

## MEASUREMENT OF EDUCATIONAL GOALS (COGNITIVE)

	Goal	Evidenced by:	Test Item (illustrative)
1.0	<b>Knowledge</b>		
1.1	Knowledge of specifics	Recall of specific bits of information including terminology and specific facts such as definitions, events, dates, etc.	The Monroe Doctrine was announced about ten years after the : 1. Revolutionary War 2. War of 1812 3. Civil War 4. Spanish-American War
1.2	Knowledge of ways and means of dealing with specifics	Knowledge of ways of organizing, studying, and criticizing (conventions, trends and sequences, classifications, criteria, methodology)	Which of the following is a chemical change? 1. Evaporation of alcohol 2. Freezing of water 3. Burning of oil 4. Melting of wax 5. Mixing of sand and sugar
1.3	Knowledge of the universals and abstractions in a field	Knowledge of the major schemes and patterns by which phenomena and ideas are organized (principles and generalizations, theories and structures)	Some generalizations concerning the common metals are that:: 1. most of the metals form only one insoluble salt 2. all the simple salts of the alkali metals are soluble 3. the metals of the alkaline earth group precipitated as carbonates 4. the alkali carbonates are insoluble in water 5. many of the heavy metal sulfides are insoluble in neutral or slightly acid solution

## 2.0 Comprehension

2.1	Translation	Caro and accuracy with which a communication is paraphrased or rendered from one form (or language) of communication to another. (understanding of non-literal statements as well as translating verbal material into symbolic statements and vice versa	<p>“Milton! thou shouldst be leaving at this hour: England hath need of thee; she is a fen of stagnant waters”</p> <p>--Wordsworth. The metaphor, “she is a fen of stagnant waters,” indicates that Wordworth felt that England was:</p> <ol style="list-style-type: none"><li>1. largely swampy land</li><li>2. in a state of turmoil and turmoil</li><li>3. making no progress in a generally corrupt condition</li></ol>
2.2	Interpretation	Explanation or summarization of a communication (grasping of the thought or major theme)	<p>After presenting a paragraph or graph ask students to react to statements about the paragraph in the following manner:</p> <ol style="list-style-type: none"><li>1. if statement is <u>definitely</u> true</li><li>2. if statement is <u>probably</u> true</li><li>3. if the information given is not sufficient to indicate any degree of truth or falsity in the statement</li><li>4. if the statement is <u>probably</u> false</li><li>5. if the statement is <u>definitely</u> false</li></ol>
2.3	Extrapolation	Extension of trends or tendencies beyond the given data to determine implications, consequences, corollaries, effects, etc. (making of inferences and predictions)	Same as above

### 3.0 Application

Use of abstractions such as rules, principles, general ideas in particular and concrete situation (solution of problems using concepts learned elsewhere).

The length of a rectangular lot exceeds its breadth by 20 yards. If each dimension is increased by 20 yards the area of the lot will be doubled. Find the shorter dimension of the original lot.

1. 20
2. 30
3. 35
4. 40
5. none of the above

### 4.0 Analysis

4.1 Analysis of elements

Identification of the elements involved in a communication. (recognition of unstated assumptions, distinction between facts and and hypotheses)

A passage is presented in the test followed by the following items: Which of the following is an assumption, specific to this experiment, that was made in the determination of the charge?

1. the force of gravity is the same whether the drops are charged or not
2. Opposite charges attract each other
3. Only a single charge is present on a drop
4. The mass of a drop is equal to its density times its

4.2 Analysis of relationships

Identification of the connections and interactions between elements and parts of a communication (check of the consistency within a work and comprehension of interrelationships)

<u>Family Income</u>	Percent of family members who received no medical <u>attention during the year</u>
Under \$1,200	47
1,200 - 3,000	40
3,000 – 5,000	33
5,000 – 10,000	24
Over 10,000	14

Conclusion: Members of families with small incomes are healthier than members of families with large incomes.

Which of the following assumptions would be necessary to justify the conclusion?

1. Wealthy families had more money to spend for medical care
2. All members of families who needed medical attention received it
3. Many members of families with low incomes were not able to pay their doctor bills
4. Members of families with low incomes often did not receive medical attention

4.3	Analysis of organizational principles	Recognition of the organization, systematic arrangement, and structure which hold a communication together (recognition of form or pattern or techniques used)	The theme of the musical selection presented is carried essentially by: <ol style="list-style-type: none"> <li>1. the strings</li> <li>2. the woodwinds</li> <li>3. the horns</li> <li>4. all in turn</li> </ol>
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## 5.0 **Synthesis**

5.1	Production of a unique communication	Development of a novel communication which attempts to convey ideas, etc., to others (skill in writing or speaking)	Think of some time in your life when you were up against a difficulty, something that stood in your way and had to be overcome. Make up a story around this difficulty and tell it to the class.
5.2	Product of a plan, or proposed set of operations	Development of a plan of work or the proposal of a plan of operations. (Proposal of ways to test hypothesis, production of a plan for accomplishing a goal)	Outline the steps that would be necessary to research the hypothesis that smoking is determinant of lung cancer.

5.3	Derivation of a set of abstract relations	Development of a set of abstract relation either to classify or explain particular data or phenomena, or the deduction of propositions and relations from a set of basic propositions or symbolic representations (formulation of appropriate hypotheses, making of generalizations)	After presenting data on a question, ask students to suggest relevant hypotheses and to indicate what additional data would be necessary to arrive at the “best” hypothesis.
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## 6.0 **Evaluation**

6.1	Judgments in terms of internal evidence	Determination of the accuracy, etc., of communication from such evidence as logical accuracy, consistency, documentation, etc.	Evaluate the following paragraph in terms of exactness of statement, documentation, proof, and logical consistency.
6.2	Judgments in terms of external criteria	Evaluation of material with reference to selected or remembered criteria. (comparison of major theories, facts, etc.; comparison of a work with the best known standards)	Write an essay evaluating the following poem. Your principles of evaluation should be made clear.