Heacox, Diane. *Making Differentiation a Habit: How to Ensure Success in Academically Diverse Classrooms.* Minneapolis, MN: Free Spirit Publishing, 2009.

CHAPTER 3

Critical Element: Applying Practical and Doable Assessment Strategies

Assessment is a critical element for success in academically diverse classrooms, because it is essential for planning for differences. A continuum of assessments should be utilized in order to successfully plan for the needs of your students. In an academically diverse classroom, assessment includes strategies that you have used in the past; however, particular kinds of assessment take a larger and more critical role.

Assessment expert Rick Stiggins and his colleagues named the specific kinds of strategies teachers must utilize to implement differentiation "assessment *for* learning," versus assessment *of* learning. Assessment is crucial in responding to the learning needs of our students. It determines when and where as well as how we might need to differentiate instruction. Therefore, the purpose of assessment in the academically diverse classroom is not only to assess the results of learning, but also to use assessment data to inform our practices in order to increase learning. The purpose of assessment *for* learning is:

- To inform instructional planning
- To actively gather information on student learning progress
- To gather information before and during, not just after, the learning process
- To enable teachers to modify learning activities based on differences and needs of students
- To support ongoing student growth
- To inform students about their learning progress and to provide direction for improvement

Assessment in an academically diverse classroom includes preassessment strategies both formal and informal, formative assessment strategies again reflecting either formal or informal methods, and summative assessments. In states and provinces, these classroom level assessments are also supplemented with competency tests both designed and scored outside the school setting.

> Assessment informs instruction; without it, purposeful differentiation is simply not possible.

In an academically diverse classroom, preassessment and formative assessment play a particularly critical role. Data from these kinds of assessment are essential to recognizing, planning for, and responding to student learning differences. **Figure 3** on page 26 outlines the flow of assessment processes in the differentiated classroom.

Systematic assessment is a critical element in making decisions about when and how you may choose to differentiate instruction. Without solid assessment plans and processes, differentiation is no

more than a random instructional act. Assessment informs instruction; without it, purposeful differentiation is simply not possible.

1 Your state standards or provincial goals are always the starting point for systematic unit-level assessment. Which specific standards will be addressed in your unit? Think across curricular areas also. Although you may be an elementary teacher designing a science unit on force and motion, consider what academic standards from other curricular areas may also be included. Could the students do some explanatory writing (English/language arts)? What numerical and graphical concepts and principles are being applied in experiments and simulations (mathematics)?

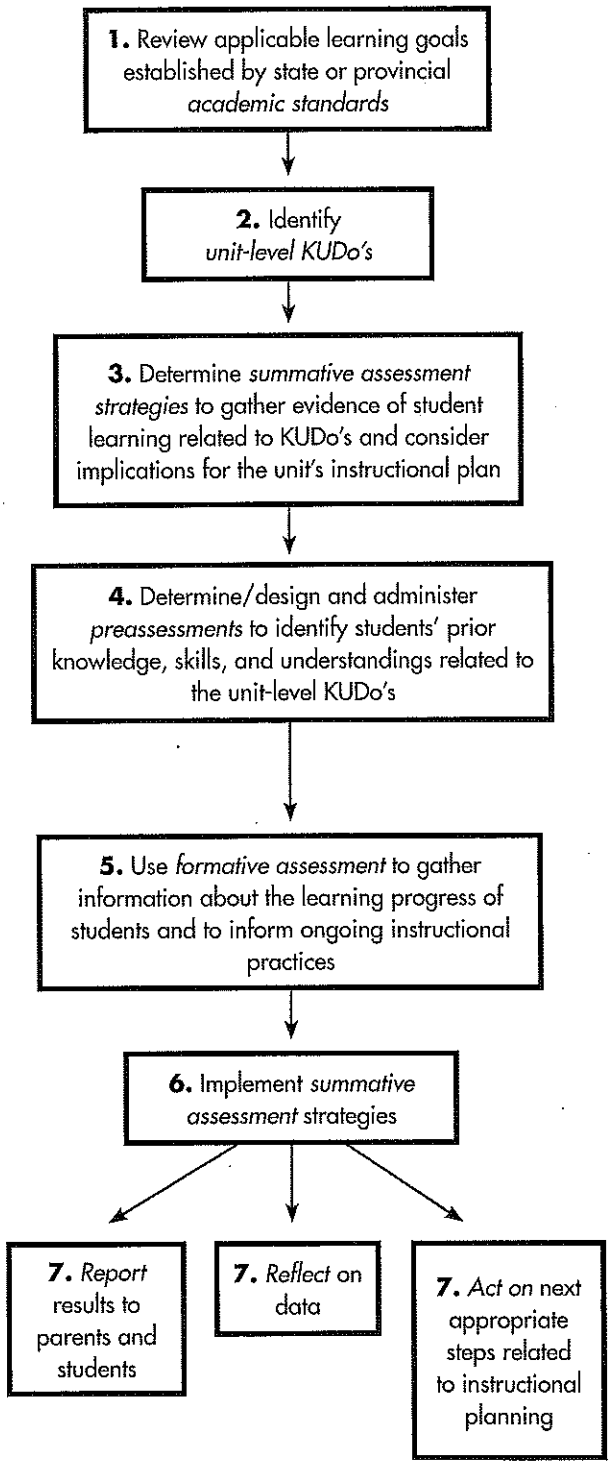
2 Identifying the unit level KUDo's comes next. Write the specific learning goals for your unit based on the standards by asking yourself, "At the end of the unit, what will my students know, understand, and be able to do?" Remember, KUDo's translate standards into understandable language for your students.

3 Next, determine the summative assessment you will use to gather evidence of student learning related to the KUDo's. Apply the assessment concepts of Wiggins and McTighe[1] by beginning with the end in mind. Spend some time analyzing the assessment itself. Ask yourself, "What will my students need to know and be able to do in order for them to exhibit their learning in the way I have planned?" Your unit's instructional tasks must prepare your students to demonstrate their learning through the summative assessment. Curriculum, assessment, and instruction must be carefully aligned, or you end up with assessment "gotcha," surprising students with assessments that do not reflect the actual activities they engaged in during the curriculum unit. You don't want the assessment to be disconnected from the learning, nor do you want your assessment method to block some students' ability to show you what they know. If

1 Wiggins and McTighe, 1998.

FIGURE 3

Systematic Unit-Level Assessment Procedures



the summative assessment requires the student to develop a hypothesis and then design an experiment to prove or disprove it, are the students prepared to demonstrate their learning in this way? Have they had a similar experience during your unit so that the assessment truly demonstrates their learning rather than inhibits their ability to perform?

4 The next assessment process critical to differentiated units is preassessment. You need to either choose or design preassessments to identify your students' prior knowledge, skills, and understandings related to your unit KUDo's. It is not wise to assume that last year's curriculum goals were, in fact, attained by your students. Think about what prerequisite knowledge, skills, and understandings create the foundation of this year's work. Do most of the students have what it is going to take to move ahead on this year's goals? If not, your unit plans will need to be adjusted to provide the reinforcement or reteaching of whatever is missing. Differentiation of instruction now becomes critical. If the foundational skills of Algebra I are not there for the majority of Algebra I students at the beginning of the year, it makes no sense to start teaching Algebra I on the first day of class. If you do, you can bet that those behind and struggling at the beginning of the year will be the same ones behind and struggling at the end of the year. Take time to do the reteaching or reinforcement of essential foundational skills now, and you will be able to move more effectively and efficiently through your course later. Moreover, some of your students will not be doomed to fail from the first day of class.

5 Formative assessment strategies follow, and are used on a regular basis during your unit to provide information about the learning progress of your students, as well as to inform your instructional planning. It is formative assessment that provides the evidence necessary for determining whether tomorrow's lesson plan is to move on, to reteach, or to differentiate.

6 Now you are ready to administer the unit's summative assessment. Take another look at what you designed early in your planning. Does the summative assessment align with the learning goals and instructional activities that were implemented during the curriculum unit?

7 The final element in the assessment procedures used in a differentiated unit involves reporting, reflecting on, and acting on the results of the summative assessment. Report the results to students and their parents or significant adults. Then, reflect on the data in order to determine and act on next steps in instructional planning. Are students ready to move on to your next curricular topic? Or do you need to devote more time, instruction, or practice to particular skills, concepts, or understandings in this unit before most students are ready to progress? Is further differentiation necessary?

The Role of Preassessment in Differentiation

Preassessment plays a critical role in your ability to differentiate instruction. You administer preassessments before you begin the instruction in a curricular unit in order to gain an understanding of what your students know, understand, and are able to do. Without preassessment, you do not know the preparedness of your students for new learning, the specific learning differences amongst your students, or where to begin devising new curriculum goals.

When preassessing, you are "looking back" to determine the level of mastery that students bring into your grade or course. You need to know what students learned or remember from past experiences. Do the students have the essential foundational knowledge expected as they enter your grade or course? Have the students mastered the prerequisite skills and processes for success in new curriculum? You are also "looking forward" to determine what content, skills, and processes in the curriculum have already been mastered by some of your students.

You ask, "Have some students already achieved some of my learning goals?" "How and when might I differentiate the curriculum for these students so they remain challenged and engaged?"

Preassessment data assists you in determining an appropriate timeline for instruction. You find out what needs to be retaught or reinforced, what might be simply touched on or taught more quickly, and what might be eliminated within your curriculum units. The data also enables you to determine the points in a curriculum unit where flexible instructional grouping and tiered activities are best placed. Where in the unit will learning differences become obvious? Where might instructional groups based on learning differences provide students "just right, right now" activities? Who would be the members of each instructional group?

STRATEGIES FOR PREASSESSMENT

You can use either formal or informal strategies for preassessment. Formal preassessments provide information about specific students' prior knowledge and skills. They may be provided by textbook publishers as paper/pencil assessments or offered as computer software or online formats, or designed by teachers at the classroom level. Information from these assessments enables you to more specifically plan for the individual needs of your students. Tips for designing formal preassessments will be provided in the following section.

Informal preassessments are "sweeps" of your classroom to determine the general mastery level of content, skills, and processes. These strategies inform your general planning for a curriculum unit, but do not necessarily reveal specific information about individual students. Several strategies are provided in this chapter for doing quick informal preassessments that do not demand a great deal of preparation or time for analysis.

FORMAL PREASSESSMENT STRATEGIES

Formal preassessments are typically thought of as paper/pencil, online, or software formats that may be provided by textbook publishers or designed by teachers at the classroom level. However, depending on the specific curricular area, other forms of preassessment might also be appropriate; see **Figure 5.**

Formal preassessments are not graded because you are using them for diagnostic purposes only. You are seeking information to identify the entry point in learning for your students and to refine your unit plan based on student needs.

Teacher-Developed Preassessments

If you are designing your own preassessments, consider sources you may have at hand. Review your teacher editions. End-of-chapter reviews as well as end-of-unit tests are readymade preassessments.

FIGURE 4

Preassessment Strategies

FORMAL STRATEGIES	INFORMAL STRATEGIES
Publisher-developed paper/pencil, software, or online formats	Observations
Teacher-developed paper/pencil or online formats	Conversations
Journal prompts	Directed questions
Written responses	Preassessment webs
Structured observations	Walkabouts
Student demonstrations	Knowledge bar graphs
Student interviews	Check-in slips
	Visual organizers
	KWI (similar to KWL)
	Preassessment carousel
	Teacher email or text messages

If you choose to use end-of-chapter reviews or pull items from reviews, check to make sure that all critical concepts, skills, and processes in the unit are included in the items in the review. If you decide to use particular items pulled from the various sections of the unit, again make sure that key concepts, skills, and processes are represented.

You may also choose to use end-of-unit tests as preassessments. In this case, you can use the same assessment again at the end of the unit, or create another form of the test by using software provided by your textbook publisher or by creating similar but different items.

FIGURE 5

Preassessment Strategies for Specific Curricular Areas[2]

CURRICULAR AREAS	PRIMARY FOCUS OF PREASSESSMENT	PREASSESSMENT STRATEGIES
- Language arts - Social studies - World language - Humanities	- Reading, writing, and speaking skills - Understanding of concepts and generalizations - Application of critical and creative thinking skills	- Responding to journal prompts - Composing written products (paragraphs, essays, summaries) - Providing oral responses - Completing paper/pencil tests of knowledge
- Math - Science	- Understanding and application of processes, concepts, constants, and theories	- Explaining or applying processes - Reporting on observations - Solving problems - Doing demonstrations - Writing explanations or essays - Sequencing steps in a process - Determining a solution supported by a rationale or explanation - Completing paper/pencil tests of knowledge
- Music - Art - Physical education - Other performance-based curriculum	- Demonstration of technique or complex application of skills or processes	- Observing performance - Demonstrating skills - Solving problems - Sequencing steps in a process
- Technology - Industrial technology - Business applications	- Complex applications of skills to solve a problem or create a product	- Observing performance - Demonstrating skill - Solving problems - Sequencing steps in process

2 Adapted with permission from *Data Driven Instruction: A Handbook* by Lin Kuzmich (Longmont, CO: Centennial Board of Cooperative Services, 1998).

Structured Observations

Structured observations may be a preassessment strategy that works for you under particular circumstances. Think about what specifically you want to observe and then set up a learning task that will enable you to do so. For example, if you want to determine whether your students remember and can apply the scientific method, set up a lab in which you can observe them at work. Who competently goes through the process? Who struggles? Who is completely baffled?

Journal Prompts and Written Responses

Formal preassessments may also include journal prompts and written responses to questions related to a unit's content. However, keep in mind that writing skills will affect your students' ability to convey what they know and understand. If you have English language learners in your classroom, it is important to consider the stage of language acquisition of each ELL student. If the ELL students are at preproduction, early production, or the stage of early speech emergence[3], they may be better suited to preassessment using demonstrations or interviews than paper/pencil preassessments. At early stages of language acquisition, students are able to respond to "show me . . ." prompts, yes/no questions, and list or label items, and with phrases or short answers, but are not able to respond in full sentences or paragraphs.[4]

CONSIDERATIONS FOR CREATING FORMAL PREASSESSMENTS

In creating formal preassessments that provide reliable and valid data, consider the following questions:

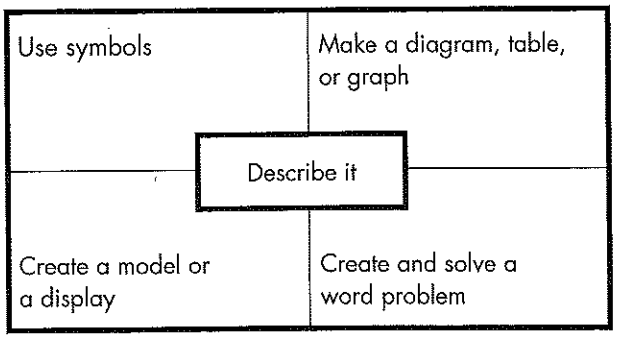
1. Does the assessment focus on your unit's KUDo's?
2. Does the assessment provide an adequate demonstration of the concepts, skills, and processes that students are expected to acquire by the end of the unit?
3. Does the assessment allow students of a variety of learning preferences to demonstrate what they know? **Figure 6** is an example of an assessment format for a math task that allows students to demonstrate knowledge in five different ways.
4. Do English language learners have an adequate opportunity to understand and complete the assessment given language factors?
5. Do the items assess what you want to measure (the process, the content, or the product)?
6. Do the items clearly align with the end-of-unit test or culminating project to be used as a summative assessment?

INFORMAL PREASSESSMENT STRATEGIES

Not a minute is spent within a classroom when teachers are not doing assessment. You pick up a great deal simply by cruising the classroom. "Over the shoulder assessments" include the observations that you make as your students engage in activities, the conversations that you strike up which reveal students' knowledge of content both within and outside your curriculum, and the directed questions you may ask to probe their understandings.

FIGURE 6

Five Learning Preferences for a Math Task: Computing Percentiles



3 Stephen D. Krashen and Tracy D. Terrell, *The Natural Approach: Language Acquisition in the Classroom* (Oxford: Pergamon Press, 1983).

4 Jane D. Hill and Kathleen M. Flynn, *Classroom Instruction That Works with English Language Learners* (Alexandria, VA: Association for Supervision and Curriculum Development, 2006).

You may also notice the kinds of books or magazines students are reading, the questions posed by students that exceed your curriculum goals, and the "above and beyond" responses in class discussions as well as those responses that indicate missing background or lack of experience. Do not underestimate the importance of these informal kinds of data collection in planning for differences.

An informal preassessment "sweep" is a quick way to gather general information about what your students know and need to know about a curricular topic.

An informal preassessment "sweep" is a quick way to gather general information about what your students know and need to know about a curricular topic. These strategies do not necessarily provide specific information about what *each* child knows and doesn't know, but they do give you a general sense of where the students are before they begin a unit. "Sweeps" enable you to better plan for your students' needs. They provide information such as: "What topics could be accelerated because it appears that many students already know them? What topics appear to be new to students?"

Preassessments also inform you of the misinformation students may hold about a particular subject. Your students may believe something to be true which is not factual. Surfacing misinformation enables you to teach directly to the misconceptions and to correct them during your unit.

As is the case for all preassessments, it is important that your students understand that these tasks are not going to be graded. They are not pop quizzes! Tell your students that the information from the preassessment helps you plan their unit activities better. You want to know more about what *they* know. Emphasize that this is important work.

Topic Webs

Topic webs are a way of doing a preassessment that represents the Visual/spatial learning preference of Multiple Intelligences. Divide students into groups no larger than four and provide each group with sticky notes, markers, and a piece of flip chart paper. Lead the students through the five-step process below to complete the web.

1. All students take five sticky notes.
2. Individually, students generate at least five facts about your curriculum topic (e.g., geography). They write one fact on each sticky note. If students know more than five facts, encourage them to take more notes. Instruct students to initial each of their notes.
3. Students then label each fact using the following code:
   ! = I know this is a fact!
   * = I am pretty sure this is a fact.
   ? = I heard this somewhere and think it may be a fact.
4. Students share their facts in the small groups. They share one idea at a time, going around the group until all ideas have been heard.
   - If there is a fact that group consensus says is inaccurate, the group starts a pile of notes with these questionable facts.
   - Tell groups to keep duplicate facts, not to discard them.
5. Students review the facts and identify those that go together in some way. Remind them to include duplicate facts in the classification, and to keep the questionable facts in a separate pile.
6. Model the construction of a topic web using a topic and subtopics different from the ones your students are working with. Preassessment webs are also an exercise in the critical thinking skill of classification. Using their topic as a model allows them to copy rather than think! **Figure 7** on page 32 shows an example of how a topic web is set up.

7. Now, students use markers and flip chart paper to construct a web of major topics and subtopics with their facts. They simply place their sticky notes on the flip chart paper where they fit in the web (including duplicate ideas).
8. Students post the webs in your classroom and you collect the pile of questionable facts. You may want a spokesperson for each group to report on their results, or you may wish to lead an initial discussion of the topic using the facts represented on the webs.

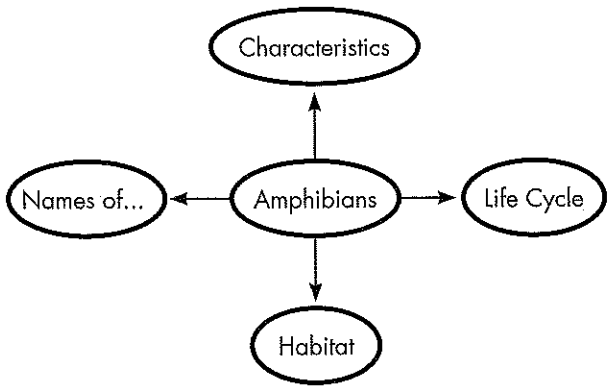
How is a topic web a preassessment?

1. **It represents what students know about the curricular topic.** The web reveals what topics students have thought of and know a lot about as well as what topics are not mentioned and may need more in-depth work. This information enables you to better plan your unit with a general understanding of the students' background and understandings of the topic.

2. **Misinformation is revealed.** Misinformation included on the web as well as in the pile of questionable facts tells you what you must make sure to clarify, bring to the surface, and emphasize in the unit. This is essential to prevent students from continuing to carry inaccurate understandings forward.

FIGURE 7

Sample Topic Web



3. **Students learn from each other.** Since some students are reluctant to risk being wrong in an all-class activity, the webs allow students to share what they know in the safety of a small group setting. Secondly, the coding system (! * ?) enables all students to take a chance on ideas without risking embarrassment (e.g., "See? I put a question mark on that note because I wasn't sure about that fact.").

4. **It identifies student experts as well as those who have a more limited knowledge base to build on.** The initials on the notes enable you to notice the students who have more than five facts represented on the web. These students know a lot about the topic. If students have fewer than five ideas, it may be because they had limited information on the topic, they had ideas sent to the questionable facts pile, or they needed additional time to process and record their facts.

You may wish to keep the topic webs for reference and revision as the unit progresses, or to reflect on and revise them as a class review before summative assessment.

Tips for Using Preassessment Webs with Primary Students

Because early readers and writers will be more limited in their ability to record their ideas, the webs may be completed as a large group activity.

1. Record your students' responses on large readable cards instead of sticky notes.
2. Think ahead of time about how you will respond to inaccurate ideas when they are presented. Will you ask for a class consensus on the suggested fact? Will you create a section on your board labeled: "Let's check these out," and then do a fact search later? Or will you accept the idea and then "teach to it" later so the misinformation is corrected?
3. Once you have the ideas recorded, ask your students to help put them in groups of "like ideas." Encourage them to label each group of cards, thus creating subtopics.

4. Model the construction of a web, asking your students to help you place the cards where they belong.

Walkabout Charts

Walkabout charts are an engaging and active way to gather preassessment data in your classroom. Consider the KUDo's for your curriculum unit and design four to six tasks or questions related to the topic. Place them on a chart like this one:

FIGURE 8

Sample Walkabout Chart

Name the parts of a plant.	List the things that plants need.	Why do humans need plants?
Name two kinds of plants.	List the steps in the growth of a plant.	Name the jobs of each plant part.

Distribute charts to students and have them tour the room locating one student at a time who knows the answer to one of the questions on their walkabout charts. The student records the answer in the appropriate box and has the other student initial the box. Once a sufficient amount of time has been provided for students to gather answers, lead a class discussion about the topics on the chart. Collect the walkabout charts to review the students' understandings of and misinformation about key topics in your unit as well as to find your student experts and those students who may need additional support.

Knowledge Bar Graphs

Create the following chart on your board or on a flip chart:

FIGURE 9

Knowledge Bar Graph Template

No clue	I've heard of this.	I know a lot about this.	I'm an expert on this.

Provide a brief overview of some of the topics that will be included in your upcoming curriculum unit. You may wish to pose some questions to further clarify topics such as: Can you name the planets in order according to their distance from the sun? Can you list characteristics of different planets? Can you tell me what creates day and night? Can you describe what causes the seasons?

Next, give each student one sticky note and tell them to write their name on the back. Have students individually place their notes on the section of the chart that represents their knowledge of the new curriculum topics. By reviewing the resulting bar graph, the students recognize the variations in their experiences and differences in their knowledge bases. Later, you may review each student's self-evaluation by checking the back of the sticky notes for names.

You can also develop individual bar graphs for students to report on their levels of mastery. **Figure 10** is an example of an individual bar graph that asks students to estimate their recall of four math skills. Students color in boxes to form a bar graph indicating their level of competence in each math calculation.

FIGURE 10

Sample Knowledge Bar Graph

	Okay with this. I know it.	I need some reminders on how to do this.	Need to learn this again.
Mean			
Mode			
Median			
Range			

Check-in Slips

Check-in slips are a set of two to three quick questions or tasks that students complete to provide a general sense of their background knowledge on a curricular topic. Think about your KUDo's and design these questions or tasks to get a "snapshot" of student understandings. Examples of check-in slips follow.

FIGURE 11

Sample Check-in Slips

Oceans

1. Name some animals that live in the ocean.
2. What is the "geography" of oceans like?
3. Diagram a food chain for an ocean animal.

Health and Wellness

1. What things can people do to stay healthy?
2. What should and shouldn't we eat to stay healthy?
3. What risks do students your age take that can lead to illness?

The American Revolution

1. Name the leaders in the Revolutionary War.
2. Why did the colonists revolt against England?
3. Name some important events in the Revolutionary War.

Writer's Voice

1. What is writer's voice?
2. How is writer's voice used by an author to involve the reader in a story?

Averages

1. Find the average of 3, 6, 9, and 12.
2. Find the average of 2.5, 5, 7.5, and 9.
3. Find the average of 2x, 4x, 5x, and 8x.

Collect the slips and briefly scan the student responses, noting those topics that are well known and those that students seem to have little knowledge of or misinformation about. Take notice of student experts who seem to already have a depth of knowledge about the topic, as well as students who may potentially struggle with the topic and require extra assistance.

Tips for Using Check-in Slips with Primary Students

Primary teachers may wish to talk with students in a large group setting to facilitate the use of check-in slips. Ask the students questions such as:

1. What dinosaurs can you name?
2. What are the different kinds of dinosaurs?
3. Why did dinosaurs disappear?

You may also ask students to sketch versus write their ideas on check-in slips. For example, give the students a duplicated sheet of four identical drawings of bare trees placed in quadrants. Ask the students to sketch how the tree would look in fall, winter, spring, and summer. You may also encourage them to include other things in their sketches to show you what else they know about seasons.

Visual Organizers

Visual organizers combine words, symbols, arrows, and even sketches to present information. The Verbal/linguistic and Visual/spatial Multiple Intelligences are reflected in visual organizers. Visual organizers enable students to generate mental pictures to accompany information, and to create graphic representations of that information[5].

Frayer diagrams are visual organizers that were initially designed to help students discover relationships between concepts or ideas, but can also be used as a preassessment strategy. **Figure 12** shows one use of a Frayer diagram for a preassessment on the topic of reptiles. **Figure 13** shows four common templates for Frayer diagrams utilized for preassessment.

5 Robert J. Marzano, et al., *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement* (Alexandria, VA: Association for Supervision and Curriculum Development, 2001).

Visual organizers such as charts, timelines, and storyboards can also be used as preassessments. Provide students with the formats and ask them to complete as much of the information as possible. Collect and scan the students' work to inform your unit planning.

Second copies of the visual organizers can be provided for students to complete as the unit progresses. Initial preassessment copies could also be returned to students at the end of the unit for revision and completion prior to the summative assessment.

KWI

KWI is my version of a strategy that many teachers use called KWL. KWL stands for a set of questions asked of students: What do you **k**now about _____? What do you **w**ant to know about _____? What did you **l**earn about _____? Alternately, KWI stands for the following questions: What do you **k**now? What do you **w**ant to know? What are you *interested in learning* about this topic?

Used in a science unit on the rainforest ecosystem the questions would be:

- What do you know about rainforests?
- What do you want to know about rainforests? (What specific questions do you have?)
- What are you interested in learning about rainforests? (What are you most curious about?)

The "K" part of KWI is a natural way to gather preassessment data on a topic to determine your students' prior knowledge as well as any misinformation they may hold to be true. The "W" generates questions to be answered during the unit. However, if the key to motivation is interest, the way to really hook students into the unit is to find out what specifically they are interested in learning about the topic: the "I." We never have enough time to teach all we need to teach. Why not eliminate or just touch briefly on those topics that students already know a lot about, make sure you address the questions they have, and spend more time on the topics that they are interested in? Remember, however, that your KUDo's guide your instruction. If a topic or activity does not work on a KUDo, do not do it!

FIGURE 12

Sample Frayer Diagram

Definition of a Reptile	**Facts About Reptiles**
An animal with dry skin.	Covered with scales Vertebrate Shed skin Cold blooded
Examples of Reptiles	**Examples of Non-Reptiles**
Lizards Snakes Crocodiles	Frogs Toads Tigers Hawks

FIGURE 13

Common Frayer Diagram Templates[6]

Facts	Words to Describe
Pictures, Sketches or Diagrams	Questions

Definition	Facts
Examples (What it is)	Non-Examples (What it isn't)

Words	Sketches

Definition	Facts
Sketches or Diagrams	Personal Experiences

6 Dorothy Ann Frayer, et al., *A Schema for Testing Level of Concept Mastery* (Technical Report No. K16, University of Wisconsin, 1969).

Preassessment Carousel

Preassessment carousels rotate student groups through a set of posted topics or questions related to your curriculum unit. As students rotate to each workstation, they list what they already know about the topic. To set up your carousel follow these steps:

1. Identify four or five major topics or ideas included in your unit. For a social studies unit on your state or province, the topics might be: 1. Geography and climate, 2. Economics, 3. Government and leadership, and 4. Important people and events in our history.

2. On separate sheets of flip chart paper, write the number and the topic at the top (e.g., **1. Geography and climate**). Depending on the size of your class, you may wish to make two sets of these charts so that students can be divided into smaller working groups.

3. Assign students to groups of no larger than four members. Provide each group with a different color marker to distinguish that group's responses on the charts.

4. Create workstations by posting the charts in numerical order on the walls of your classroom, or placing them on tabletops or desks.

5. Have students rotate through the workstations as directed by you. Assign each group a workstation to begin their rotation.

6. When students reach a station, direct them to read what has been listed previously and then add new information. If something has been listed previously that the group does not believe is a fact, have them put a question mark next to the item.

7. Direct students to remain at a workstation until directed by you to rotate to the next. Watch student groups to determine when it appears they are ready to rotate. By the fourth rotation to a workstation, students may have exhausted all ideas!

Once the rotations are complete, you may wish to have spokespeople report on what was entered at each workstation. You will also want to clarify any items coded with question marks, or extend other ideas as necessary and appropriate.

Carousels can also be used at the end of a curriculum unit to review factual information before a summative assessment.

Teacher Email or Text Message

Ask students to write and send an email or text message (text language can be creative and fun!) to you about the upcoming unit. Select from the following prompts or come up with ideas of your own:

- I know that . . .
- I learned about this by . . .
- This makes me think of . . .
- I am not sure about . . .
- By the end of the unit, I'd like to know . . .
- I'd enjoy this unit most if . . .
- On a scale of 1 to 4, my interest in this unit is probably a _____ because . . .
- I think this topic is important to learn about because . . .

You may select particular prompts for all students to respond to, let the students choose from a list of prompts, or ask each student to respond to a particular number of prompts (e.g., ask them each to choose two).

PREASSESSMENT REMINDERS

1. **Preassessments must be clearly and specifically tied to KUDo's.** Their purpose is to provide information related to what your students already know, understand, and are able to do before the curriculum unit is underway.

2. **Use formal or informal preassessment at least two weeks before your class begins a unit.** Preassessments assist you in modifying or adapting your initial instructional plans in response to your students' needs. Give yourself time to think through what you have learned from the preassessment and to take action on modifications in your planning or

timeline for the unit. If you wait to do the preassessment on the first day of the unit, it may be too late or too discouraging to change some of your plans.

3 Preassessments preview unit topics for your students. Learners move into new curriculum units not only with a better idea about the topics that will be addressed, but also with an affirmation of what they already know about the curriculum topics.

4 Preassessments may reveal insightful responses from some students. As you review preassessments, look for those students who might be thinking above and beyond others in your classroom. Wiggins and McTighe[7] suggest that teachers look for:

- New, novel, or original ways of looking at a topic, problem, or issue
- Evidence of a more powerful principle than what is being taught
- A leap in intuition
- More analytical responses rather than "just the facts"
- Novel implications
- Knowledge or understandings beyond what is addressed in the curriculum

Such responses to a preassessment strategy suggest that you need to consider whether your curriculum goals provide enough rigor and complexity for these learners. Differentiation for gifted learners may take them into advanced learning goals that would be inappropriate for other students in your classroom. Specific strategies for meeting the needs of gifted and academically talented students are offered in Chapter 11.

5 Preassessment is critical to effective instructional planning.

- Preassessment data influences the timeline for the unit. What might you need to reteach or reinforce before you move on to new content, skills, or processes? What do students already know so you can move more quickly through the unit?
- Secondly, preassessment data reveals topics that might be addressed with greater depth or complexity based on the students' prior learning and experiences.
- The data also provide guidance on what topics might need to be emphasized to correct student misinformation.
- Finally, the preassessment data helps you predict those points in the unit at which tiered activities are likely to be necessary, when student learning needs appear to be distinctly different based on prior knowledge, skills, and processes.

Formative Assessment

Formative assessments are the tools that teachers use to gather information about student learning progress as well as to inform instructional planning. The information from formative assessment practices is critical to diagnosing student learning needs. Formative assessment identifies which of your students have reached learning goals and which need additional time, practice, and instruction. This information allows you to guide instruction in response to learning differences, which is central to differentiation. Such ongoing assessment also indicates when tiered assignments and flexible instructional groups are the most appropriate strategy for use the next day.

Formative assessment practices can be either formal or informal in design, and must be used on a consistent basis. Such practices are checkpoints in the cycle of teaching and learning that enable you to gather specific information on student progress. Whether you use informal or formal methods, it is critical that you think about and reflect on your students' work. Scans of their work provide guidance for tomorrow's differentiation. As you review student work consider the following:

1. What student understandings are evident in the work?
2. What misunderstandings or misinformation are evident in the work?

7 Wiggins and McTighe, 1998.

3. Have any students approached the work in a striking or unusual manner?
4. What additional instruction or clarification is necessary based on the evidence of learning presented in the work?
5. What specific patterns of problems appear in the work?
6. Do any students need additional time, instruction, or practice in the concepts, skills, or processes?

DESCRIPTIVE FEEDBACK

When teachers use assessment *for* learning, students benefit from the descriptive feedback[8]. Descriptive feedback, in contrast to evaluative feedback such as grades, enables your students to learn through the assessment process. Evaluative feedback focuses on what the student failed to do rather than what he or she succeeded in doing. It sends a message to the student that may be interpreted as blame, "you should have . . ." Descriptive feedback is constructive, helpful information that clearly addresses answers, "How can I do better?" Think of it as coaching rather than critiquing. In a differentiated classroom, descriptive feedback is essential since it provides specific guidance to the student for improved performance.

Descriptive feedback:

- Confirms whether or not responses are correct
- Describes why an answer is correct
- Enables the student to see what has and has not been achieved
- Provides a "better way" to do or approach something
- Suggests specific ways in which students might improve their performance[9]

Descriptive feedback affects both performance and motivation.[10] Because it provides specific information on "how to get better," students are more motivated to improve their performance because they know what to do next. It is critical for students to be able to answer: "Where am I? What did I do well? Where or how did I fall short? How can I improve my work? What next?" Descriptive feedback also fosters greater interest in the task for its own sake rather than just for a grade.[11] This is key for developing self-regulated learners.

Also keep in mind that not everything needs to be graded. Research on descriptive feedback indicates that if teachers provide both feedback and a grade on student work, the students focus on the grade rather than on the feedback. When grades and feedback are used together, the students view the feedback as comments on their *grade* rather than their *performance*.[12] For the greatest effect, use descriptive feedback without grades.

Ways to Provide Descriptive Feedback

Make comments directly on the student's work beside the relevant content. You may want to ask students to increase their margins in writing tasks to allow room for comments.

- Provide specific detail related to their work beside the rubric or checklist item given to the students. For example, if a student's explanation of a process lacked detail, note the specific ways he or she could increase detail next to the rubric item.
- Use sticky notes to comment on particular elements in a paper or project.
- Pose questions to prompt students to reflect on their work more deeply. (What additional avenues might have been taken during this national crisis? What other perspectives might be considered in this situation?)

8 Lorna M. Earl, *Assessment as Learning: Using Classroom Assessment to Maximize Student Learning* (Thousand Oaks, CA: Corwin Press, 2004).

9 Caroline Gipps et al., *What Makes a Good Primary School Teacher? Expert Classroom Strategies* (London: Routledge Falmer, 2000).

10 Susan M. Brookhart, *How to Give Effective Feedback to Your Students* (Alexandria, VA: Association for Supervision and Curriculum Development, 2008).

11 Brookhart, 2008.

12 R. Butler and M. Nisan, "Effects of No Feedback, Task-Related Comments, and Grades on Intrinsic Motivation and Performance," *Journal of Educational Psychology* 78 (1986): 210–216.

- Provide oral feedback by simply stopping by students' desks.
- Provide oral feedback by setting aside some class time for face-to-face conferences at a table in your classroom, or by establishing office hours to work with students one-on-one.
- Use student workfiles for works-in-progress. Provide a file folder for students to submit their work for review. Make your comments on the file folder itself or on a log inserted into the workfile. Be sure to date your comments so students can follow the sequence of your feedback. You may also code items for student reference. For example, if you are coaching the student on clarity in sentence structure, in the file folder comments refer the student to the sentences noted with an asterisk (*) in their text.

STRATEGIES FOR FORMATIVE ASSESSMENT

Just as in preassessment, there are both formal and informal strategies for formative assessment. Formal formative assessments typically demand teacher time to prepare, analyze, review, or grade, and they provide a more comprehensive review of student progress and more substantive evidence of learning. In contrast, informal strategies are quick, on-your-feet methods of data collection. They demand little or no teacher preparation or time for scoring or entering of data. Informal formative assessments are simply quick checks for understanding, but they have the same effect on your instructional planning. **Figure 14** provides ideas for both formal and informal formative assessment.

FORMAL STRATEGIES FOR FORMATIVE ASSESSMENT

Many of the formal strategies listed for formative assessment in the chart below commonly used by teachers. Quizzes, daily work, first drafts of writing, science logs, records of observations or readings, and journal entries are used with regularity in most classrooms.

In differentiated classrooms, however, student work is first analyzed critically and then used to make instructional decisions. The purpose of the work is not to simply have one more thing to put in the grade book. Its purpose is to enable you to critically reflect on student learning progress and decide whether to move on in the curriculum; reteach or reinforce content, skills, or processes; or whether your next instructional course of action is differentiation. Formal formative assessment strategies are purposefully integrated into lessons in order to gather specific information on student learning progress.

Demonstrations

Teachers may set up opportunities for students to demonstrate their learning. For example, you might:

- have students develop and test a hypothesis, and then review their lab reports
- collect work samples such as initial sketches of a poster advocating for a political position on a current issue, in order to reflect on the students' accurate application of methods of persuasion
- collect and review writing samples to determine whether your students have mastered the topic sentence

FIGURE 14

Formative Assessment Strategies

Formal Strategies	Informal Strategies
Quizzes	Directed questions
Daily work	Systematic observation
Demonstrations	Discussion reflections
Work samples	Homework scans
Portfolio reviews	Grade scans
Sketches, drawings, diagrams	"Thumbs" assessment
Logs, records, journals	Card signals
Drafts	White board demonstrations
Graphic organizers	Critical reflection stems
Exit slips	Student self-evaluation with rubrics/checklists
Preview/review	

FIGURE 15

Sample Graphic Organizer: Events in the Civil War

EVENT	FACTS	SIGNIFICANCE
Battle of Antietam		
Emancipation Proclamation	*Announced Sept. 22, 1862.* *Lincoln is the author.*	Effects on North: Effects on South:
Battle of Fredricksburg		
Chancellorsville		
Battle of Gettysburg		
Battle of Vicksburg		
Battle of Chattanooga		*Split Confederates' only east/west rail line.*
Grant given control of the Union Army	Grant's Battle Plan:	
Sherman's march through Georgia		Results:
Confederate surrender at Appomattox Courthouse	Surrender terms: 1. 2. 3. 4.	

Portfolio Reviews

Portfolio reviews provide concrete information about student applications of learning. Determine what you are specifically looking for, and then review the portfolio with that specific criteria in mind. Keep notes on who is "there," and who needs more time or instruction to get "there."

Sketches, Drawings, and Diagrams

You also may ask students to do sketches, drawings, or diagrams to illustrate what they have learned. For example, you may expect students to diagram and label the steps in photosynthesis. You then review their sketches for accuracy and evidence of understanding.

Graphic Organizers

Graphic organizers can be completed to check student understanding of curriculum content or to ask students to engage in critical thinking related to curriculum topics. **Figure 15** shows a "fact trapper" graphic organizer to determine student understanding of important events in the Civil War.

Notice there are sample entries in italics in the "Facts" and "Significance" columns to model the kinds of responses that should be written in each. In some cases, additional specific details are indicated to guide student responses, such as noting that the effects of the Emancipation Proclamation on the North and the South need to be detailed.

Figure 16 is a sample of a graphic organizer engaging students in analyzing environmental issues. It requires them to apply their knowledge of an issue to a decision-making process. Students must have the foundational knowledge about the issue in order to successfully complete the process. In using the organizer, students first recall up to three different positions on the issue and describe these positions at the top. Next, students consider the positives and negatives of each position. The third step in the process requires students to reflect on their beliefs and values related to the issue. Finally, they determine which position best reflects their beliefs and values, and provide a rationale for their decision.

INFORMAL FORMATIVE ASSESSMENT STRATEGIES

Informal strategies gather information about students' understandings and learning progress, but demand little teacher preparation or analysis time. Teachers may direct specific questions to all or some students to check their understandings. You may set up a learning activity for purposes of systematically observing the students in order to determine their competencies. For example, you might set up a battery and bulb lab to observe whether students understand the principles of circuitry. In addition, you reflect on student responses during a class discussion. Who seemed confident in their understandings? Who clearly seemed "lost" or unprepared for the discussion? Such informal formative assessment strategies and our mental note-taking or jotted-down comments provide information that influences our subsequent lesson plans.

Homework and Grade Scans

You may also use scans of homework to sort out where students are in their learning. Who accomplished the day's learning goal? Who didn't? Or you may refer to your online or paper grade book to remind yourself about how particular students performed the last time you worked on either this skill or a prerequisite skill or process. Who was there? Who needs more time, instruction, or practice?

"Thumbs" Assessment

Teachers also may ask students to be actively engaged in providing formative assessment information. "Thumbs" assessment is such a strategy. After you have completed direct instruction and you question whether the students are ready to move on to a new concept or to independent work, simply ask "Where are you on this?" Students signal to you by placing their thumb chest-high to indicate:

- thumb up — "I've got it"
- thumb sideways — "Teach me a little more, give me a couple more examples, I'm almost there"
- thumb down — "I'm confused, I don't get it, teach me more"

"Thumbs" assessment provides on-the-spot information about where to go next in your lesson. You may also use it as a way to dismiss students to independent work. The "thumbs up" students move on to their assignment, while the "thumbs sideways" or "thumbs down" kids stay with you for more

FIGURE 16

Sample Graphic Organizer: Positions on an Environmental Issue

Issue: _____

Position 1:		Position 2:		Position 3:	
+	−	+	−	+	−
[positives]	*[negatives]*				

Criteria for My Selection:

My Decision and Rationale:

instruction, practice, or examples. Keep in mind that your students need to know that "thumbs up" means they are confident going on independently, and you will not be going back to their desks to do one-on-one reteaching with them. If you do not hold fast to this guideline for the strategy, it will not work for dismissal to independent work.

Some teachers do a variation of the "Thumbs" strategy using colored cards or yes/no cards. Students are given red and green cards or yes/no cards that they use to signal to the teacher when asked the question, "Where are you on this?" You decide which strategy might work best for your students.

Whiteboard Demonstrations

Many teachers use individual whiteboards in their classrooms and consider student responses to questions, math problems, definitions, and true/false statements as quick checks for understanding. Pose the question, give students time to respond, and ask them to turn their boards over when they are done. Then, tell them to display their boards in unison when you say "go" or countdown from four. If students display their boards as they finish, some are doing the thinking while others are merely copying! If you are to consider this a check for understanding, they *all* need to do the thinking. A scan of their responses tells you if students are ready to move on, if more instruction and modeling are needed, or if you need to differentiate by having some students stay with you a little longer and others move on to independent work.

Critical Reflection Stems

Critical reflection stems are open-ended questions or tasks that require students to reflect on their learning. You can make them as structured or unstructured as you wish. Critical reflection is used after some direct instruction, when you want to check where students are in their learning. Students typically write responses, but you may also encourage them to draw, sketch, or diagram. Frayer diagrams can also be used as formative assessment templates (Figures 12 and 13 on page 35). Following are some samples of critical reflection stems that could be posed to your students:

1. What did you learn or discover?
2. Why is this important to know?
3. Summarize the key ideas.
4. Add your own ideas, insights, and perspectives.
5. What else do you know about what we talked about today?
6. What new questions do you have about this topic?
7. What is still confusing to you?
8. What do you want to learn next about the topic?

Student Self-Evaluation

Students are also able to actively engage in formative assessment when teachers provide rubrics or checklists for their work. Make sure that the language in the rubric or checklist is kid-friendly, using the same words and language you used with students in instruction. In designing rubrics, avoid "edu-babble" that we educators use but that does not convey clear meaning to students.

> When students chart or graph their progress, a greater sense of success results. They also become more motivated to strive for improvement because they can see their learning progress over the course of the term.

Students may also chart or graph formative assessment results, which enable them to see their own improvement. For example, have students complete week-by-week line graphs to show spelling or vocabulary test results. Rick Stiggins[13] suggests that when students chart or graph their progress,

13 Richard J. Stiggins et al., *Classroom Assessment for Student Learning: Doing It Right—Using It Well* (Portland, OR: Assessment Training Institute, 2004).

a greater sense of success results. They also become more motivated to strive for improvement because they can see their learning progress over the course of the term.

Exit Slips

Exit slips are a quick way to check for understanding. At the end of a class or instructional period, the teacher poses a question or presents a quick task to determine whether students have met the goals for the day's lesson. Students record their responses on their own paper, including their name at the top. Exit slips are typically used when you have just completed some instruction and you are not sure whether the students are ready to move on to a new topic the next day. The purpose of the slips is to gather information to determine what the next day's plan will be. Why wait until tomorrow to review homework when you can get the information right now?

Exit slip questions or tasks reflect that day's learning goals. For example, you might ask students to:

- Solve a math problem applying a process just taught
- Summarize the rotation and revolution of Earth and its effects
- Write a quick definition of a metaphor and a simile
- Sketch out the process of passing a bill into law
- Make a list of examples of synonyms and antonyms

Exit slips should reflect the KUDo's for your lesson. Therefore, you might choose to design them around *know*, *understand*, and be able to *do* as in **Figure 17**, an example of exit slips for a lesson on climate and weather. The exit slip questions and tasks are in bold.

Keep in mind that exit slips are *not* pop quizzes. They are not graded or recorded. After collecting the slips, you breeze through them scanning for accuracy. Then, make three piles: one pile for those students who are clearly "there" and understand the concept, skill, or process; another pile for the students who are "almost there" and need just a few more examples or a little more instruction; and a third pile for the students who are clearly "not there" and need more time, instruction, and practice to get them to mastery.

Your three piles determine the next day's lesson plan. If most of your students are in the "there" and the "almost there" piles, you can reasonably move on the next day. However, you need to find the time to pull those students together who need a little more instruction, modeling, or practice. Think about using independent work time the next day to reinforce their learning.

If most of your students are in the "not there" and the "almost there" piles, it is best to return to the content, skill, or process and use a different instructional strategy to reteach the next day. If your exit slips are spread among all piles *or* split between the "there" and the "not there" piles, you should plan for tiered assignments and flexible instructional groups the next day.

FIGURE 17

Sample Exit Slip

Know: Understand the kinds of precipitation.

Name the kinds of precipitation.

Understand that: The water cycle represents a system of interactions on Earth and in its atmosphere.

How is the water cycle a system of interactions? Describe this system in a paragraph or create a labeled diagram to share your ideas.

Be able to do: Distinguish the ways in which climate and weather are interrelated.

How are climate and weather interrelated?

Your students need to understand that although exit slips are not graded they are important work. Appeal to them by explaining how the slips will help you plan what will happen in class the next day. Exit slips will also determine their tasks and groups they may work in. If students fail to turn in an exit slip, automatically place them in the reteach/reinforce group should tiered assignments and flexible groups result from the data collected, as you have no evidence of their knowledge of the topic.

If you are a secondary teacher, you may choose to put a box by your door that students can drop slips into as they exit the classroom. Make sure to scoop them up before the next group comes in so that you do not have to sort them out by class period later in the day.

Preview/Review (PR)

The preview/review or PR strategy has elements of both preassessments and formative assessments. Teachers develop a list of 10 statements related to a topic that will be addressed in a mini-lecture or direct instruction lesson, or that the students will read about during the class period. Some of the written statements are true and some are false (see **Figure 18**). In the preview phase, students read the list and mark each statement as true or false on the left side of the statement. Then the students engage in the lesson. In the review phase at the end of the class period, students return to the PR, read the statements again, and mark each true or false on the right side of the statement.

In previewing the statements, students are given an overview of the topics for the day. They receive affirmation for the things they might know already ("I *do* know something about this!"), but also clear indications of what to listen or read for ("I *didn't* know this!"). Previews highlight the important points of the day's lesson.

Collect the PRs at the end of the period to determine which students knew considerable content before the lesson (little change in responses from preview to review) and which students failed to capture key concepts and ideas by the end of the lesson (no correction of incorrect responses from preview to review). PRs provide formative assessment information to guide your lesson plans for the following day.

Summative Assessment

Although we may think of summative assessment as the last component in our work with students in a curricular unit, in a differentiated classroom it continues to guide our planning. The purpose of summative assessment is to provide information about whether our students have met our unit's goals (KUDo's). In a differentiated classroom, it means that we critically reflect on the results, both of the class as whole as well as on individual students' performances. Based on your students' results, you may decide that you are ready to move on to your next curricular unit. Or you may decide to devote

FIGURE 18

Sample Preview/Review

Preview/Review on Simple Machines	
Preview	**Review**
1. ___ There are seven simple machines.	1. ___
2. ___ A stapler is a compound machine.	2. ___
3. ___ The shape of a wedge effects its ability to do its work.	3. ___
4. ___ Force influences the effectiveness of machines.	4. ___
5. ___ A fulcrum is part of an inclined plane.	5. ___
6. ___ A simple machine must have at least one moving part.	6. ___
7. ___ A screw is an inclined plane.	7. ___
8. ___ A pulley is used to hold two or more things together.	8. ___
9. ___ A baseball bat works as a lever.	9. ___
10. ___ A wheel and axle is a compound machine.	10. ___

more time, instruction, and practice to particular skills, concepts, or understandings with all or some of your students. Summative assessment is a part of the continuous feedback loop on learning you engage in within a differentiated classroom. As Stiggins notes, "assess accurately and use assessment to benefit students."[14]

In considering the learning differences in your classroom, it is important that summative assessment take a variety of forms. Teachers should vary assessment formats while gathering evidence of student learning in reliable and valid ways. The assessments in **Figure 19** are divided into those completed by students independently and those directly facilitated by teachers.

Summative assessment is typically used to measure knowledge, reasoning abilities, performance skills, or the ability to create products to demonstrate attainment of learning goals.

- Assessments that measure ***knowledge*** seek to determine the degree to which students have mastered factual information such as definitions and vocabulary.
- Assessment of ***reasoning*** considers thinking skills such as the ability to analyze, evaluate, and infer, as well as processes such as problem solving and decision-making.
- Assessment of ***performance skills*** determines the degree to which students can demonstrate their knowledge and reasoning by "doing." These assessments ask students to observe, perform, demonstrate, apply, model, and/or use their knowledge.
- The final assessment method seeks to measure the students' ***ability to create a product to demonstrate their learning.*** Final products reflect the students' ability to apply knowledge, reasoning, and performance skills. Students are asked to design, create, develop, or construct a product representing their learning.[15]

14 Stiggins et al., 2004.

15 Stiggins, et al., 2004

INDEPENDENT SUMMATIVE ASSESSMENTS

A variety of assessment methods are available for students to complete independently. These methods include selected response, extended written response, and various performance assessments. Selected response formats include true/false, multiple choice, matching, short answer, and fill-in paper/pencil, software, or online assessments. Extended written response formats engage students in responding to questions as well as composing brief, one-page essays. Performance assessments reflect application of learning in the creation of a product. Projects, demonstrations, presentations, exhibits, and performances represent student learning. Assessment is often based on both teacher observation and the use of a rubric or checklist detailing specific quality criteria for use in evaluating the product.

Stiggins suggests that teachers consider which assessment method is the most appropriate, accurate, and efficient in measuring particular learning goals. He provides the following guidance:[16]

16 Richard J. Stiggins, *Student-Involved Classroom Assessment*, 3rd ed. (Upper Saddle River, NJ: Prentice Hall, 2000).

FIGURE 19

Independent and Teacher-Facilitated Assessments

Independent Assessments	Teacher-Facilitated Assessments
Paper/pencil, software, or online format	Interviews
Selected response	Conferences
Extended writing	Question/answer
Demonstrations	Oral examinations
Projects/products/ performances	One-on-one "staged" tasks
Presentations/exhibits	Structured observations

To assess **knowledge mastery** use:

- **Selected response tests** including multiple choice, true/false, matching, and fill-in responses to assess mastery of content.
- **Essays** that ask students to convey their understanding of relationships among elements of knowledge.

To assess **reasoning** use:

- **Selected response tests** to reveal basic patterns of reasoning.
- **Essays** that ask students to describe complex problem solutions.
- **Performance assessment** to enable teachers to observe students engaged in tasks and make inferences related to their reasoning skills based on their performance.

To assess **performance skills** use:

- **Performance assessment** to enable teachers to observe and evaluate skills used in the performance of the task.

To assess students' **ability to create a product** using knowledge, reasoning, and performance skills use:

- **Performance assessment** to enable teachers to assess the students' proficiency in carrying out steps in a task. Rubrics also enable teachers to assess the degree to which the product reflects particular attributes.

Matching what you are assessing with the most appropriate, accurate, and efficient assessment tool is critical in gathering the evidence of learning you need to guide planning in a differentiated classroom.

TEACHER-FACILITATED SUMMATIVE ASSESSMENTS

In addition to assessments that engage students independently, there are also teacher facilitated assessment formats. These assessments include teacher interviews, conferences, question/answer sessions, one-on-one "staged" tasks, and structured observations.

Interviews, Conferences, and Question/Answer Sessions

Teachers conduct interviews, conferences, and question/answer sessions to evaluate students' knowledge, as well as understandings of key facts, concepts, and principles related to a particular study. These one-on-one sessions allow you not only to consider what students know and understand, but also enable you to prompt for additional information or clarification. There may be students, such as those with particular disabilities, learning preferences, or at a particular stage of English language acquisition, who can better *tell* you what they know than demonstrate it on selected response or extended writing exams.

Question/Answer Sessions

Teacher facilitated assessments also include one-on-one or small group question/answer sessions. Carefully constructed questions allow students to engage in conversations about their learning. Students may form a small group to discuss a common reading. Gifted students may discuss the results of an independent investigation of a topic beyond the scope of the curriculum. For some students, the "safety" of one-on-one's or small group sessions increases their willingness and comfort in responding to questions posed by the teacher. Using this format, you are also able to better tailor the questions to the particular needs of the students.

Teacher facilitated assessments are important in evaluating English language learners who are at beginning stages of language acquisition. Consider the characteristics of students at each stage of language acquisition. Use prompts reflecting the student's stage of language acquisition when doing a one-on-one assessment. **Figure 20** suggests teacher prompts that are most appropriate at early stages of language acquisition.

FIGURE 20

Assessing English Language Learners in Teacher Facilitated Assessments[17]

STAGE	CHARACTERISTICS	TEACHER PROMPTS
Preproduction (0–6 months)	- Minimal language comprehension - Does not verbalize - Nods "yes" and "no" - Draws - Points	- Show me . . . - Circle the . . . - Where is . . . - Who has . . .
Early Production (6 months–1 year)	- Limited comprehension - One- or two-word responses - Uses key words and familiar phrases - Uses present tense verbs	- Yes/No questions - Either/Or questions - One- or two-word answers - List . . . - Label . . .
Speech Emergence (1–3 years)	- Good comprehension - Produces simple sentences - Makes errors in grammar and pronunciation	- Why . . . ? - How . . . ? - Explain . . . - Phrase or short-sentence answers

17 Adapted with permission from *Classroom Instruction That Works with English Language Learners* by Jane D. Hill and Kathleen M. Flynn (Alexandria, VA: Association for Supervision and Curriculum Development, 2006).

One-on-One "Staged" Tasks

You may also stage particular tasks to enable your students to individually demonstrate their learning for you. Primary teachers may meet with individual students and ask them to continue a pattern of manipulative figures. Secondary teachers may ask students to demonstrate their ability to apply an algorithm as the teachers observe their work.

Structured Observations

Finally, you may identify a particular skill or process you wish to observe while students are engaged in a task. A structured observation goes beyond simply walking the classroom when students are working. You identify specific skills or processes to evaluate and then set up a learning task that enables you to observe students engaged with this skill or process. You may use a class checklist to note observations of individual students, or you might make notations about specific students on sticky notes and place them in their student file folders for reference.

Regardless of whether you choose to use independent or teacher facilitated formats, there are particular characteristics of summative assessment that you should keep in mind.

Nonnegotiable Characteristics of Summative Assessments[18]

A high-quality classroom-level summative assessment:

- Provides clear, consistent, accurate evidence of student learning
- Reflects the KUDo's of the unit
- Utilizes a format similar to what the students have experienced during the unit
- Advances learning rather than simply documenting it
- Is developmentally appropriate
- Requires an appropriate level of challenge for all students
- Avoids sources of bias
- Enables teachers to diagnose and respond to student needs based on data
- Measures what it intends to measure (e.g., if the intent is to measure content, the assessment is not influenced by process or product results)
- Is modified or adapted as required to address the needs of special education and ELL students

18 Ken O'Connor, *How to Grade for Learning: Linking Grades to Standards* (Thousand Oaks, CA: Corwin Press, 2002); Stiggins, 2004; Cindy Strickland, *Tools for High Quality Differentiated Instruction: An ASCD Action Tool* by (Alexandria, VA: Association for Supervision and Curriculum Development, 2007); Wormeli, 2006.

Should I Differentiate Assessments?

Some teachers extend the practices of differentiation to the assessments they use in their classrooms. For example, you may:

- Use the same assessment for all students
- Use the same assessment for all students, but include a component that allows for student choice
- Offer student choice of different assessment formats
- Prescribe assessment formats based on student needs

GUIDELINES FOR DIFFERENTIATING ASSESSMENTS

Here are important guidelines to keep in mind as you consider differentiated assessments.

Differentiated Assessment MUST:

- Measure identical learning goals or standards
- Keep the element being measured (content, process, or product) the same in each format
- Enable students to demonstrate full proficiency in the goal or standard
- Require an appropriate level of challenge for all students

Differentiated Assessment MIGHT:

- Offer different products (unless the product is also a learning goal) based on learning preference
- Reflect lesser or greater levels of challenge or complexity
- Offer concrete or abstract applications
- Provide structured or open-ended tasks
- Provide different levels of support or scaffolding

WHEN TO DIFFERENTIATE ASSESSMENTS

In considering whether to differentiate an assessment, ask yourself the following questions:

- What components of an assessment (content, process, or product) could be modified based on the goals I want to measure?
- What components of an assessment need to be maintained to ensure their alignment with the learning goal?
- Is the format of the assessment related to a learning goal, or can students show their learning in a variety of formats?
- Is it possible to provide student choice in one of the components without affecting the focus of the assessment?
- Might I need to prescribe particular formats to particular students based on learning differences?
- Is the assessment a "test prep" experience? If so, all students need to do the same assessment so all are equally prepared when this format is presented in the future.
- Will a particular product prevent some students from effectively demonstrating their learning?
- Will offering student choice in the content, process, or product components of the assessment inhibit my ability to effectively assess student learning?

HOW TO DIFFERENTIATE ASSESSMENTS

1. First, determine whether you are assessing **content** (knowledge), **process** (reasoning abilities, performance skills), or the ability to create a particular **product** to demonstrate learning.
2. **Vary** assessment formats on a continuum as appropriate to your assessment goals by:
   - Demanding lesser or greater levels of task challenge (See Bloom's Taxonomy on page 144)
   - Demanding lesser or greater levels of application complexity
   - Providing greater task structure (specific guidelines) or more open-endedness (ability to create direction with the work)
   - Requiring concrete or more abstract applications
   - Providing more or less support or scaffolding (e.g., templates, graphic organizers, word banks)

3. Consider whether **student choice** will be provided in the assessment. Determine which element (content, process, or product) might include choice in light of the goal you are assessing. If products are open to choice, they may represent the various learning preferences.
4. Consider whether you will match students with a particular assessment or if you will allow students to choose which assessment format they will engage in.

USING VARIED FORMATS IN DIFFERENTIATING ASSESSMENTS

Once you have determined whether you are assessing content, process, or product, you begin designing your assessment format, varying tasks by levels of concreteness, complexity, structure, scaffolding, and learning preference. The first "tier" of the assessment is the task that will be appropriate for most of your students. This task or series of questions, problems, or selected response statements needs to clearly determine the students' proficiency with the standard(s)/goal(s) you are assessing. Then, think of moving that task along a continuum to create a more advanced assessment task or to modify a task based on the needs of special learners. Consider: Where's the starting point on the continuum for *most* learners? Then move the task along the continuum in the design process. Do not assume that special needs students or students engaged in RTI processes will necessarily only engage in tasks representing the left side of the continuum. Their most appropriate task may be a modification of a task on the right side of the continuum.

Consider the continuum in **Figure 21**.

Basic to Challenging Tasks

Figures 22 to 24 present sample assignments including tasks that range from basic to challenging.

Simple to Complex Applications

Figures 25 to 27 present sample assignments including tasks that involve applications ranging from simple to complex.

Structured to Open-Ended Tasks

Figures 28 to 30 present sample assignments including tasks that range from structured to open-ended.

FIGURE 21

Task-Application Continuum

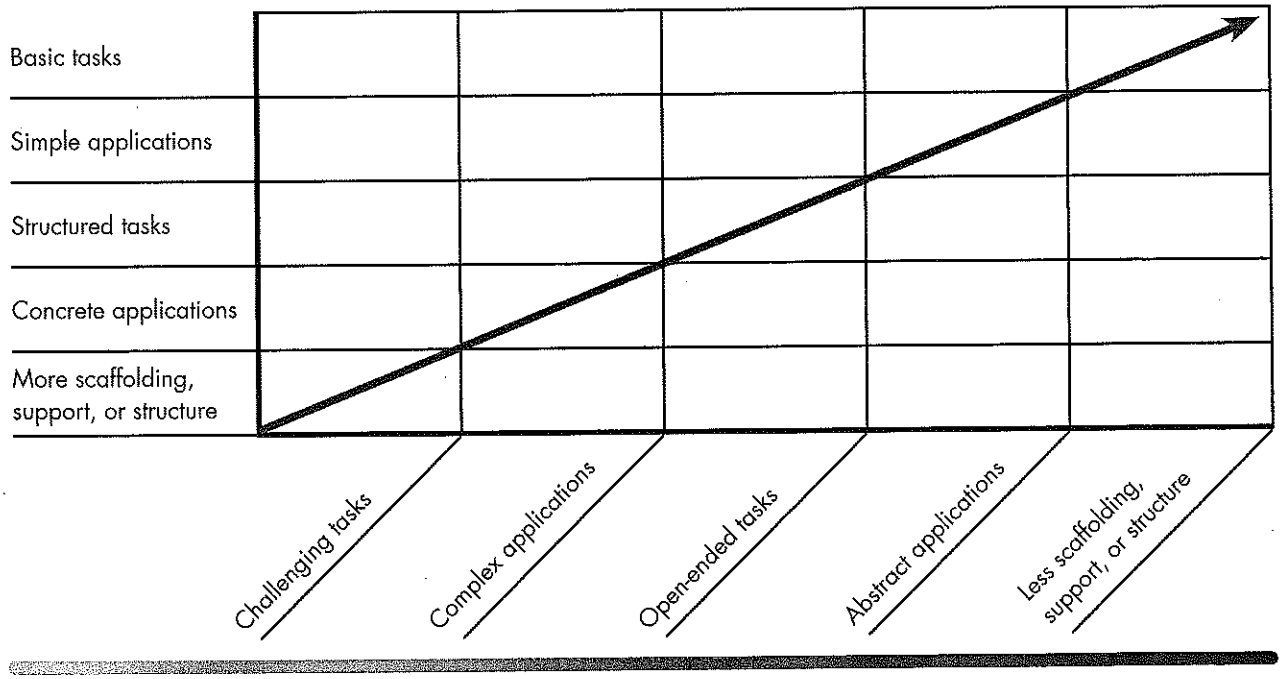


FIGURE 22

Basic to Challenging Tasks: Example #1

Biology

Elementary

Goal: Distinguish characteristics of various plant seeds

All students are given a packet of two different kinds of seeds.

Task One (Basic: application)

Students categorize the seeds and then list characteristics of each on a chart provided by the teacher.

Task Two (More challenging: analysis)

Students categorize the seeds and then compare and contrast their characteristics on a chart of like and different.

FIGURE 23

Basic to Challenging Tasks: Example #2

Family and Consumer Science

Middle School

Goal: Determine job requirements for career clusters

Task One (Basic: application, synthesis)

Diagram a career cluster. Identify the particular interests, abilities, aptitudes, skills, and personal characteristics necessary for success in these jobs by writing a classified ad for someone well suited for such positions.

Task Two (More challenging: analysis, evaluation, synthesis)

Diagram a career cluster. Consider the degree to which you possess the particular interests, abilities, aptitudes, skills, and personal characteristics necessary for success in these jobs. Write a letter to an employment agency or "headhunter" describing why you are suitable for a position in this career cluster. Use the job's necessary interests, abilities, aptitudes, skills, and personal characteristics as a way to analyze your potential for the position.

FIGURE 24

Basic to Challenging Tasks: Example #3

Social Studies

Middle School

Goal: Analyze the impact of the civil rights movement on issues of equality and fairness

Task One (Basic: application)

Essay: What were the underlying issues related to equality and fairness during the civil rights movement? Describe the issues and how the movement impacted them.

Task Two (More challenging: analysis, evaluation)

Essay: What were the underlying issues related to equality and fairness during the civil rights movement? What issues continue to be of concern today? What new concerns related to equality and fairness have emerged since the movement?

FIGURE 25

Simple to Complex Applications: Example #1

Social Studies

Elementary

Goal: Determine characteristics of urban and rural communities

Task One (Simple)

Divide your paper into two sides. Label one side "City" and the other side "Country." Use pictures, sketches, or words to show things you find only in the country or only in the city. *For example:* a car could be found in the city or in the country so it would not be on your chart.

Task Two (More complex)

Create a Venn diagram showing how cities and the country are alike and different.

Task Three (Most complex)

Think of what makes a city a special place and what makes the country a special place. Divide a piece of poster paper into two sides. On one side use characteristics of the country to demonstrate that it is the best place to live. On the other side list characteristics to demonstrate that cities are the best places to live.

FIGURE 26

Simple to Complex Applications: Example #2[19]

Math

Elementary

Goal: Calculate fractional parts of numbers

Task One Problems (Simple)

1. Abby had $15. She needed to spend $\frac{4}{5}$ of it on a flash drive for her computer. How much money did she have left after her purchase?
2. There are 45 students from your school at the new action movie. $\frac{4}{9}$ of them are girls. How many boys are attending the movie?
3. $\frac{3}{7}$ of the pens in a box are black. The rest are blue. There are 24 blue. How many pens are there all together?
4. Carlos had some CDs he didn't want anymore. He sold $\frac{4}{5}$ of them. If he sold 40 CDs, how many did he have to begin with?

Task Two Problems (More complex)

1. Marcus got $200 for work he did for his neighbors. He spent $\frac{2}{5}$ of it on a portable DVD player and $\frac{1}{4}$ of the remainder of the money on DVDs. How much money did he have left after shopping?
2. Cherise's parents want her to save some of the money she gets for baby-sitting during the summer. She put $\frac{1}{2}$ of her money in the bank and spent $\frac{1}{2}$ of the remainder. If she had $50 left after shopping, how much money did she make during the summer baby-sitting?
3. Libby works at a State Fair food booth. The booth had 1,280 corn dogs to sell. On Friday, $\frac{3}{5}$ of them were sold. On Saturday, $\frac{1}{4}$ of the remainder were sold. How many corn dogs are left to sell on Sunday?
4. Kei needs to read a book for his English class by Tuesday. He read $\frac{1}{4}$ of the pages on Saturday, and $\frac{2}{5}$ of the remaining pages on Sunday. If he still has 18 pages left to read before class, how many pages were in his book?

19 Provided courtesy of Douglas Springer, Marshall Elementary; Marshall, WI. Used with permission.

FIGURE 27

Simple to Complex Applications: Example #3[20]

Biology

High School

Goal: Conduct laboratory experiments to gather and analyze data

Task One (Simple)

Lab A

- Complete the lab "A study in osmosis: Potato cores in solutions."
- Analyze the data and calculate the mass change and volume change that occurs from day one to day two.
- Organize the data into two scatter plot graphs: the first showing solution concentration vs. mass change; the second showing solution concentration vs. volume change.
- Compare and contrast the two data sets.
- Deduce the relationship between the solutions the potato core was placed in, and the kind of mass change or volume change observed.
- Infer what the concentration of solution in a potato cell will be.

Lab B

- Complete the lab "Eggmosis."
- Make predictions as to what is going to happen each day of the lab.
- Collect daily data and produce an organized table for each day of the experiment.
- List mass change from day to day.
- Explain the changes with regard to diffusion, osmosis, and type of solution.
- Draw diagrams of each day's procedure.
- Draw before and after diagrams of the egg for each day.

Choose <u>one</u> of the extensions below:

1. Eggmosis Extension

- After completing the "Eggmosis" lab, write an introduction that includes background information on the lab.
- Discuss ways to improve the lab.
- Summarize the data, explaining not just what happens, but *why* it happens.
- Report on ways the techniques or information acquired from the lab is used in everyday life. For example, why doesn't honey or syrup require refrigeration, but fruit juice does?
- Produce a formal lab procedure for making measurements more quantitative for doing the lab. This can include using a variety of solution concentrations and extending the lab over several days, or using several eggs and measuring their changes in a variety of treatments.

2. Potato Cores Extension

- After completing the "Potato cores" lab, write an introduction that includes background information on the lab.
- Using data from the entire class, create two scatter plot graphs: one showing mass change, the other volume change.
- Analyze the two data sets to determine which will yield the most reliable and reproducible information. Justify why that data set will be more accurate.
- Discuss ways to improve the lab.
- Summarize the data, explaining not just what happens, but *why* it happens.
- List three ways the techniques or information acquired from the lab is used in everyday life. For example, why doesn't honey or syrup require refrigeration, but fruit juice does? Or, how is knowledge of diffusion and osmosis applied to delivery of intravenous medicine?

Task Two (More complex)

- Write a procedure for doing an experiment that will measure the effect of a cell's volume on diffusion. You may research some suggested investigations that cover these topics online or in books.
- Perform the lab and record your data.
- Write an analysis of the results.
- Discuss what you thought of the lab and list three ways to improve it.
- Describe what you learned and evaluate the usefulness of doing this lab in future biology classes.
- Summarize the data, explaining not just what happens, but *why* it happens.
- List three ways the techniques or information acquired from the lab is used in everyday life.

20 Provided courtesy of Quentin Cartier, Arrowhead High School; Hartland, WI. Used with permission.

FIGURE 28

Structured to Open-Ended Tasks: Example #1

English/Language Arts

Elementary

Goal: Distinguish characteristics of book characters

Task One (More structure)

Choose four of the adjectives below that describe your character. Give examples from the book to show each characteristic.

aggressive	cheerful	strong	helpful	confused	caring	careless
angry	hardworking	fearful	optimistic	jealous	hopeful	disappointed

Task Two (More open-ended)

Select four or five adjectives to describe your character. Provide examples from the book that show these characteristics.

FIGURE 29

Structured to Open-Ended Tasks: Example #2

Geography

Elementary

Goal: Analyze the interrelationship of population centers and geography

Task One (More structure)

Study the U.S. topographic map you are given with population centers noted. Based on geography, identify why the population centers are located in each area.

Task Two (More open-ended)

Study the topographic map you are given. Place population centers where you predict they will develop. Provide a rationale for their placement.

FIGURE 30

Structured to Open-Ended Tasks: Example #3

Biology

Middle School

Goal: Identify cell parts and functions

Task One (More structure)

Identify animal cell parts on a diagram. List the functions of each.

Task Two (More open-ended)

Create an analogy between an animal cell and its parts and functions, and a business, home, or factory and its parts and functions.

More or Less Scaffolding

Figures 31 and 32 present sample assignments including tasks that involve different levels of scaffolding.

USING STUDENT CHOICE IN DIFFERENTIATING ASSESSMENTS

You may decide to include student choice in one of the elements of your assessment. Remember, however, that the choice cannot affect your ability to reliably assess the standard or KUDo. For example, if you are assessing the students' ability to create a timeline, you could provide choice in content (what the timeline is about) but would need to have all students create the same product (the timeline). **Figure 33** shows an example of a task for order of operations, in which the content remains the same but the students choose how to show what they have learned (product) based on learning preference.

In **Figure 34,** a world language assessment, the content (subject pronouns) remains constant in all three tasks, however, the students are given a choice in how to represent this information (product) based on learning preference.

FIGURE 31

More or Less Scaffolding: Example #1

English/Language Arts
Elementary
Goal: Retell a story

Task One (More scaffolding)
Listen to the story your teacher reads aloud. Fill in the blanks in the story below.

First, the _____ went to the _____ house of the first pig. He blew and blew and _____. Then he went to the _____ house of the second pig. He blew and blew and _____. Finally, he went to the _____ house of the third pig. He blew and blew and _____. In the end, the wolf _____ and the pigs _____.

Task Two (Less scaffolding)

Listen to the story your teacher reads aloud. In the graphic organizer below, you may draw pictures or list words in each box to recall the elements of the story. Then, write a summary of the story in at least one sentence.

Characters	Setting
Problem	Solution

Summary:

FIGURE 32

More or Less Scaffolding: Example #2

World Language
Elementary/Middle School
Goal: Categorize Spanish vocabulary words

All students are given the same list of vocabulary words.

Task One (More scaffolding)

Categorize the vocabulary words into seven categories: *Los Adjetivos, La Familia, Los Números, El Calendario, La Comida, Los Verbos,* and *La Escuela.*

Task Two (No scaffolding)

Categorize the vocabulary words into groups. Label each group with an appropriate title.

FIGURE 33

Task Involving Student Choice: Example #1

Math
Elementary/Middle School
Goal: Describe the procedures in order of operations

Task One (Logical/mathematical)

Construct an illustrated flow chart to help you remember order of operations.

Task Two (Verbal/linguistic)

Write a text message to a classmate explaining order of operations. Include clear directions. You may use abbreviations from a text messaging online dictionary or come up with your own creative abbreviations.

FIGURE 34

Task Involving Student Choice: Example #2

World Language
Middle School
Goal: Demonstrate the meaning of subject pronouns in Spanish

Task One (Visual/spatial)

Create an illustrated poster to show the meanings of the subject pronouns.

Task Two (Musical)

Compose a rhyme, poem, or rap to help you remember the meanings of the subject pronouns.

DIFFERENTIATING A COMPONENT OF AN ASSESSMENT: TOTALLY 10

Carissa Smith, a teacher in Fargo, North Dakota, uses the strategy "Totally 10" from *Differentiating Instruction in the Regular Classroom*[21] as a method for differentiating Earth Science tests. Totally 10 is used to design student tasks at different levels of challenge and complexity. Tasks are assigned different values related to Bloom's challenge levels. Students must select and complete tasks to equal a value of 10. The following value pattern is used:

Score 2
Tasks at the knowledge, comprehension, and application Bloom's levels

Score 4
Tasks at the application and analysis levels

Score 6
Tasks at the analysis, evaluation, and synthesis levels

Score 10
Tasks at a higher level of complexity as well as challenge (think Bloom's), a more comprehensive representation of the standards or KUDo's

Since many students think "less is better," they are more likely to select the more challenging activities with the higher point values so they reach a score of 10 by doing fewer tasks. In this way, Totally 10 nudges students toward choosing challenge over "quick and easy."

21 Heacox, 2002.

Carissa asks her students to complete a paper/pencil test on her unit's content and then adds the Totally 10 component at the end of the test. She directs students to choose questions/problems from any of the four categories, but limits them to only two questions from the Score 2 category. **Figure 35** shows the choice component of Carissa's test on the topic of the ocean.

Assessments Modifications for Special Needs Students

There may be times in an inclusion classroom when modifications of assessment tasks are necessary. In these cases, in addition to basic (on-target) tasks appropriate to most students in your classroom and extended tasks for students who need additional challenge or complexity, a third assessment format emerges: modified tasks. Modified tasks may provide more support or scaffolding in order for students to successfully demonstrate their learning. The three tasks are modeled in the following science assessment on global warming. All tasks are focused on assessing the same learning goal: Students will be able to analyze different perspectives on global warming.

The on-target **basic task** used by most students in the classroom:

- Analyze two perspectives on global warming. Summarize the perspectives presenting critical facts for each.

An **extended task** is directed to those students who can benefit from more complex tasks:

- Analyze two perspectives on global warming. Create an argument for each perspective summarizing critical facts for each.

A **modified task** is provided for those students who need more support and/or different methods for demonstrating their knowledge. The student's specific learning issues determine the way in which an assessment task would be modified. Examples of a modified task for this assessment might be:

- Complete the graphic organizer to present two perspectives on global warming.

- Create a visual representation of two perspectives on global warming.

Differentiated Grading on Differentiated Assessments

Much has been written and discussed about grading in a differentiated classroom. Ethical practices suggest that if students are assigned particular assessments in light of their learning needs, each student is eligible for an identical range of points (e.g., 0–75 points) and the same range of grades (F to A). In independent assessments, accuracy of responses would determine grades even if students are engaged in different test formats. Performance assessments are evaluated based on a checklist or rubric detailing specific criteria for each assessment format. See Chapter 9 for a detailed discussion of ethical grading practices in a differentiated classroom.

FIGURE 3.5

Totally 10 Example[22]

Ocean Test

Directions: You may choose questions from any category to total a score of 10. You may pick only two questions from the Score 2 section.

Score 2

1. Does the Red River have any impact on oceans? Why or why not?
2. Define *gyres*. Draw a picture of the movement of a gyre in the Northern Hemisphere.
3. Define a *neap tide*. Draw the position of the earth, moon, and sun during a neap tide.

Score 4

1. Draw a wave. Label these features: wave length, wave height, crest, trough.
2. Determine how the following liquids would layer in a container. Number them 1 to 4, with 1 being the top layer and 4 being the bottom layer. Explain your decisions with facts about liquids.
   - __ ice cold saltwater
   - __ ice cold freshwater
   - __ hot saltwater
   - __ hot freshwater

Score 6

1. Compare *El Niño* to *La Niña*. Consider differences in ocean temperature, air temperature, and precipitation. Write your comparisons in a paragraph or construct a chart to share your ideas.
2. Predict what would happen if freshwater was placed on a hot plate. What would cause the freshwater to layer? Explain why this happens in terms of density changes, heat transfer, and convection.

Score 10

1. Imagine that an oil spill occurs off the southern tip of Florida. The governor of Florida has decided that money does not need to be spent to clean up the oil spill. It will not affect the marine organisms around Florida or along the eastern coast of the United States. Why would the governor believe this to be true?
   - A. Draw a picture showing the location of the oil spill. Include the name of the ocean and label the three nearest continents.
   - B. Draw the path the oil spill will take.
   - C. Determine the relevant currents located in this area. Draw the currents, label them, add arrows showing their paths, and tell whether they are warm or cold currents.
   - D. After completing the diagram, justify the governor's response to the oil spill.
2. Create a plan for determining the composition of the Pacific Ocean's floor. In your plan do the following:
   - A. Draw a map of the Pacific Ocean. Label the four continents that border it and Hawaii.
   - B. Mark where you will collect samples. Explain why you selected those locations.
   - C. Explain how surface currents will affect your routes to collection sites.
   - D. Explain why collecting all of your samples by Hawaii would create an inaccurate conclusion of the composition of the Pacific Ocean floor.

22 Provided courtesy of Carissa Smith, Fargo Public Schools; Fargo, ND. Used with permission.

Gregory, G. & Chapman, C. *Differentiated Assessment Strategies: One Size Doesn't Fit All.* Thousand Oaks, CA: Corwin Press. 2007.

4 Assessing Before and During Learning

Essential Questions

- How will preassessment tools optimize planning for individual needs?
- How can various differentiated assessment tools be used for immediate intervention during learning experiences to keep students on track in their learning adventures?

Effective teachers use ongoing assessment by continuously monitoring progress before, during, and after learning to guide instruction. They recognize students' needs, provide assistance with skills, clarify directions, and motivate. This chapter provides information with formal and informal tools to assess students before learning. It also presents practical, take-to-the-classroom activities for assessment during learning.

ASSESSMENT BEFORE LEARNING

Preassessment is an essential prerequisite for effective diagnosis and planning. The teacher preassesses the learner's knowledge base and experiences in relation to the upcoming topic or skill. The information gathered establishes the starting point for planning learning experiences. When teachers strategically administer preassessments before planning their lessons, they can address the students' strengths and needs during instruction.

Consider the value of preassessment presented in the following scenario. A physical education teacher is gathering information to develop

lesson plans to teach volleyball. A preassessment reveals that a few students have no knowledge or experiences in relation to the sport. Their exposure to the game needs to begin with the fundamentals. Some students know the basics of the game, the rules and regulations, and understand their role in the game. They need to engage in activities that perfect specific skills. These learners review the techniques, rules, and practice, but they do not need to learn the fundamentals of the game. The information would be boring and disengaging, and more important, their valuable time is better spent learning more complex skills. The individuals who play the game and are proficient with the skills need to participate in activities that improve their speed and accuracy. This scenario applies to most learning situations.

Strong preassessments reveal the following about the individual student:

- Knowledge base and background experience
- Interests and talents
- Attitudes, likes, and dislikes
- Feelings and emotions
- Entry point for new information

Effective preassessment tools eliminate wasted time and energy during instruction. Every teacher has the challenging and rewarding task to make each lesson meaningful for all learners.

Teachers who differentiate continuously assess students' readiness to identify the next steps in a procedure, to move to the next level, or to approach new skills or concepts. The term *readiness* means "prepared." The state of readiness, or entry point, for a new skill or concept is key to the learner's success. Teachers apply this strategy when they are thinking, "Does he know to know how to _____ before we begin _____?"

> *Teach by doing whenever you can and only fall back upon words when doing it is out of the question.*
>
> —Rousseau

Administering a variety of assessments before learning unveils the student's prior knowledge and experiences in relation to the topic or skill. The teacher analyzes the results to determine the individual's readiness level and to identify the appropriate entry point for instruction.

Observation

Teacher observation is one of the most effective assessment tools. It is important to explain the purpose and value of observations to students. When the teacher stands beside individuals while recording data, the observed students are likely to become anxious. The class needs to know that the notes are used to help them learn and improve.

Observation is a valuable assessment tool because the teacher collects data as the learner engages in an activity or assignment. With experience teachers develop keen visual, auditory, and other perceptual skills to identify a student's academic skills, strengths, needs, abilities, behaviors, social interactions, health, emotions, reactions, feelings, and attitudes. This flexible assessment tool can be used anytime, in any environment, and under any circumstance. More information about this topic is presented in the section on Anecdotal Assessment (see Chapter 5). Teachers need to observe students before and during learning to do the following:

- Document progress
- Record strengths and needs
- Select appropriate resources and materials
- Report progress to students, parents, and specialists
- Support and guide instruction
- Find patterns of behavior
- Record specific observable behavior

> *The art of teaching is the art of assisting discovery.*
>
> —Mark Van Doren

PERSONALIZE INSTRUCTIONAL PLANNING

Differentiated assessment personalizes or customizes instructional plans for individual learners. A variety of preassessment tools gather data about students so as much information as possible is available to strategically design plans. Continuously strive to create a positive learning environment that is physically, emotionally, and socially tailored to the needs of individual learners.

It is important to identify the learners' attitudes, or mind-sets, toward an upcoming topic or subject. Everyone avoids unpleasant experiences, but negativity is a formidable barrier to success. When students experience negative thoughts and attitudes, their desire to work on assigned tasks is diminished.

The familiar adage "You can lead a horse to water, but you can't make him drink" can be applied to a student's attitude. If a student has had unpleasant experiences or memories of a situation, a subject, or an activity, it is difficult to change the feelings, rebuild confidence, and create the desire to engage in an assessment task. Return to the saying about the horse. You may not be able to make him *drink*, but you can make the horse very *thirsty* if you feed him a large amount of sweet oats! In a similar way, the teacher can kindle a student's desire to work successfully on assessment activities by providing enticing, meaningful experiences.

How does a teacher discover the students' feelings and emotions as they relate to upcoming topics? The most obvious way is to ask them! Use informal and formal assessments that engage students in expressing

themselves. The goal is to unleash their individual "gut reactions." Select assessment tools that identify feelings and emotions so that specific strategies address these needs.

To personalize instructional planning, it is important to know how to use a variety of differentiated assessment tools to collect information about students. Use preplanning assessment tools and activities to do the following:

- Gather information for planning
- Add novelty and build interest
- Generate anticipation and excitement for upcoming lessons
- Target the learners' unique strengths and needs

Use a preassessment preview two to three weeks before designing lesson plans for the unit. This simple, effective idea builds anticipation, generates interest, and gives students ownership in learning through the assessment experiences. Think about movie advertisements. Weeks before a movie is released, its previews are accompanied with interviews of the leading actresses and actors. Promotions appear on billboards, magazines, newspapers, television, radio, and the Internet. It is obvious that this hype is designed to build anticipation and entice patrons. By the time the movie is released, individuals are "hooked." Use this approach to generate excitement and anticipation for new skills and topics.

Use the following preassessment activities one to three weeks before a unit of study begins. Assessment-gathering techniques, as illustrated in the following examples, are essential to planning for differentiated instruction.

Ponder and Pass

Ponder and Pass is a quick, informal preassessment activity that gathers valuable information. Tell students the topic of the coming unit. Then pass a notepad around the class. Challenge students to write notes about information they know related to the topic, skills they need to learn, facts they want to learn, and questions they may have.

Examples

- My background or experience on this topic is _____.
- I want to learn _____.
- My feelings about the topic of _____ are _____ and _____.

Select probing questions and statements that meet your assessment needs. Encourage students to submit prompts for the Ponder and Pass activity.

Response Cards

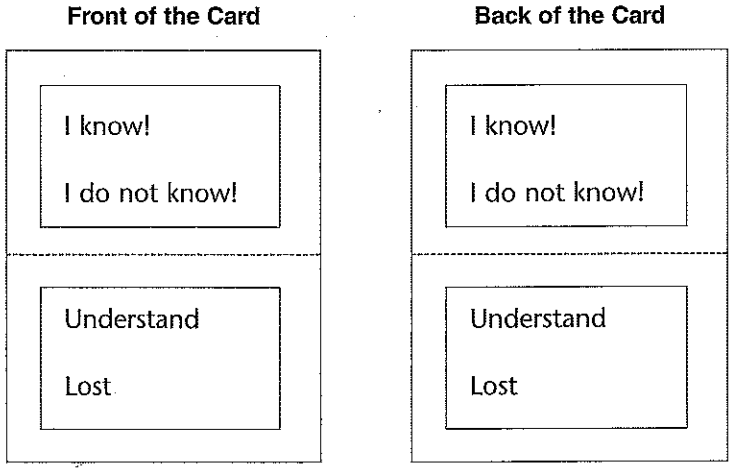
Response cards are effective and engaging preassessment tools. They can be used to quickly and efficiently assess before, during, and after instruction. While they assist the teacher in gauging the learners' prior knowledge, interest, confidence, or anxiety on a topic, they also give students valuable practice in metacognition, or thinking about their own thinking. The cards are made with two or more possible answers. Students choose a response by pointing to their answer.

As seen in the following examples, response cards are highly adaptable instruments. The following response card samples are designed as informal preassessment activities. The cards are designed with the same response choices written in precisely the same place on the front and back of the card.

Tell students to respond by placing their thumb on the response that faces them and their pointer finger on the response facing the teacher. This makes the chosen response visible on each side of the card, so the student and teacher see the selected answer at the same time.

The responses provide the teacher and the student with information about his or her knowledge base, background, feelings, emotions, attitudes, likes or dislikes, facts learned, and misconceptions (see Figure 4.1). During learning experiences the response cards can be designed to reveal feelings and understanding. During a review or cumulating activity, the

Figure 4.1 Example Duo Response Cards



cards can be used as postassessment tools to reveal changes in the student's feelings, attitudes, interests, and academic knowledge.

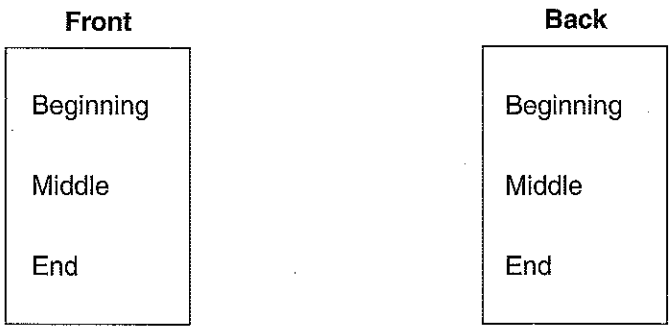
Sample List of Duo Response Card Possibilities

- I know!
- I understand!
- Agree
- True
- Fact
- Got it!
- Advantage
- I've got it!
- I like this!
- My mind is working!
- I understand!
- I feel great about this!
- I don't know!
- I don't understand!
- Disagree
- False
- Opinion
- No Clue
- Disadvantage
- I don't have a clue!
- I do not like this!
- My mind shut down!
- I am lost!
- This is not working for me!

Triple Responses

Students enjoy the uniqueness of Triple Responses. The cards are designed so the answer choices appear on the front and back (see Figure 4.2). Change the terms often to maintain interest.

Figure 4.2 Example Triple Response Cards



High to Low Responses

Vary the way responses are listed. The following examples use numbers, words, and phrases that range from high to low. They can be used to quickly learn where students are in their task or in their understanding.

3	2	1
• Happy face	• Straight face	• Sad face
• Yes	• No	• Maybe
• Yes	• No	• Some
• Happy	• So-so	• Sad
• Pluses	• Minuses	• Still questioning
• Explained fully	• Explained some	• Little or no explanation

Low to High Responses

In reverse order, the following number, word, and phrase response samples range from low to high.

1	2	3
• None	• One or two	• Three to five
• Crawling	• Trotting	• Racing
• Need more time	• Checking it over	• Finished
• Questions	• Concerns	• Comments
• Beginning	• Middle	• End

Variation: The Four-Way Response Cards

Modify the directions for the Triple and Duo Responses by adding one more word to the card. Remember to write the same words in the same place on the front and back of the card (see Figure 4.3).

Create a variety of new cards for assessment at different times. Be sure the cards fit the purpose so they show what students know or feel about learning situations and materials.

After a card is made and used the first time, students can add these assessment tools to their personal response card collection.

Content Response Cards

When working with specific content, design response cards as novel, informative tools for assessing learning. Students hold up the response card

and point to the answer or the question that applies to a statement. The teacher assesses students according to their quickness and accuracy. Observe students carefully as they prepare to respond. If they appear insecure or hesitant, or if they look to classmates for answers, make a mental or written note. Do not tell them to stop looking at someone else's answer or to turn around. The behavior is a signal that reteaching or review is needed.

The cards can be used with groups of any size across all content areas. Develop response cards to use in any subject. The following examples are for response cards in the science area (see Figure 4.4).

Figure 4.3 Example Four-Way Response Cards

Front/Back	Front/Back	Front/Back
2	Never	4. I can explain this!
4	Rarely	3. I am beginning to understand.
6	Sometimes	2. I need to ask a question.
8	Often	1. I do not understand.

Figure 4.4 Example Content Response Cards

Science examples:

Front	Back
Solid	Solid
Liquid	Liquid
Gas	Gas

The following are examples of content response cards to use with core subject areas:

Science examples:
Three response examples:
- Precipitation
- Evaporation
- Condensation

- Digestive
- Skeletal
- Circulatory

Four response examples:
- Mammal
- Reptile
- Amphibian
- Fish

Social Studies examples:
- North
- South
- East
- West

- Mountain
- Desert
- Prairie
- Plateau

History examples:
- World War I
- World War II
- Both

- Mt. Rushmore
- Liberty Bell
- Statue of Liberty

Language Arts examples:
- Beginning
- Middle
- End

- Period
- Question mark
- Exclamation point

- Setting
- Character
- Plot

- Adjective
- Adverb
- Verb

Math examples:
- Add
- Subtract
- Multiply
- Divide

- Cube
- Cone
- Sphere
- Pyramid

- Penny
- Nickel
- Dime
- Quarter

Show-and-Tell Variations

The prompts below provide varied and inviting ways to spontaneously assess student learning mid-lesson. They are friendlier alternatives to pop quizzes, which are often threatening or punitive. The

Show-and-Tell Variations provide students with opportunities to process learning in different ways while giving teachers data on their levels of understanding.

- Tell a partner
- Say the correct answer together
- Point to the answer or example in one of the following ways:

on a graph	on a bulletin board	on a transparency	in a book
in a passage	in a picture	on a diagram	in the text
in a sentence	in notes	on a chart	on a poster

- Create a sample
- Experiment and discover
- Draw it
- Give an example
- Write it
- Tell it
- Race to the answer on a chart, poster, or board

Take a Stand

The Take a Stand activity preassesses by having students move to a number that represents their knowledge base for a topic or skill. The teacher observes the learners' selected positions to gather information. This assessment activity also includes an analysis of the group discussions.

Directions

A. Place large numbers from one up to six in order around the room. Separate the numbers so there is enough space for a group of students to line up in front of the numbers.
B. Post and state the essential question, standard, fact, topic, or opinion for discussion.
C. Give the following directions to students:
    1. Think about your knowledge of _____.
    2. On a scale of one to six, rate your knowledge of this topic. (Six is the top, or expert, level; one is the lowest, or novice, level.)
    3. Record the rating of your knowledge on a piece of paper.
    4. Stand in front of the number that represents your knowledge level.

5. Discuss why you chose the position with the group.
6. Select a group spokesperson to share the discussion ideas and findings with the class.

Transfer the Take a Stand data into a pictograph by drawing a stick figure to represent each student in each group. This activity gives students opportunities to demonstrate their understandings and reveals misconceptions related to the topic. The discussion information and the student rating chart can be used to plan future lessons.

Note: Use this activity as a preassessment tool by observing the learners' positions on the scale and by listening to group discussions.

Gold Goal Band

The Gold Goal Band activity assesses the students' interests and needs. It teaches students to set personal and academic goals when they are introduced to a new topic or skill. Goals give students a mission, vision, and purpose for the experiences. The goals or objectives are incorporated in lesson plans. The students self-assess their goal attainment and draw a star on the band to signify that their goals have been attained. The teacher observes the completed stars and provides appropriate feedback.

Use the following directions to create the Gold Goal Bands. Cut wide pieces of gold paper into strips that are long enough for each student to make a wristband. Distribute the gold strips of paper. Present the following directions to the group:

Activity: Gold Goal Band

1. Trim the gold paper strip to fit your wrist.
2. Write a goal related to (*insert topic or skill*) on the band.
3. Use a paper clip to place the Gold Goal Band at the top of a page in your portfolio.
4. Write what you need to do next on the paper directly below the band.
5. Draw a large star on the band when you reach your goal.
6. Tape the Gold Goal Band around your wrist to signify that you reached your goal.

Variation: Create a Gold Goal bookmark, miniposter, or pennant.

Knowledge Base Corners

Discover students' content knowledge about a topic before planning a unit or lesson. The Knowledge Base Corners activity is an informal preassessment of students' content knowledge. Use this strategy to introduce upcoming subjects or topics. Introduce students to this activity by using hobbies or sports examples. This shows how everyone varies in their knowledge, interests, and experiences. After students see this strategy modeled several times and become accustomed to using it, they move quickly into the selected corners.

Directions

1. Use four large strips of paper, and label each one with phrases that match the following four-corner grids (see Tables 4.1, 4.2, and 4.3).
2. Post each strip of paper in a corner of the room. Read the names of the corners aloud to the students.
3. Explain that this activity will guide your plans for their instruction.
4. Ask students to write down the name of the corner that matches their response to your question or statement. *Note:* Students will be less likely to change corners to be with friends when they record their choice on paper.
5. Tell students to move to the corner that matches their knowledge level for the topic.
6. Group members give reasons for choosing their corner.
    a. Call on volunteers from each corner.
    b. The group members discuss why they chose the corner. Each group chooses a spokesperson to summarize the key points of the discussion.
    c. Each group selects a recorder to write on chart paper the reason the group members chose the corner. The group decides a novel way to present the information to the rest of the class.

Assessment Note: As students stand in their selected corners, the teacher observes who is on each knowledge level. This information is used to plan the upcoming unit or topic of study.

Assure students who are in the "Not a Clue" corner that with knowledge and experience they can move to the "I've Got It" corner.

Variations: When students know how to use Knowledge Base Corners, add novelty to the activity by changing the phrases on the corner labels.

Table 4.1 Knowledge Base Corners

Corner labels:

Not a clue	I know a *lot*!
I know some.	I've *got* it!

Rookie	Minor League
Amateur	Major League

Table 4.2 Attitude Corners

Students go to the corner that represents their feelings or attitudes toward a topic.

I do not like this.	I like most of it!
I like a few parts.	I like this and cannot wait to learn more.

Table 4.3 Interest Corners

Students go to a corner of the room that matches their level of interest in a topic.

Rarely ever interested	Often interested
Occasionally interested	Interested most of the time

Activity: Mystery Masters

The following preassessment activity reveals the learner's knowledge base and prior experiences related to the topic. The data gathered becomes a major segment of the blueprint for planning differentiated instruction.

Present the students with one to six unfamiliar or unknown bits of information. These can be mystery words, phrases, subtopics, essential questions, key concepts, or events from an upcoming unit or topic of study. Challenge the Mystery Masters to find everything they can about the terms or concepts. Tell the students to scavenge, discover, research, and investigate the meanings, solutions, or ideas associated with the mystery.

Use a Mystery Masters scavenge to create homework activities or Evening Learning Opportunities (ELOs). Give students a week or two to find everything related to the mystery. Provide a place for students to collect the items. Large boxes, tubs, tables, or corner spaces can be used to display the discoveries. Provide an entry log for students to record their contributions to the collection.

Content Knowledge Boxes

To uncover what students know and to identify misconceptions they may have, use preassessment activities before beginning a content study unit. Use content boxes to identify the entry points for planning instruction (see Table 4.4).

Example

Country _____

We will learn about the areas listed on the chart during our study of the country of _____.

Complete the chart with information you know about the country of _____. If you do not know specific facts, write your thoughts about each category.

Content Surveys

Content Surveys provide the background and knowledge base of an individual or group of students. Assess students one to three weeks before the unit is planned so the information can be incorporated during the planning process. Effective surveys or intriguing questionnaires include activities such as Mystery Words and Mystery Concepts. Content Surveys

Table 4.4 Content Knowledge Boxes

Location	Food, Clothing, and Shelter	Economy and Jobs
Government	**Population and People**	**Ways of Life and Customs**

Variation 1:

Country _____

Geography	Economy	Government	Ways of Life

Variation 2:

Compare Countries

United States of America	(Country of Study)

are effective preassessment tools when they uncover what students know about an upcoming study.

Teacher-created inventories and surveys are best. These assessment tools can be brief and provide needed information. Use surveys as data-gathering tools every month or two. Ask questions about the specific topic. Include questions and statements that delve into the student's background knowledge, past experiences with the subject, and expectations or goals related to the learning.

Develop Questions and Statements for Surveys

Example: Preassessment Survey

We will learn about _____.

How does _____ relate to you?

What do you know about _____?

How do you feel about _____?

What do you want to learn about _____?

Personal Inventories and Surveys

Personal inventories and surveys provide information about the life of a student. They provide information about the student's knowledge background and prior experiences, interests, emotions, feelings, likes, dislikes, dreams, and goals. These factors have a direct impact on a student's approach to learning, engagement, and level of performance.

Brainstorming

Use brainstorming to give students a voice. Use questions similar to the following to gather data related to what the students already know about a standard, concept, topic, or unit of study.

- List the terms, facts, or concepts you know about our new topic.
- What experiences have you had with the information?
- Have you heard about this subject in other classes? When and where?
- What have you studied that would compare to this subject?
- List books or articles that relate to the information.
- What do you think the author is going to share about the topic?
- List the differences between this topic and _____.
- Share information you have about the topic.

- How have you used this information?
- What do you predict about the new material?

Note: Remember to tell students to write their individual responses before sharing them with a group.

Color Clusters

The following Color Cluster activity uses a color key to identify students' levels of knowledge related to a topic. Give each student a set or cluster of colored disks made from construction paper to match a key similar to the one below. Ask each student to display the color that reflects his or her level of learning of a particular skill or topic.

Example Key

Purple = On the launchpad
Yellow = Cautious
Green = Moving on up
Blue = Soaring
Red = Full speed ahead

Variation: Ask students to place the disks in their desks or to keep them in an accessible place. Ask them to show the color that reflects their feelings about a topic or task.

Gallimaufry Gatherings

This ELO activity not only activates and assesses prior knowledge but also develops interest in an upcoming topic or unit of study through anticipation and curiosity. Students create a mental organizer for new knowledge to come. Assign this activity a week or two before the study begins.

Tell students they are going to create a topic or unit gallimaufry, or hodgepodge, of various things. Place the topic on the outside of a box, bucket, tub, crate, or shelf. Challenge students to become scavengers, discoverers, and investigators to find the solutions and answers to a posed problem or question related to the upcoming topic, person, or event. Encourage the learners to fill the container with written materials related to the topic.

Learners find the resources or information in various media, across many genres. Some ways to find information are through interviews, magazine articles, newspaper clippings, on the World Wide Web, or on television. The teacher and students need to screen the material for accuracy. Create an entry form for students to complete when they contribute to the

collection (see Figure 4.5). The collection enhances the learning atmosphere as students develop a feeling of ownership in the new learning experience. Use the collection as a resource to enhance the unit of study.

The Gallimaufry Gathering activity, and similar preassessment tools, are designed to do the following:

- Develop interest in the topic
- Involve students in the search
- Give learners responsibility and ownership in gathering the information
- Develop a resource reference collection
- Increase background knowledge on the upcoming topic
- Create curiosity and build anticipation

Figure 4.5 Gallimaufry Gathering Grid

NAME _____

TOPIC _____

1. I found _____
2. It tells _____
3. We can use it to _____ _____
Signature: _____ Date: _____ Resources: _____

As students engage in the activity, their knowledge base expands. They build a foundation for learning with each discovery. Students become responsible for their own learning as they actively participate in preparations for the new topic of study. The hype accompanying this activity creates curiosity. Anticipation builds until the topic has its premiere. Create opportunities for students to share the results of their discoveries.

FORMAL PREASSESSMENT

Using a variety of formal and informal preassessment tools shows what the learner knows prior to the study. These instruments can be used to preassess and then be used again for postassessment as a formal measure of the learning that has taken place.

Developing the Pretest

Adapt the following guidelines to create a pretest. Keep in mind that a pretest should reflect the learners' strengths as it identifies their needs. It takes time to strategically develop a pretest, however; it is a valuable tool when the findings guide differentiated instruction.

Administer the preassessment two weeks before teaching the new topic or unit.

1. Design the test items so no one can achieve a score of 100 percent. Be sure the items challenge every student taking the test.
2. Design the items so no one receives a score of 0 percent.
3. Plan the test to cover the full range of learning, from the simple to the complex.
4. Present items that range from hands-on to abstract.
5. Disperse easy and difficult questions or tasks throughout the assessment. This deters students from assuming that the easiest portion of the assessment is at the beginning. Often students stop trying when they come to a difficult question because they assume the remaining tasks will be even more difficult.
6. Include manipulatives in the preassessment if they are used in related lessons.
7. Use the same pre- and posttest to analyze growth.

Vary the formats of the pretest. For example, use open-ended questions, graphic organizers, matching, multiple choice, and fill in the blank.

Design the items to challenge learners with different levels of questions and thinking.

ASSESSMENT DURING LEARNING

The ongoing gathering of information related to the student's progress during the learning is essential. This is the time to plan strategically to reteach, readjust, revamp, enhance, or enrich according to the diverse needs of the learners. Continuous quality assessments with interventions avoid pitfalls and struggles that discourage and lead to failure.

The following unique assessment strategies and activities are designed to excite and stimulate the student's mind.

Baggie Tools

Use the following Baggie Tool ideas as unique ways to assess students as they are learning. Provide each student with a "baggie" to store their personal assessment tools. After tools are made and used, students add them to the baggie collection. Remind students to collect tools throughout the year. When students need to use a specific assessment strategy, they use the appropriate handy Baggie Tool. For example, when using a multiple-choice activity, each student uses an "ABCD" response card.

The following list provides samples of collectible assessment tools:

response cards	game pieces	stickers	stars	disks
self-stick notes	self-stick flags	markers	highlighters	rulers
pen lights	tongue depressors	Popsicle sticks	fake fingers	dots

assessment cards small strips of colored transparency paper

Game Pieces

The following section provides various ways to use game pieces for assessment. Gather spare board pieces or disks from games such as Monopoly or Clue. Ask parents to donate pieces from games that are no longer used. Give each student some red and green houses from the Monopoly game. Here are a few examples of various ways to use these game pieces for assessment:

- Place the green houses on statements in the passages that give information, the definition, attributes, or details about the words. Share the findings with a partner, a small group, or the entire class.

- Place the red house on the main idea. Place a small green house on each supporting detail.
- Place a green house on each example in the chapter that fits the new concept.

Note: If green and red houses are not available, use two other objects to identify main ideas and supporting details.

Cash In

Use a roll of cash register tape. As the tape is passed around the group, each student takes a turn writing three words from the story or content on the paper. The next person adds three words that connect with the ongoing story. Contributing students place their initials beside their three written words.

A Bump in the Road

The student writes a problem he or she has with the learning at the top of a piece of paper and passes it to three to five classmates to obtain their suggestions. Each person initials his or her suggestion(s).

Sticky Tabs

Cut a sticky note into smaller tabs. These markers create unique assessment tools that are easy to observe as students engage in tasks. The following activity is an example of how Sticky Tabs are used to find the mystery word, meaning, character, fact, step, or rule:

1. Locate the mystery _____.
2. Find three ways the _____ is used.
3. Place a tab on each example.

Observe and Assess

- Was the student accurate in locating each example?
- Was he or she able to find the information and tab it quickly?

Dots, Stickers, and Stars

The following activity uses dots, stickers, or stars in skimming and scanning for important words or information:

1. Review the notes you wrote in class.
2. Locate important points, words, or phrases in a chapter or passage.
3. Identify each important point by placing a sticker, dot, or star on it.

Observe and Assess

- Were the student's choices and selections of important components correct?
- Did the student exhibit confidence in making the choices?
- What would improve this learner's skills, strategies, and speed in finding information?

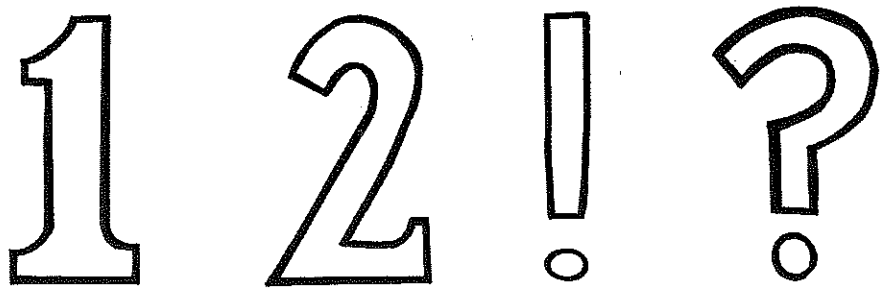
Double Duty

The Double Duty activity can be used to record important information (see Figure 4.6). Create numbers using wide double lines. Students write their responses to Number 1 inside the numeral or around it.

Variations

- Use the Double Duty activity to compare words, topics, or objects.
- Draw the numbers 1, 2, and 3 with double lines to respond to three questions.
- Draw a question mark using double lines. Write a question, concern, or the answer to a question inside the question mark.
- Draw a large exclamation point using double lines to create a writing space inside it.
- Students respond to the following prompt: My "Aha!" for today is . . .

Figure 4.6 Double Duty



Musical Notes

Students enjoy applying music to self-assessments. Challenge students to select theme songs or musical instruments to accompany the study topics, and have them explain why they link the tune to the learning.

Use the following list of examples to demonstrate how to select appropriate theme songs to express understanding of a topic:

Songs	Why?
"Celebrate"	Because I've "got it!"
"I Can See Clearly Now"	Because I understand the information
"Leaving on a Jet Plane!"	Because I am "soaring" with this idea.

INSTRUCTIONAL STRATEGIES AS ASSESSMENT TOOLS

Taking Notes

Note-taking skills do not come naturally to learners. Often adults take this ability for granted, assuming that students understand the thinking processes that accompany note taking. Often students do not understand the benefit, rationale, purpose, and value of taking notes.

These skills must be explicitly taught and modeled routinely during lectures, discussions, readings, demonstrations, and activities. The teacher usually writes notes for the whole class to view, displaying them on the board, a chart, a computer monitor, or an overhead. When modeling note-taking skills, students need to hear the teacher's inside thinking or self-talk.

Add novelty to note taking to improve the students' ability to remember important information. When a unique reference mark is used, key points are easier to remember and retain.

Examples

- Highlight important terms or key ideas.
- Tab important or confusing sections of text.
- Write questions or confusions on self-stick notes, and bookmark the place.
- Draw a box to enclose each key item.
- Place an asterisk, star, or check mark beside important items, such as key names, dates, events, or terms.
- Circle a key idea.

- Draw an exclamation point next to the most important facts, such as "George Washington was the first president of the United States!"
- Place a question mark before a confusing word, phrase, or sentence.
- Write the following responses in notes to highlight important pieces for future study:

WOW	OK	YES	Got it
No clue	Duh!	Help	Lost

Color Coding

Use color coding to identify steps in a procedure, to organize an agenda, or to highlight items in a list. Involve students in selecting the order of the colors in the sequence. School colors may be used as the first two colors. This helps students remember the beginning sequence. Post the color sequence. Maintain the same color scheme throughout the year. When a school establishes a color-coding sequence, the visual become a guide for the entire student body to remember rules or general procedures.

Example: 1 = black 2 = blue 3 = green 4 = red 5 = purple

- Color-code with markers, crayons, colored pencils, or construction paper.
- Choose the color to identify the most important information.
- Choose the color to identify the least important information.
- Write each step of a procedure using colored pencils or pens to match the key.

Color Overlays

Place a clear, colored transparency over a page of print to assist students as they read information. The color overlay removes glare from a page like a pair of sunglasses. Some students have reported that the color keeps the words from appearing to move on the page. Extensive research on the use of color with reading materials was conducted by Marie Carbo, a learning styles expert. Use a colored, transparent clipboard as an overlay when reading a book or other written material (Carbo, 1986). Sunglasses with rose, blue, or yellow lenses will also work.

Design Delights

Have students choose a favorite shape or symbol that makes a connection with information from the unit or topic of study. Students decorate the outline of the shape by recording key points on and around it.

Sketches From the Mind

Have students use simple, miniature drawings from the unit or topic of study to mark important facts or concepts. The drawings provide a mental picture or symbol to locate and remember information.

Examples

1. In a unit on food study, draw an apple beside each important fact related to fruit.
2. In a transportation unit with the categories *land, sea,* and *air,* draw a road beside land vehicles; draw waves beside sea vehicles; and draw a cloud beside air vehicles. If the vehicle fits more than one category, use each symbol that matches.

Variation: Label it!

L for land *S* for sea *A* for air

1. In a math unit that teaches process and procedures, place the operational symbol, such as +, −, ×, or ÷, beside the steps.

SELF-TALK

Self-talk is internal dialogue or thinking that takes place in an individual's mind as he or she analyzes questions, works through problems, or processes information. The purpose of self-talk is to raise the student's level of consciousness related to his or her own thinking. It is a learning tool to use during instruction. It is also a strategy to stimulate recall during assessments. Teach effective self-talk. Model, model, and model again the inside thinking that occurs as you use this tool in daily lessons.

Use the following opportunities to model self-talk:

- To explain the sequence of a procedure
- To follow directions
- To explain the thinking process for solving a problem

Self-Talk to Process Information

Students need to become aware of the value of self-talk as they engage in learning activities and assessments.

Before

- Is my mind focused on the task?
- Do I have what I need to get started?
- How do I get started?
- How can I organize my thoughts?

During

- Am I following directions?
- Does my answer make sense right here?
- Do I need a new category?
- Am I placing each piece of information in the right category?

Note: When students understand how to use self-talk for an assessment activity, challenge them to create and model self-talk in their next assignments.

By using multiple assessments before and during learning, the teacher is aware of individual strengths and weaknesses and can plan and adapt instruction to meet those needs. Ongoing assessment also provides constructive feedback to students and leads them to develop habits of metacognition and self-monitoring for their own learning.

Examples

- This is my inside thinking.
- I will explain my step-by-step thinking for this procedure.
- Listen as I bring my inside thinking outside!
- I think this goes right here. Does that make sense to me?
- Now I need to _____.
- Is this fact important? Why?
- I need to write this down!

Keep in mind that a major goal of assessment is for students to know how to engage in self-assessment in all subject areas and in their daily activities. They can learn to assess their thinking during a process by writing their steps in thinking, telling a partner, or discussing it with a small group. Practice in using metacognitive skills teaches students to organize their thoughts, understand their thinking processes, and express themselves reflectively. When students understand and productively use self-talk, they have a valuable tool at their fingertips to use in all subjects and throughout life.

Activity: The Brain's Speech Bubble

Use the following activity to introduce and model self-talk. Students will see how well it works. The speech bubble represents the self-talk so that students can see their own inside thinking processes.

1. Make a large speech bubble.
2. Select a student to act as the speaker, or have the teacher explain his or her inside thinking while solving a problem.
3. Each time the person tells his or her thinking for a step, the bubble is held directly above the speaker's head. The speaker stands beneath the Brain's Speech Bubble as he or she verbalizes the brain's thinking for the class.
4. The speaker moves away from the speech bubble when not voicing his or her inside thinking to the class.

The speaker may use the following self-talk examples while standing beneath the Brain's Speech Bubble. Step to the side to explain the brain's thinking on each question. Introduce the questions for self-talk during and after assessments. Self-talk examples are used throughout this book.