7. Look carefully at your list of activities. Many times you will have more activities than your students could possibly do given the amount of time you have for the class period. Decide which activities are essential and which could be eliminated. You may want to save a few of the activities to use with students who finish their work before the others.

_____8. Check again to make sure all activities will lead to students learning and mastering the standards and objectives.

____9. Make certain that activities at all levels are engaging and interesting. Nothing discourages achievement faster than students thinking that the other group is the one with the fun, interesting or enjoyable activity while the learning activity they have been assigned is not fun or interesting.

Planning a Tiered Activity

Activity

Step 1: Devise KUD goals (what you want students to know, understand, and be able to do as a result of the lesson or activity).

KNOW (facts, dates, definitions, rules, people, places)	**UNDERSTAND** (big ideas, principles, generalizations, rules, the "point" of the discipline or topic within the discipline) *I want students to understand that . . .*	**BE ABLE TO DO** (skills of literacy, numeracy, communication, thinking, planning, production, etc.; start with a verb such as: describe, explain, show, compare, synthesize, analyze, apply, construct, or solve)

Step 2: Determine your usual starting point (optional).

Jot down what you would typically do in this lesson if you were **not** going to differentiate. (Sketch out the steps you would follow or the assignment you would give.)

Planning a Tiered Activity

Activity (Cont.)

Step 3: Write differentiated plans.

Think about the most advanced student you have ever had. Design an activity (clearly related to your KUD goals) that would stretch this student.	Figure out ways to scaffold the task so that students at or near grade level can be successful with the task. Make sure this version still matches your KUD goals.	Figure out ways to further scaffold the task so that students who may struggle with the task can be successful. Double-check that you have not watered down the task to the point that students miss out on the KUD goals.

Step 4: Check your KUD goals.

- Double-check that every version of the activity leads students to increased competency with activity goals. If not, adjust as needed.
- Double-check that every version of the activity will feel respectful to the student for whom it is designed. If not, adjust as needed.

Planning a Tiered Activity

Activity (Cont.)

Step 5: Assess your plans.

- Where might you run into trouble in carrying out the differentiation in this lesson?

- How will you give directions for each version of the task? Will you color-code task cards or assignment sheets? Audio-record directions?

- Will you tell students the lesson is differentiated? If so, how? If not, why not?

- What will you do if some students or groups finish early?

- If necessary, how will you get students into groups efficiently? How will you get them back to a whole-class configuration?

Tips for Flexible Instructional Grouping

1. Assign/send students to groups efficiently and PRACTICE transition behaviors.
    a. Create a system where students check and confirm their groups without needing to ask you to repeat information.
    b. Practice behaviors ~ Offer 'refreshers' periodically!
2. Provide clear and specific directions for each task.
    a. Use a written format in kid-friendly language, so students may revisit instructions independently as needed.
    b. Laminated cards, in a variety of colors, create reusable & visually differentiated instructions.
    c. Be prepared to circulate and support as needed.
3. Use teacher assistants.
    a. A student makes a great TA! And your interpersonal learners will appreciate the opportunity to be 'intelligent' *their way.*
4. Use workstations that are differentiated.
    a. Students may be assigned to the stations that match their needs and readiness.
    b. Include exemplars at stations to 'set the standard' for students.
5. Organize and distribute materials and resources efficiently.
    a. Train students to access what they need independently.
    b. Introduce the 'Ask 3 before me' rule so students can support each other.
6. Manage movement and interruptions.
    a. Develop clear guidelines for how and when students are out of seats.
    b. Practice the behaviors you want students to use.
7. Develop and post clean-up and wrap-up routines.
    a. Ritualize materials clean-up, submitting work, and final communications with teacher and teammates.
    b. Teach awareness of time.
8. Provide directions for what comes next.
    a. Consider differentiated pacing for students who finish quickly and those who need extended time.

Tiering Tip

Challenge Levels

Level	Definition	Action	Activities
Synthesis	Put together in a new or different way	Create It	compose, hypothesize, design, formulate, create, invent, develop, refine, produce, transform
Evaluation	Determine worth or value based on criteria	Judge It	judge, predict, verify, assess, justify, rate, prioritize, determine, select, decide, value, choose, forecast, estimate
Analysis	Examine critically	Examine It	compare, contrast, classify, critique, categorize, solve, deduce, examine, differentiate, appraise, distinguish, experiment, question, investigate, categorize, infer
Application	Use what you have learned	Use It	demonstrate, construct, record, use, diagram, revise, record, reformat, illustrate, interpret, dramatize, practice, organize, translate, manipulate, convert, adapt, research, calculate, operate, model, order, display, implement, sequence, integrate, incorporate
Comprehension	Show your understanding	Understand It	locate, explain, summarize, identify, describe, report, discuss, locate, review, paraphrase, restate, retell, show, outline, rewrite
Knowledge	Recall facts and information	Know It	tell, list, define, label, recite, memorize, repeat, find, name, record, fill in, recall, relate

Based on *Taxonomy of Educational Objectives: Book 1 Cognitive Domain* by Benjamin S. Bloom, et al. (New York: Longman, 1984). Described in Resources, page 18.

Capacity Building Series

Asking Effective Questions

Instead of telling students what to do ...

"Never say anything a kid can say! This one goal keeps me focused. Although I do not think that I have ever met this goal completely in any one day or even in a given class period, it has forced me to develop and improve my questioning skills. It also sends a message to students that their participation is essential. Every time I am tempted to tell students something, I try to ask a question instead."

(Reinhart, 2000, p. 480)

Provoking student thinking/deepening conceptual understanding in the mathematics classroom

Researchers support a problem-solving approach in the mathematics classroom because it engages students in inquiry, prompting them to build on and improve their current knowledge as they "construct" explanations that help them solve the task at hand. "In a constructivist classroom," Marian Small writes, "students are recognized as the ones who are actively creating their own knowledge" (2008, p. 3). The teacher's skilful questioning plays a vital role in this context, helping students to identify thinking processes, to see the connections between ideas and to build new understanding as they work their way to a solution that makes sense to them.

In order to know what questions to ask to move the mathematical ideas forward, it is critical that teachers continually work to develop their knowledge of mathematics-for-teaching as they connect this understanding to the curriculum. By listening attentively to students' ideas and keeping the learning goal and the big mathematical ideas in mind, we are able to identify and develop the important ideas in the students' discourse.

In addition to making decisions about what questions to ask during student discussions, teachers can plan effective questions to ask as they prepare lessons. Knowing the development of big ideas across the curriculum, reading material in teacher resources and solving problems themselves are examples of activities that may support teachers as they determine which questions to ask during lessons.

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For information: lns@ontario.ca

The classroom becomes a workshop ...

" ... as learners investigate together. It becomes a mini- society – a community of learners engaged in mathematical activity, discourse and reflection. Learners must be given the opportunity to act as mathematicians by allowing, supporting and challenging their 'mathematizing' of particular situations. The community provides an environment in which individual mathematical ideas can be expressed and tested against others' ideas. ... This enables learners to become clearer and more confident about what they know and understand."

(Fosnot, 2005. p. 10)

Eight Tips for Asking Effective Questions

1. Anticipate Student Thinking

An important part of planning a lesson is engaging in solving the lesson problem in a variety of ways. This enables teachers to anticipate student thinking and the multiple ways they will devise to solve the problem. This also enables teachers to anticipate and plan the possible questions they may ask to stimulate thinking and deepen student understanding.

2. Link To Learning Goals

Learning goals stem from curriculum expectations. Overall expectations (or a cluster of specific expectations) inform teachers about the questions to ask and the problems to pose. By asking questions that connect back to the curriculum, the teacher helps students centre on these key principles. During the consolidation phase of the three-part lesson (see pages 7 and 8), students are then better able to make generalizations and to apply their learning to new problems.

Linking to Learning Goals

Example for the big idea *The same object can be described by using different measurements.*

Teacher's learning goal: To make a connection between length, width, area and multiplication.

Problem question: A rectangle has an area of 36 cm^2. Draw the possible rectangles.

Possible questions:

- As you consider the shapes you made, what are the connections of the length of the sides to the total area?
- If you know the shape is a rectangle, and you know the total area and the length of one side, what ways can you think of to figure out the length of the other three sides?

3. Pose Open Questions

Effective questions provide a manageable challenge to students – one that is at their stage of development. Generally, open questions are effective in supporting learning. An open question is one that encourages a variety of approaches and responses. Consider "What is 4 + 6?" (closed question) versus "Is there another way to make 10?" (open question) or "How many sides does a quadrilateral figure have?" (closed question) versus "What do you notice about these figures?" (open question). Open questions help teachers build student self-confidence as they allow learners to respond at their own stage of development. Open questions intrinsically allow for differentiation. Responses will reveal individual differences, which may be due to different levels of understanding or readiness, the strategies to which the students have been exposed and how each student approaches problems in general. Open questions signal to students that a range of responses are expected and, more importantly, valued. By contrast,

yes/no questions tend to stunt communication and do not provide us with useful information. A student may respond correctly but without understanding.

Invitational stems that use plural forms and exploratory language invite reflection. Huinker and Freckman (2004, p. 256) suggest the following examples:

As you think about...	*As you consider...*
Given what you know about...	*In what ways...*
In regard to the decisions you made...	*In your planning...*
From previous work with students...	*Take a minute...*
When you think about...	

4. Pose Questions That Actually Need To Be Answered

Rhetorical questions such as "Doesn't a square have four sides?" provide students with an answer without allowing them to engage in their own reasoning.

5. Incorporate Verbs That Elict Higher Levels Of Bloom's Taxonomy

Verbs such as *connect, elaborate, evaluate* and *justify* prompt students to communicate their thinking and understanding, to deepen their understanding and to extend their learning. Huinker and Freckman (2004, p. 256) provide a list of verbs that elicit specific cognitive processes to engage thinking:

observe	*evaluate*	*decide*	*conclude*
notice	*summarize*	*identify*	*infer*
remember	*visualize ("see")*	*compare*	*relate*
contrast	*differ*	*predict*	*consider*
interpret	*distinguish*	*explain*	*describe*

6. Pose Questions That Open Up The Conversation To Include Others

The way in which questions are phrased will open up the problem to the big ideas under study. The teacher asks questions that will lead to group or class discussions about how the solution relates to prior and new learning. Mathematical conversations then occur not only between the teacher and the student, but also between students within the classroom learning community.

7. Keep Questions Neutral

Qualifiers such as easy or hard can shut down learning in students. Some students are fearful of difficult questions; others are unchallenged and bored by easy questions. Teachers should also be careful about giving verbal and non-verbal clues. Facial expressions, gestures and tone of voice can send signals, which could stop students from thinking things through.

8. Provide Wait Time

When teachers allow for a wait time of three seconds or more after a question, there is generally a greater quantity and quality of student responses. When teachers provide wait time, they find that less confident students will respond more often; many students simply need more time than is typically given to formulate their thoughts into words. Strategies like turn and talk, think-pair-share and round robin give students time to clarify and articulate their thinking. (For strategies to maximize wait time, See *A Guide to Effective Literacy Instruction, Grades 4 to 6 – Volume 1* (Part 2, Appendix). The Guide offers tips for using these strategies in the "Listening and Learning from my Peers" section on page 134.)

(This tip list has been drawn from Baroody, 1998, pp. 17–18. *See also A guide to effective instruction in mathematics, Kindergarten to Grade 6 – Volume Two: Problem solving and communication,* pp. 32–33.)

Good questions don't replace careful listening ...

"Circulating as students work in pairs or groups, teachers often arrive in the middle of an activity. Too often they immediately ask children to explain what they are doing. Doing so may not only be distractive but may also cause teachers to miss wonderful moments for assessment. Listening carefully first is usually more helpful, both to find out how students are thinking and to observe how they are interacting.

(Storeygard, Hamm, & Fosnot, 2010)

Hear Lucy West and Marian Small on classroom discourse ...

The Three-Part Lesson in Mathematics: Co-planning, Co-teaching, and Supporting Student Learning

http://resources.curriculum.org/secretariat/coplanning/perspectives.shtml

Stimulate thinking by asking open-ended questions ...

- How else could you have ...?
- How are these _____ the same?
- How are these different?
- About how long ...? (many, tall, wide, heavy, big, more, less, etc.)
- What would you do if ...?
- What would happen if ...?
- What else could you have done?
- If I do this, what will happen?
- Is there any other way you could ...?
- Why did you ...?
- How did you ...?

To Help Students Share Their Representations

(and show/describe/demonstrate/represent)

Questions to pose:

- How have you shown your thinking (e.g., picture, model, number, sentence)?
- Which way (e.g., picture, model, number, sentence) best shows what you know?
- How have you used math words to describe your experience?
- How did you show it?
- How would you explain _____ to a student in Grade ___? (a grade lower than the one the student is in)

Prompts to use:

- I decided to use a ...
- A graph (table, T-chart, picture) shows this the best because ...
- I could make this clearer by using a ...
- The math words that help someone understand what I did are ...

To Help Students Reflect on Their Work

(and analyze/compare/contrast/test/survey/classify/sort/show/use/apply/model)

Questions to pose:

- What mathematics were you investigating?
- What questions arose as you worked?
- What were you thinking when you made decisions or selected strategies to solve the problem?
- What changes did you have to make to solve the problem?
- What was the most challenging part of the task? And why?
- How do you know?
- How does knowing _____ help you to answer the questions _____?

Prompts to use:

- A question I had was ...
- I was feeling really ...
- I decided to _____, I was thinking ...
- I found _____ challenging because ...
- The most important thing I learned in math today is ...

To Help Students Make Connections

(and connect/relate/refer/imagine/describe/compare)

Questions to pose:

- What does this make you think of?
- What other math can you connect with this?
- When do you use this math at home? At school? In other places?
- Where do you see _____ at school? At home? Outside?
- How is this like something you have done before?

Prompts to use:

- This new math idea is like...
- I thought of ...
- I did something like this before when ...
- We do this at home when we ...
- I remember when we ...

ompts to Get Students Thinking

To Help Students Share Their Feelings, Attitudes or Beliefs about Mathematics

(and share/reflect/describe/compare/tell)

Questions to pose:

- What else would you like to find out about _____?
- How do you feel about mathematics?
- How do you feel about _____?
- What does the math remind you of?
- How can you describe math?

Prompts to use:

- The thing I like best about mathematics is ...
- The hardest part of this unit on _____ is ...
- I need help with _____ because ...
- Write to tell a friend how you feel about what we are doing in mathematics.
- Mathematics is like _____ because ...
- Today, I felt ...

To Help Students Retell

(and tell/list/recite/name/find/describe/explain/illustrate/summarize)

Questions to pose:

- How did you solve the problem?
- What did you do?
- What strategy did you use?
- What math words did you use or learn?
- What were the steps involved?
- What did you learn today?
- What do(es) _____ mean to you?

Prompts to use:

- I solved the problem by ...
- The math words I used were ...
- The steps I followed were ...
- My strategy was successful because ...
- Explain to a young child or someone that wasn't involved ...
- Draw a picture to show how you solved the problem.

To Help Students Predict, Invent or Problem Solve

(and create/plan/design/predict/imagine/devise/decide/defend/solve/debate)

Questions to pose:

- What would happen if ...?
- What decisions can you make from the pattern that you discovered?
- How else might you have solved the problem?
- Will it be the same if we use different numbers?
- What things in the classroom have these same shapes?
- How is this pattern like addition?
- What would you measure it with? Why?
- How are adding and multiplying the same?

Prompts to use:

- Prove that there is only one possible answer to this problem.
- Convince me!
- Tell me what is the same? What is different?
- How do you know?

Stimulate thinking by asking open-ended questions ...

- How do you know?
- What does (this) _____ represent?
- How did you know where ...?
- How did you know which ...?
- How did you know when ...?
- Could you use some other materials to ...?
- How could you record your work?
- How could you record your discovery?
- How could you share your discovery?
- How did you estimate what the answer could be?
- How did you prove your estimate?