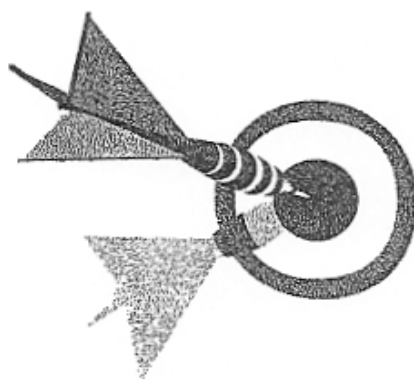


# Instructional Strategies That Work: A Tool Kit for Educators

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## #7: SETTING OBJECTIVES and PROVIDING FEEDBACK



Based on the research and materials of  
Dr. Robert Marzano and Dr. Debra Pickering  
of the Mid-continent Research for Education and Learning (McREL) Institute  
and other sources as noted

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2002-2003

## SETTING OBJECTIVES AND PROVIDING FEEDBACK

Let's celebrate! The field of education is at a turning point; the "art" of teaching is rapidly becoming the "science" of teaching. This is a relatively new phenomenon as reported by Robert Marzano and Debra Pickering in the ASCD publication, *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement*.

After examining decades of research findings to distill the results, Marzano's team at McRel had defined nine broad K-12 teaching strategies that have positive effects on students' learning:

- Identifying similarities and differences
- Summarizing and note taking
- Reinforcing effort and providing recognition
- Homework and practice
- Nonlinguistic representations
- Cooperative learning
- Setting objectives and providing feedback
- Generating and testing hypotheses
- Questions, cues, and advance organizers

The instructional strategy of setting objectives and providing feedback has proven in the research to show an effect size of .61. Generalizations from the research about setting objectives and providing feedback include:

✓ **Instructional goals narrow what students focus on.** One of the more interesting findings in the research is the negative effect that setting goals or objectives has on outcomes other than those specified in the objectives.

✓ **Instructional goals should not be too specific.** One fairly stable finding in the literature on goal setting is that instructional goals stated in behavioral objective format do not produce effect sizes as high as instructional goals stated in more general formats.

✓ **Students should be encouraged to personalize the teacher's goals.** Once the teacher has established classroom learning goals, students should be encouraged to adapt them to their personal needs and desires. If goals are stated in highly specific, behavioral objective format, they are not amenable to being adapted by students (Marzano, Pickering and Pollock, 94-95).

The intent of the setting objectives and providing feedback packet is to give teachers easy access to classroom strategies and models that easily can be adapted into lessons at all grade levels and in all content areas.

This packet includes:

- Steps to the thinking processes of setting objectives and providing feedback
- Models of graphic organizers for lesson planning
- Assessment activities for providing feedback on learning goals
- Definitions, examples, and sources of rubrics
- Bibliography

## Meta-Analysis of Research On Instruction

|   | <b>ES</b>   | <b>P Gain</b> | <b>N</b>     | <b>SD</b>  |
|---|-------------|---------------|--------------|------------|
| <b>Identifying similarities and differences</b>           | <b>1.61</b> | <b>45</b>     | <b>31</b>    | <b>.31</b> |
| <b>Summarizing, note taking</b>                           | <b>1.00</b> | <b>34</b>     | <b>179</b>   | <b>.50</b> |
| <b>Reinforcing effort and providing recognition</b>       | <b>.80</b>  | <b>29</b>     | <b>21</b>    | <b>.35</b> |
| <b>Assigning homework and practice</b>                    | <b>.77</b>  | <b>28</b>     | <b>134</b>   | <b>.36</b> |
| <b>Generating nonlinguistic representations</b>           | <b>.75</b>  | <b>27</b>     | <b>246</b>   | <b>.40</b> |
| <b>Using cooperative learning</b>                         | <b>.73</b>  | <b>27</b>     | <b>122</b>   | <b>.40</b> |
| <b>Setting objectives and providing feedback</b>          | <b>.61</b>  | <b>23</b>     | <b>408</b>   | <b>.28</b> |
| <b>Generating and testing hypotheses</b>                  | <b>.61</b>  | <b>25</b>     | <b>63</b>    | <b>.79</b> |
| <b>Providing cues, questions, and advanced Organizers</b> | <b>.59</b>  | <b>22</b>     | <b>1,251</b> | <b>.26</b> |

**ES** = Average Effect Size. When conducting a meta-analysis, a researcher translates the results of a given study into a unit of measurement referred to as an effect size. An effect size expresses in standard deviations the difference between the increased or decreased achievement of the experimental group with that of the control group.

One of the more useful aspects of an effect size is that it can be easily translated into percentile gains. Being able to translate effect sizes into percentile gains can lead to dramatic interpretations of the possible benefits of a given instructional strategy. This means that if the effect size computed for a specific study is 1.0, the average score for students in the control group is 1.0 standard deviation higher than the average score of students in the control group. Another way of saying this is that a student at the 50<sup>th</sup> percentile in the experimental group would be one standard deviation higher than a student at the 50<sup>th</sup> percentile in the control group.

Robert Marzano, *What Works In Classroom Instruction*, McRel, 2000

**P Gain** = Percentile Gain (the maximum percentile gains possible for students at currently the 50<sup>th</sup> percentile).

**N** = Number of effect sizes (studies).

**SD** = Standard Deviation (the measure of the variability of scores around the mean).

## **I. Define Term**

Setting objectives is the process of creating learning goals for each unit and/or activity. These goals need to be set both by the teacher and the students. The teacher gives the direction for learning and each student uses that direction to personalize his/her learning. Providing feedback is the process of providing learners information on their progress toward the learning goal.

## **II. Steps for Writing Objectives from Standards**

- a. Identify the standard and/or grade level benchmark to be met.
- b. Break the benchmark into the specific vocabulary, content, and processes students would have to know in order to perform the standard.
- c. Select a verb from Bloom's taxonomy that matches the critical thinking required in the standard.
- d. Combine one or more parts of the unpacked standard with the verb into a sentence. "The students will . . ."

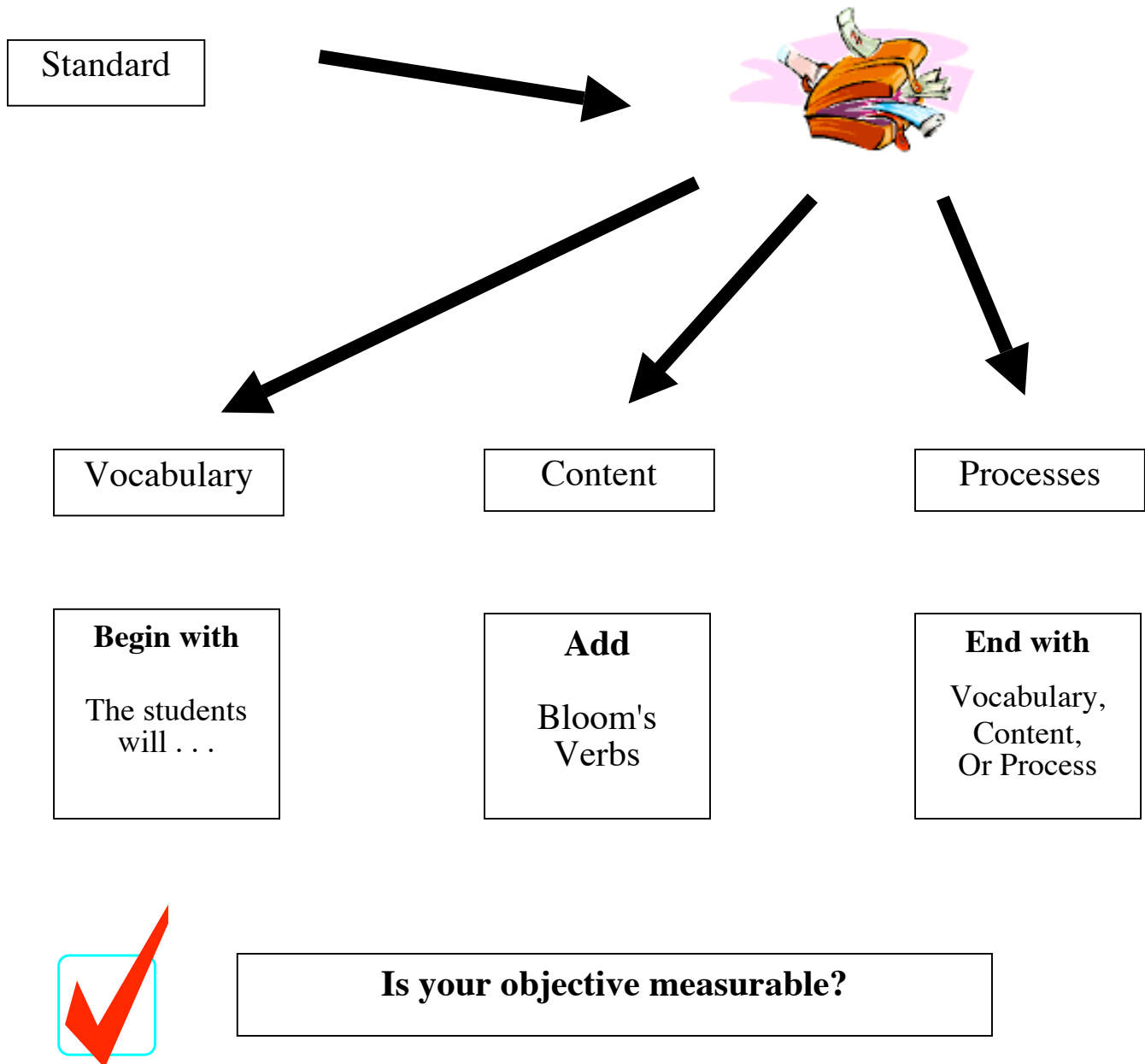
### **Steps for Personalizing Objectives**

- a. Identify general unit objectives for students.
- b. Students use the general goal to create specific learning goals they hope to accomplish during the unit.
- c. State the learning goal daily. As part of the beginning of the day routines, have students reflect on their personalized goals to see if it can be met or added to each day.

### **Steps for Setting Objectives and Providing Feedback**

- a. (Set) learning goals at the beginning of a unit.
- b. (Ask) students to set their own learning goals at the beginning of the unit.
- c. (Provide) feedback on learning goals throughout the unit.
- d. (Ask) students to keep track of their progress on learning goals.
- e. (Provide) summative feedback at the end of a unit.
- f. (Ask) students to assess themselves at the end of a unit.  
(Marzano, Pickering and Pollock, 82).

## Writing Objectives from Standards



Note: The concept of "unpacking standards" to create objectives comes from Maria Foseid, Staff Development Specialist, Cherry Creek Schools, Greenwood Village, Colorado.

## Lesson Planning

1. Identify the Standard(s) being addressed:

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2. Identify the grade level **Benchmark(s)** being addressed:

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3. Identify the **Vocabulary**, **Content**, and **Processes** embedded in the benchmarks.

| Vocabulary | Facts/Concepts | Processes |
|------------|----------------|-----------|
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## Lesson Planning

4. Identify the **Lesson Objective(s)** by combining a verb from Bloom's taxonomy with vocabulary, content, or a process from the benchmark.

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5. Identify **Test Questions, Performances, and/or Rubrics** that will measure students' mastery of the lesson objectives.

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6. Determine which **Instructional Strategies** will be effective and how you will use them.

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**Setting Learning Goals**

| Teacher Learning Goals                   | Student Learning Goals  | Progress on Learning Goals   |
|--|---|--|
| What does the teacher want you to learn? | Within the teacher's goals what most interests you? What do you want to learn more about? | Have you learned what the teacher wanted you to learn and what you want to learn? How do you know? |
|  |   |  |



## **PROVIDING FEEDBACK**

Grant Wiggins

Grant Wiggins has written extensively on the importance of feedback for learning. Listed below are quotes from his talk "Feedback: How Learning Occurs."

✓ "Feedback is value-neutral. It describes what you did and did not do . . . That's what feedback is. No praise. No blame. It just describes what you did and did not do in terms of your goal."

✓ "I'd like to make four simple points about (feedback):

- e. You can't learn without feedback.
- f. It's not teaching that causes learning. It's the attempts by the learner to perform that cause learning, dependent upon the quality of the feedback and the opportunities to use it.
- g. A single test of anything is, therefore, an incomplete assessment. We need to know whether the student can use the feedback from the results.
- h. The more self-evident the feedback to the performer, the more likely the gains."

✓ "An assessment must include the student's ability to use feedback, because that's what eventual autonomous performance requires."

✓ "Self-assessment is not the goal. Self-adjustment is the goal."

(Wiggins, 2002)

## Activities for Providing Feedback on Learning Goals

One of the steps to effectively provide students feedback on their progress toward a learning goal is to use instructional strategies to assess learning. The following activities are quick checks for understanding that allow the teacher to assess student knowledge of concepts and provide the opportunity for feedback.

✓**Minute Paper**-At the end of a class, students summarize the main ideas/ concepts from the day's class.

✓**Muddiest Point**-At the end of class students write about the concept they had the most difficulty understanding and their current knowledge of that concept.

✓**Annotated Portfolios**-Students provide a sample of their work and a brief discussion on how each piece demonstrates understanding of a key learning goal.

✓**Concept Map**-Give students a list of concepts/terms and have them order and discuss the relationship among concepts.

✓**Documented Problems**-Students explain each step they have taken in the solution to a problem.

✓**Application Card**-After learning a new concept, students write an example of that concept on a note card.

✓**Application Modeling**-Students demonstrate how concept would be applied in real life.

✓**Generate Test Questions**-Students generate test questions assessing the key concepts of the unit.

✓**Student Confidence Survey**-Students indicate how confident they feel about their understanding of key concepts in a unit or course.

✓**Learning Logs**-Students keep records of assignments and the successes and errors in each. At regular points in the unit, students should go back through the log to reflect on learning.

✓**Misconception/Preconception Check**-Students fill out a checklist at the beginning of a unit to highlight opinions that could lead to misunderstandings about content.

✓**Background Knowledge Probe**-Students fill out a questionnaire about their knowledge of concepts related to a unit.

✓**Problem Recognition**-Students are given examples of common problems types and asked to identify the type and the principles behind them.

(University of Texas [n.d.] )

# Rubrics

Rubrics are excellent tools to provide students with feedback on their learning. A rubric is a scoring guideline comprised of the criteria the learning activity or performance will be judged on. It provides a detailed description of the successful performance of the task. Rubrics show students the expected level of performance and provide feedback on their progress toward that performance.

## Rubrics and Feedback

Below are some guidelines for using rubrics for assessment from the Schreyer Institute for Innovation in Learning (2001).

✓"If you are providing a rubric , share it with students before they complete the assignment. This will help them to understand the performance standards."

✓"Rubrics can provide both a grade (summative evaluation) and detailed feedback to improve future performance (formative evaluation)."

✓"Use rubrics to promote student self-assessment of their own learning and performance."

## **Types of Rubrics**

### **Holistic**

In holistic rubrics the performance is evaluated as a whole. These rubrics may have only one description for performance.

#### **Four-Point Rubric for Extended Constructed-Response Items**

This rubric is used to score students' responses to extended constructed-response items. These items require the students to use problem-solving skills that may require the construction of a graph or a model, the extension of a pattern, or the use of geometric relationships and spatial reasoning. These items may also include an explanation of reasoning, evaluation of methods, or application to real-world situations.

##### **4 Points**

The response accomplishes the prompted purpose and effectively communicates the students' mathematical understanding. The student's strategy and execution meet the content (including concepts, technique, representations, and connections), thinking process, and qualitative demands of the task. Minor omissions may exist, but do not detract from the correctness of the response.

##### **3 Points**

The response provides adequate evidence of the learning and strategic tools necessary to complete the prompted purpose. It may contain overlooked issues, misleading assumptions, and/or errors in execution. Evidence in the response demonstrates that the student can revise the work to accomplish the task with the help of written feedback. The student does not need a dialogue or additional instructions.

##### **2 Points**

The response partially completes the task, but lack adequate evidence of the learning and strategic tools that are needed to accomplish the prompted purpose. It is not clear that the student is ready to revise the work without more instruction.

##### **1 Point**

The response demonstrates some evidence of mathematical knowledge that is appropriate to the intent of the prompted purpose. An effort was made to accomplish the task, but with little success. Minimal evidence in the response demonstrates that with instruction the student can revise the work to accomplish the task.

##### **0 Points**

The response lacks evidence of mathematical knowledge that is appropriate to the intent of the task.

*Cherry Creek Schools, 2002 Mathematics Curriculum Guide*

## Types of Rubrics (cont.)

### Analytic

Analytic rubrics provide specific feedback on different skills within a performance. Each skill has a separate set of descriptions.

| Cherry Creek School District Middle School Rubric: Grades 6,7,8   |   |   |   |   | Revised July, 1999 |
|---|---|---|---|---|--------------------|
| CONTENT   | ORGANIZATION  | WORD CHOICE/VOICE   | SENTENCE FLUENCY  | MECHANICS   |                    |
| <ul style="list-style-type: none"> <li>Provides main idea and details express analytical, and/or creative thinking and ideas fully address purpose and topic (prompt)</li> </ul>  | <ul style="list-style-type: none"> <li>Effective sentence structure enhances meaning</li> <li>Inviting opening</li> <li>Arrangement of ideas is logical and purposeful</li> <li>Transitions used so effectively that the reader doesn't notice them</li> <li>Satisfying conclusion</li> <li>Format appropriate to purpose</li> </ul>        | <ul style="list-style-type: none"> <li>Precise and vivid vocabulary enhances meaning, paints strong images, and establishes mood</li> <li>Figurative language used effectively</li> <li>Shows energy and passion for the topic</li> <li>Strong voice - sounds like this writer and no one else</li> </ul> | <ul style="list-style-type: none"> <li>Sentences well crafted, fluent and clear</li> <li>Varied and effective sentence lengths and patterns</li> <li>No run-ons; fragments, if used, add to style</li> </ul>                                    | <ul style="list-style-type: none"> <li>Virtually all capitals, spelling, and punctuation (commas, apostrophes, quotations) correct</li> <li>Paragraphs properly indicated</li> <li>Correct grammar and usage including subject/verb agreement and/or consistent verb tenses</li> <li>Text appears neat, edited, and polished</li> </ul>                   |                    |
| <ul style="list-style-type: none"> <li>Provides main idea</li> <li>Details are developed appropriately but may not move beyond the obvious</li> <li>Clear purpose and topic (prompt)</li> </ul>   | <ul style="list-style-type: none"> <li>Structure guides reader through text without confusion</li> <li>Effective opening</li> <li>Arrangement of ideas is logical and clear</li> <li>Transitions present but may be obvious</li> <li>Effective conclusion</li> <li>Format appropriate to purpose, but structure may be formulaic</li> </ul> | <ul style="list-style-type: none"> <li>Appropriate vocabulary</li> <li>Experiments with figurative language</li> <li>Shows some interest or enthusiasm for the topic</li> <li>Voice is pleasant and/or intriguing, though not unique</li> </ul>   | <ul style="list-style-type: none"> <li>Sentences are generally complete, correct, and fluent</li> <li>Some variety in sentence lengths and/or patterns</li> <li>Minimal run-ons or fragments</li> </ul>   | <ul style="list-style-type: none"> <li>Minor errors in capitalization, spelling, and/or punctuation (commas, apostrophes and quotations)</li> <li>Paragraphs properly indicated</li> <li>Minimal errors in grammar and usage including subject/verb agreement and/or consistent tenses</li> <li>Text appears neat, edited, and polished</li> </ul>        |                    |
| <ul style="list-style-type: none"> <li>Main idea may be unclear</li> <li>Details are minimal, unnecessary, and/or irrelevant</li> <li>Purpose is unclear and/or may distract from topic (prompt)</li> </ul>                             | <ul style="list-style-type: none"> <li>Structure may be confusing or ineffective</li> <li>Opening may be weak</li> <li>Arrangement of ideas may be illogical and/or unclear</li> <li>Missing or unclear transitions</li> <li>Conclusion may be weak</li> <li>Key elements of format missing</li> </ul>                                      | <ul style="list-style-type: none"> <li>Limited, repetitions or inaccurate vocabulary</li> <li>Limited or inaccurate use of figurative language</li> <li>Shows little interest or enthusiasm for the topic</li> <li>Voice is ordinary</li> </ul>   | <ul style="list-style-type: none"> <li>Sentences may be awkward or choppy</li> <li>Sentences may be simplistic or repetitive</li> <li>Noticeable run-ons or fragments</li> </ul>  | <ul style="list-style-type: none"> <li>Capitalization, spelling, and/or punctuation (commas, apostrophes, quotations) errors detract but do not interfere with meaning</li> <li>Errors in paragraphing</li> <li>Errors in grammar and usage including subject/verb agreement and/or verb tenses</li> <li>Reads and/or looks like a rough draft</li> </ul> |                    |
| <ul style="list-style-type: none"> <li>Main idea is missing</li> <li>Ineffective, inaccurate, or missing details</li> <li>Off topic and/or without purpose or topic (prompt)</li> <li>Illegible or too brief to be evaluated</li> </ul> | <ul style="list-style-type: none"> <li>Lack of structures interferes with meaning</li> <li>Opening is missing</li> <li>Arrangement of ideas is ineffective or nonexistent</li> <li>No transitions</li> <li>Conclusion is missing</li> <li>Format does not meet purpose</li> <li>Illegible or too brief to be evaluated</li> </ul>           | <ul style="list-style-type: none"> <li>Simplistic vocabulary; inaccurate word choice</li> <li>No use of figurative language</li> <li>Shows no interest or enthusiasm for the topic</li> <li>Lacks voice</li> <li>Illegible or too brief to be evaluated</li> </ul>  | <ul style="list-style-type: none"> <li>Predominantly choppy or awkward sentences</li> <li>Sentence structure blocks meaning</li> <li>Run-on sentences or fragments interrupt thought</li> <li>Illegible or too brief to be evaluated</li> </ul> | <ul style="list-style-type: none"> <li>Capitalization, spelling, and/or punctuation (commas, apostrophes, quotations) errors block meaning</li> <li>Incorrect paragraphing</li> <li>Errors in grammar and usage block meaning</li> <li>Reads like a rough draft</li> <li>Illegible or too brief to be evaluated</li> </ul>                                |                    |



## Components of Rubrics:

- ✓ A range of **performance descriptors** so that students can see both the standard and their level of performance.
- ✓ A **scale of points** that can be assigned. Generally rubrics have a range of 3-7 points. The points are delineated by performance descriptions.
- ✓ Smaller **aspects of the task/performance** that can be judged independently (Relearning by Design, Inc., 2000).

### Sample Analytic Rubric for Performance Task of Summarizing

**Scale of Points**

**Aspects of Performance**

| CATEGORY               | 4  | 3  | 2  | 1   |
|------------------------|--|--|--|---|
| Organization           | Topic sentence states the main idea. Information is organized within well-organized paragraphs.          | Topic sentence states main idea. Information is organized in paragraphs  | Information is organized but paragraphs are not well-constructed.            | The information appears to be disorganized.       |
| Quality of Information | Information clearly relates to the main topic. It includes necessary supporting details and/or examples. | Information clearly relates to the main topic. It includes necessary supporting details and/or examples. May contain too much or too little information. | Information clearly relates to main topic. No details or examples are given. | Information has little to do with the main topic. |

**Performance Descriptors**

## **Sources of Rubrics**

There are many good resources for finding existing rubrics and creating your own rubrics.

### **Existing Rubrics**

The Cherry Creek School District curriculum guides have many subject area specific rubrics. The Language Arts Curriculum Guide (2002) contains a variety of reading and writing rubrics that can be used in most subject areas.

There are also many pre-made rubrics available online.

Kathy Schrock is a public school librarian (now employed by Discovery School) who has evaluated thousands of web sites for school use. She has compiled an extensive list of online rubrics.

<http://school.discovery.com/schrockguide/assess.html>

### **Creating Your Own Rubric**

Education World provides links to both existing rubrics and to rubric construction sites.

[http://www.education-world.com/a\\_curr/curr248.shtml](http://www.education-world.com/a_curr/curr248.shtml)

RubiStar is a good resource for creating your own rubrics. They have many existing rubrics that can be used as is or edited. The site also has a template for creating rubrics from scratch.

<http://rubistar.4teachers.org/>

Teachnology is another website that provides both existing rubrics and a form to create your own. Fair warning--this site comes with lots of pop ups!

[http://www.teach-nology.com/web\\_tools/rubrics/](http://www.teach-nology.com/web_tools/rubrics/)

The San Diego State University website has a very easy to use template for creating a rubric. It is, however, a template only.

[http://edweb.sdsu.edu/triton/july/Rubrics/Rubric\\_Template.html](http://edweb.sdsu.edu/triton/july/Rubrics/Rubric_Template.html)

Another basic template tool. This one gives you the choice of creating in Microsoft Word or HTML.

<http://edtech.kennesaw.edu/intech/rubrics.htm#templates>

Landmark offers another take on the rubric template.

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