

# DEFINITION OF THE EVALUATION DOMAIN

Adult General Education

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Diversified Basic Education Program

Science and Technology

GENERAL SCIENCE 1

TSG-4059-2

September 2019

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## Introduction

The Definition of the Evaluation Domain (DED) ensures consistency between a course and the related evaluation instruments. The DED is used to select, organize and describe the essential and representative elements of a course. The DED is based on the program of study and the course, but should by no means replace them in the planning of instructional activities.

All the DEDs produced after June 30, 2014, by the Ministère de l'Éducation et de l'Enseignement supérieur (MEES) are prescriptive. Consequently, they are the reference documents to be used in the development of all examinations, be they ministerial examinations or those developed by adult education centres or by Société GRICS (BIM). The DEDs thus serve as a model for preparing multiple equivalent versions of examinations that are valid across the province.<sup>1</sup>

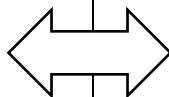
Furthermore, as set out in the *Policy on the Evaluation of Learning*, adult learners must know what they will be evaluated on and what is expected of them.<sup>2</sup> The DEDs and the criterion-referenced rubrics are recommended for this purpose.

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1. Québec, Ministère de l'Éducation du Québec, *Policy on the Evaluation of Learning* (Québec: Gouvernement du Québec, 2003), 47.  
2. Ibid., 9.

## Evaluation Content

<b>General Information</b>	
<p><b>Broad Areas of Learning</b></p> <ul style="list-style-type: none"> <li>• Health and Well-Being</li> <li>• Environmental Awareness and Consumer Rights and Responsibilities</li> <li>• Career Planning and Entrepreneurship</li> <li>• Media Literacy</li> <li>• Citizenship and Community Life</li> </ul> <p><b>Subject Area</b></p> <ul style="list-style-type: none"> <li>• Mathematics, Science and Technology</li> </ul> <p><b>Families of Learning Situations</b></p> <ul style="list-style-type: none"> <li>• Research</li> <li>• Expertise</li> </ul>	<p><b>Program of Study</b></p> <ul style="list-style-type: none"> <li>• Science and Technology</li> </ul> <p><b>Course</b></p> <ul style="list-style-type: none"> <li>• General Science 1</li> </ul>
<b>Essential Elements Targeted by the Evaluation</b>	
<p><b>Subject-Specific Competencies</b></p> <ol style="list-style-type: none"> <li>1. Seeks answers or solutions to scientific or technological problems</li> <li>2. Makes the most of own knowledge of science and technology</li> <li>3. Communicates in the languages used in science and technology</li> </ol>	<p><b>Categories of Knowledge</b></p> <p>General Concepts:</p> <ul style="list-style-type: none"> <li>• Digestive system</li> <li>• Nervous system</li> <li>• Properties of matter</li> <li>• Changes in matter</li> <li>• Waves</li> </ul> <p>Techniques:</p> <ul style="list-style-type: none"> <li>• Experimentation</li> <li>• Measurement</li> </ul>
<b>Evaluation Criteria</b>	
<p><b>Evaluation Criteria for Competencies 1 and 3</b></p> <ol style="list-style-type: none"> <li>1.1 Appropriate representation of the situation</li> <li>1.2 Development of a suitable plan of action</li> <li>1.3 Appropriate implementation of the plan of action</li> <li>1.4 Development of relevant explanations, solutions or conclusions</li> </ol> <p><b>Evaluation Criteria for Competencies 2 and 3</b></p> <ol style="list-style-type: none"> <li>2.1 Appropriate interpretation of the issue</li> <li>2.2 Relevant use of scientific and technological knowledge</li> <li>2.3 Appropriate formulation of explanations or solutions</li> </ol>	<p><b>Proficiency in Subject-Specific Knowledge</b></p> <p>Proficiency in subject-specific knowledge presupposes its acquisition, understanding, application and mobilization, and is therefore linked with the evaluation criteria for the competencies.</p>



## Explanation of the Evaluation Content

### Evaluation Criteria

The evaluation criteria in this course are stated exactly as they are in the other courses in the *Science and Technology* program.

Competency 3 is not specifically evaluated. It is integrated into the other two competencies in evaluation situations designed for certification purposes.

### Information Clarifying the Evaluation Criteria

#### 1.1 Appropriate representation of the situation

This criterion evaluates adult learners' ability to represent a problem pertaining to the interactions between the nervous system and the external world, or to the needs of the human body in terms of matter and energy. Adult learners must state the problem in their own words, diagramming it, dividing it into sub-problems, and identifying the characteristics and scientific or technological principles to be considered.

#### 1.2 Development of a suitable plan of action

This criterion evaluates adult learners' ability to take into account the actions to be performed and the resources and variables to be controlled with respect to the problem to be solved. Thus, in accordance with instructions, adult learners complete a simple experimental procedure that deals with waves or with the properties of or changes in matter.

#### 1.3 Appropriate implementation of the plan of action

This criterion evaluates adult learners' ability to safely carry out, under supervision, the steps in the procedure, to use measuring instruments accurately, to record data and observations and, if necessary, to propose changes to the plan of action.

#### 1.4 Development of relevant explanations, solutions or conclusions

This criterion evaluates adult learners' ability to analyze the data from the experiment by following a basic framework in order to ensure that the information obtained makes sense in the context of the problem and to produce explanations or arguments that support their conclusions. It also evaluates adult learners' ability to follow scientific and technological terminology, rules and conventions and to use mathematical symbolism and formalism, if needed.

### 2.1 Appropriate interpretation of the issue

This criterion evaluates adult learners' ability to put issues in context and to identify the relevant elements associated with them, the connections between them, the properties of and changes in matter, the properties of waves and the relevant parts of the human body.

### 2.2 Relevant use of scientific and technological knowledge

This criterion evaluates adult learners' ability to use scientific and technological concepts, laws, theories or models to explain the role of the nervous system in interactions with the external world, and to identify the phenomena related to waves in this system. In addition, it evaluates adult learners' ability to draw on their knowledge to explain the properties of and changes in matter in the digestive system as well as the role played by the digestive system in meeting the needs of the human body in terms of matter and energy. As needed, adult learners uses calculations to support their explanations.

### 2.3 Appropriate formulation of explanations or solutions

This criterion evaluates adult learners' ability to use their scientific or technological knowledge to make an informed judgment or state an opinion on an issue related to the interactions of the nervous system with the external world or to the needs of the human body in terms of matter and energy. It also evaluates adult learners' ability to follow scientific and technological terminology, rules and conventions and to use mathematical symbolism and formalism, if needed.

## Proficiency in Subject-Specific Knowledge

Proficiency in subject-specific knowledge is assessed through the evaluation of the competencies, using tasks related to the evaluation criteria.

For this course, certain knowledge is explicitly evaluated. The following measurable cognitive skills were selected for evaluation:

#### Skills

- Knows
  - Provides evidence of knowledge of manifestations or components of a scientific or technical reality  
E.g. chooses, connects, describes, defines, distinguishes, lists, names
- Understands
  - Uses elements of prior learning and draws information from them  
E.g. combines, demonstrates, identifies, illustrates, interprets, explains
- Applies
  - Uses a scientific or technological model or principle to establish information  
E.g. uses, represents, applies, determines, calculates, completes

## Weighting

The weighting for the evaluation of competencies is determined in accordance with the weighting found in the other courses in the *Science and Technology* program:

- Competency 1, *Seeks answers or solutions to scientific or technological problems* and Competency 3, *Communicates in the languages used in science and technology*: 40%
  - 1.1 Appropriate representation of the situation (5%)
  - 1.2 Development of a suitable plan of action (10%)
  - 1.3 Appropriate implementation of the plan of action (10%)
  - 1.4 Development of relevant explanations, solutions or conclusions (15%)
  
- Competency 2, *Makes the most of own knowledge of science and technology* and Competency 3, *Communicates in the languages used in science and technology*: 40%
  - 2.1 Appropriate interpretation of the issue (10%)
  - 2.2 Relevant use of scientific and technological knowledge (20%)
  - 2.3 Appropriate formulation of explanations or solutions (10%)

The weighting corresponding to the knowledge that is explicitly evaluated is 20%.

The weighting of the evaluation criteria also appears in the assessment tools provided in the *Marking Guide*. Adult learners must be made aware of the evaluation criteria used to evaluate them and the corresponding weighting of each criterion.

## Knowledge

Knowledge includes concepts and techniques.

The five general concepts are covered in the examination. It is not necessary, however, to include all the compulsory concepts for a given general concept. Similarly, it is not necessary to include all the techniques for a given category of techniques.

For the knowledge targeted by the evaluation of the competencies:

- The five general concepts must be covered. For these general concepts, a representative sample of compulsory concepts must be covered.
- The two categories of techniques must be covered. For these categories, three of the four compulsory techniques must be covered, including *Safely using materials and equipment*.

For the knowledge targeted by explicit evaluation:

- Four or five general concepts must be covered. For these general concepts, priority is given to compulsory concepts that were not covered in the evaluation of competencies.

### Concepts

General concepts	Compulsory concepts
Digestive system	<ul style="list-style-type: none"> <li>• Types of foods: water, proteins, carbohydrates, fats, vitamins, minerals</li> <li>• Energy value of different foods</li> <li>• Transformation of food: mechanical, chemical</li> <li>• Digestive tract: mouth, esophagus, stomach, small intestine, large intestine, anus</li> <li>• Digestive glands: salivary glands, gastric glands, pancreas, liver, intestinal glands</li> </ul>
Nervous system	<ul style="list-style-type: none"> <li>• Central nervous system: brain, spinal cord</li> <li>• Peripheral nervous system: nerves</li> <li>• Sensory receptors: eye, ear, skin, tongue, nose</li> </ul>
Properties of matter	<ul style="list-style-type: none"> <li>• Characteristic physical properties: density, solubility</li> <li>• Characteristic chemical properties: reaction to indicators</li> <li>• Properties of solutions: concentration</li> </ul>
Changes in matter	<ul style="list-style-type: none"> <li>• Particle model</li> <li>• Physical changes: dissolution, dilution</li> <li>• Chemical changes: decomposition and synthesis, oxidation</li> </ul>
Waves	<ul style="list-style-type: none"> <li>• Frequency</li> <li>• Wavelength</li> <li>• Amplitude</li> <li>• dB (decibel) scale</li> <li>• Electromagnetic spectrum</li> <li>• Deviation of light waves</li> <li>• Focal point of a lens</li> </ul>

### Techniques

Categories of techniques	Techniques
Experimentation	<ul style="list-style-type: none"> <li>• Safely using materials and equipment</li> <li>• Using observational instruments</li> <li>• Preparing solutions</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Using measuring instruments</li> </ul>



## Specifications for the Evaluation Instruments

### Examination: Number of Parts, Sections, Procedure and Duration

The examination consists of two parts that must be administered during different evaluation sessions. Adult learners are responsible for managing the time available to them, which is 120 minutes for each part.

Total duration: 240 minutes

Practical part:\* Evaluation of Competencies 1 and 3

Duration: 120 minutes

Theory part: Evaluation of Competencies 2 and 3, and Explicit Evaluation of Knowledge

Duration: 120 minutes

\* All competency evaluation sessions for the practical part are carried out in a laboratory or another appropriate location.

### Examination Content

#### Practical part

This part involves a situation from the *Research* family of situations designed to evaluate the development of Competencies 1 and 3 using criteria 1.1, 1.2, 1.3 and 1.4. By carrying out an experiment, adult learners must solve a problem related to the interactions between the nervous system and the external world or to the needs of the human body in terms of matter and energy. The tasks to be carried out include completing the given procedure related to waves or the properties of and changes in matter, handling laboratory materials and equipment, and writing a report on the initial problem.

#### Theory part

This part has two sections. One section is designed to evaluate the development of Competencies 2 and 3 using criteria 2.1, 2.2 and 2.3. Adult learners deal with one to three situations from the *Expertise* family of situations involving an issue related to the interactions of the nervous system with the external world or to the needs of the human body in terms of matter and energy. The issues inherent in these situations require that the adult learner provide explanations, take a position, justify that position, etc. The other section is devoted to the explicit evaluation of certain knowledge.

## Information-Gathering Tools

Practical part:

Two tools are used to gather information:

- The *Adult's Booklet*, which contains tasks to be performed, an experimental procedure to complete, and a basic framework to be used for writing a report on the experiment.
- A checklist outlining actions performed by the adult learner during the experiment.

Theory part:

The *Adult's Booklet* is the information-gathering tool and consists of the following two sections:

1. The "Evaluation of Competencies" section, which consists of tasks related to different issues.
2. The "Explicit Evaluation of Knowledge" section, which consists of short-answer or essay-type questions.

NB: The *Adult's Booklet* may include tables, formulas and lists of properties.

## Authorized Materials

For the two parts of the examination:

- Additional blank sheets of paper
- Ordinary or scientific calculator
  - The data and programs stored in the calculator's memory must be erased before and after the examination. Before the day of the examination, adult learners must have been given the opportunity to learn how to reset the calculator's memory to zero.

For the practical part of the examination:

- Laboratory materials and equipment required for the experiment

## Assessment Tools

The criterion-referenced rubric is the assessment tool used by the teacher for the evaluation of the competencies. Criterion-referenced interpretation involves comparing the information gathered with the outcomes expected of the adult learner.<sup>3</sup> The rubrics are compulsory and include the following rating scale:

Competency development:

- Advanced
- Thorough
- Acceptable
- Partial
- Minimal

Checklists may also be provided to make it easier for markers. These checklists can be found in the *Marking Guide*.

Each checklist and rubric focuses on the evaluation of specific competencies:

- Checklist and rubrics for the evaluation of Competencies 1 and 3, practical part
- Checklist and rubrics for the evaluation of Competencies 2 and 3, theory part

For the explicit evaluation of knowledge in the theory part, a correction key is provided in the *Marking Guide*.

## Pass Mark

The pass mark is 60% for the examination as a whole.

## Retakes

The adult learner must retake each part of the examination (practical and theory) separately.

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3. Ibid., 28-29.



## **APPENDICES – CRITERION-REFERENCED RUBRICS**



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<p style="text-align: center;"><b>EVALUATION</b></p> <p style="text-align: center;"><b>Criterion-Referenced Rubrics</b> (Practical Part)</p> <hr/> <p style="text-align: center;">Name of the Adult Learner</p> <hr/> <p style="text-align: center;">Name of the Teacher</p> <hr/> <p style="text-align: center;">Date</p>
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Diversified Basic Education Program  
*Science and Technology*

Course  
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## Practical Part

**Competency 1: Seeks answers or solutions to scientific or technological problems, and Competency 3: Communicates in the languages used in science and technology (40%)****Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

<b>Rating scale</b> <b>Evaluation criteria</b>	<b>Advanced</b> competency development	<b>Thorough</b> competency development	<b>Acceptable</b> competency development	<b>Partial</b> competency development	<b>Minimal</b> competency development	<b>Mark</b>
<b>1.1</b> <b>Appropriate</b> <b>representation of the</b> <b>situation</b>	Shows a thorough understanding of the problem to be solved by identifying all the characteristics and scientific or technological principles to consider in coming up with a solution or an answer.  <b>5 marks</b>	Shows an appropriate understanding of the problem to be solved by identifying most of the characteristics and scientific or technological principles to consider in coming up with a solution or an answer.  <b>4 marks</b>	Shows a satisfactory understanding of the problem to be solved by identifying certain characteristics and the main scientific or technological principles to consider in coming up with a solution or an answer.  <b>3 marks</b>	Shows a limited understanding of the problem to be solved by identifying characteristics and scientific or technological principles that are more or less related to the problem.  <b>2 marks</b>	Shows a lack of understanding of the problem to be solved by identifying characteristics and scientific or technological principles that are unrelated to the problem.  <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.



## Practical Part

**Competency 1: Seeks answers or solutions to scientific or technological problems, and Competency 3: Communicates in the languages used in science and technology (40%) (cont.)****Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale Evaluation criteria	Topics	Advanced competency development	Thorough competency development	Acceptable competency development	Partial competency development	Minimal competency development	Mark
1.2 Development of a suitable plan of action	a)	Completes an efficient procedure <sup>4</sup> that makes it possible to provide an appropriate solution or answer to the problem by judiciously planning for the control of variables that could influence the results.  <b>5 marks</b>	Completes an effective procedure <sup>5</sup> that makes it possible to provide an appropriate solution or answer to the problem by correctly planning for the control of variables that could influence the results.  <b>4 marks</b>	Completes a basic procedure that makes it possible to provide an appropriate solution or answer to the problem by drawing up an incomplete plan for the control of variables that could influence the results.  <b>3 marks</b>	Completes a procedure that is not particularly suitable and that does not really lead to a solution to the problem to be solved.  <b>2 marks</b>	Proposes an approach that has very little connection to the problem.  <b>1 mark</b>	<b>/5</b>
	b)	Completes a procedure by taking into account the required safety measures and all elements needed to conduct the experiment.  <b>5 marks</b>	Completes a procedure by taking into account the required safety measures and most of the elements needed to conduct the experiment.  <b>4 marks</b>	Completes a procedure by taking into account the main required safety measures and some of the elements needed to conduct the experiment.  <b>3 marks</b>	Completes a procedure but does not take into account enough of the required safety measures and includes few of the elements needed to conduct the experiment.  <b>2 marks</b>	Presents an incomplete procedure that does not take into account any safety measures.  <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

4. In course TSG-4059-2, a procedure is considered efficient if appropriate and optimal materials and steps are listed.

5. In course TSG-4059-2, a procedure is considered effective if appropriate materials and steps are listed.

## Practical Part

**Competency 1: Seeks answers or solutions to scientific or technological problems, and Competency 3: Communicates in the languages used in science and technology (40%) (cont.)**

**Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

<b>Rating scale</b>	<b>Topics</b>	<b>Advanced</b> competency development	<b>Thorough</b> competency development	<b>Acceptable</b> competency development	<b>Partial</b> competency development	<b>Minimal</b> competency development	<b>Mark</b>
<b>1.3</b> <b>Appropriate</b> <b>implementation of</b> <b>the plan of action</b>	<b>a)</b>	Implements the plan of action by meticulously controlling the variables in question and making corrections as needed, while strictly applying the safety measures.  <b>5 marks</b>	Implements the plan of action by correctly controlling the variables in question and making corrections as needed, while strictly applying the safety measures.  <b>4 marks</b>	Implements the plan of action by partially controlling the variables in question, while applying the safety measures.  <b>3 marks</b>	Implements the plan of action by partially controlling the variables in question, while applying the safety measures more or less correctly.  <b>2 marks</b>	Carries out the steps in a disorganized manner and the assistant must intervene to ensure safety or to prevent problems.  <b>1 mark</b>	<b>/5</b>
	<b>b)</b>	Conducts the experiment in a meticulous manner, making rigorous use of measuring instruments and recording all relevant data and observations, with the help of an assistant, where required.  <b>5 marks</b>	Conducts the experiment in a correct manner, making appropriate use of measuring instruments and recording most of the relevant data and observations, with the help of an assistant, where required.  <b>4 marks</b>	Conducts the experiment in a cursory manner, making adequate use of measuring instruments, recording only the relevant data and requiring the help of an assistant.  <b>3 marks</b>	Conducts the experiment with some difficulty, using measuring instruments in a largely imprecise manner, recording only some of the relevant data and requiring the help of an assistant.  <b>2 marks</b>	Conducts the experiment with great difficulty, using measuring instruments awkwardly, recording only some of the data and requiring the help of an assistant.  <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

## Practical Part

**Competency 1: Seeks answers or solutions to scientific or technological problems, and Competency 3: Communicates in the languages used in science and technology (40%) (cont.)**

**Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale Evaluation criteria	Topics	Advanced competency development	Thorough competency development	Acceptable competency development	Partial competency development	Minimal competency development	Mark
1.4 Development of relevant explanations, solutions or conclusions	a)	Performs an appropriate analysis, making the connections with the scientific or technological principles in question, proposes a sound answer or solution to the problem, and accurately justifies it.  <b>10 marks</b>	Performs an appropriate analysis, making the connections with the scientific or technological principles in question, proposes an appropriate answer or solution to the problem, and briefly justifies it.  <b>8 marks</b>	Performs a correct analysis, making a few connections with the scientific or technological principles in question and proposes an acceptable answer or solution to the problem, but does not justify it.  <b>6 marks</b>	Performs a partial analysis, making few connections with the scientific or technological principles in question and proposes an answer or a solution that is not fully adapted to the problem.  <b>4 marks</b>	Provides a confusing analysis and proposes an incorrect answer or solution that does not really take the situation into account.  <b>2 marks</b>	<b>/10</b>
	b)	Communicates clearly in all the required tasks and always follows scientific, technological and mathematical terminology, rules and conventions.  <b>5 marks</b>	Communicates clearly in all the required tasks and generally follows scientific, technological and mathematical terminology, rules and conventions.  <b>4 marks</b>	Communicates with some difficulty and does not always follow scientific, technological and mathematical terminology, rules and conventions.  <b>3 marks</b>	Has difficulty communicating and rarely follows scientific, technological and mathematical terminology, rules and conventions.  <b>2 marks</b>	Communicates in a confusing manner and very rarely follows scientific, technological and mathematical terminology, rules and conventions.  <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

**Result: \_\_\_\_\_/40**



Adult General Education

<p style="text-align: center;"><b>EVALUATION</b></p> <p style="text-align: center;"><b>Criterion-Referenced Rubrics</b> (Theory Part)</p> <hr/> <p style="text-align: center;">Name of the Adult Learner</p> <hr/> <p style="text-align: center;">Name of the Teacher</p> <hr/> <p style="text-align: center;">Date</p>
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## Theory Part

**Competency 2: Makes the most of own knowledge of science and technology, and Competency 3: Communicates in the languages used in science and technology (40%)**

**Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale Evaluation criteria	Topics	Advanced competency development	Thorough competency development	Acceptable competency development	Partial competency development	Minimal competency development	Mark
2.1 Appropriate interpretation of the issue	a)	Identifies all the relevant elements of the issues and the connections between them; identifies all the scientific or technological characteristics and principles that underlie the phenomena involved. <b>5 marks</b>	Identifies most of the relevant elements of the issues and the connections between them; identifies most of the scientific or technological characteristics and principles that underlie the phenomena involved. <b>4 marks</b>	Identifies only the essential elements of the issues and the connections between them; identifies some of the scientific or technological characteristics and principles that underlie the phenomena involved. <b>3 marks</b>	Identifies very few of the relevant elements of the issues and the connections between them; identifies very few of the scientific or technological characteristics and principles that underlie the phenomena involved. <b>2 marks</b>	Identifies scientific or technological characteristics and principles that are, for the most part, unrelated to the issues. <b>1 mark</b>	<b>/5</b>
	b)	Identifies all the relevant aspects of the issues when proposing a solution or stating an opinion on issues concerning the interactions between the nervous system and the external world or the needs of the human body in terms of matter and energy. <b>5 marks</b>	Identifies most of the relevant aspects of the issues when proposing a solution or stating an opinion on issues concerning the interactions between the nervous system and the external world or the needs of the human body in terms of matter and energy. <b>4 marks</b>	Identifies some of the relevant aspects of the issues when proposing a solution or stating an opinion on issues concerning the interactions between the nervous system and the external world or the needs of the human body in terms of matter and energy. <b>3 marks</b>	Identifies very few of the relevant aspects of the issues when proposing a solution or stating an opinion on issues concerning the interactions between the nervous system and the external world or the needs of the human body in terms of matter and energy. <b>2 marks</b>	Identifies aspects that are, for the most part, unrelated to the issues, regardless of own opinion or solution. <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

## Theory Part

**Competency 2: Makes the most of own knowledge of science and technology, and Competency 3: Communicates in the languages used in science and technology (40%) (cont.)****Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

<b>Rating scale</b> <b>Evaluation criteria</b>	<b>Topics</b>	<b>Advanced</b> competency development	<b>Thorough</b> competency development	<b>Acceptable</b> competency development	<b>Partial</b> competency development	<b>Minimal</b> competency development	<b>Mark</b>
<b>2.2</b> <b>Relevant use of scientific and technological knowledge</b>	<b>a)</b>	Shows an appropriate understanding of the scientific or technological principles inherent in the issues by using all the relevant concepts, laws, models and theories to provide explanations or to take a stand and formulate coherent justifications.  <b>10 marks</b>	Shows an appropriate understanding of the scientific or technological principles inherent in the issues by using most of the relevant concepts, laws, models and theories to provide explanations or to take a stand and formulate coherent justifications.  <b>8 marks</b>	Shows an adequate understanding of the scientific or technological principles inherent in the issues by using some of the relevant concepts, laws, models and theories to provide explanations or to take a stand and formulate valid justifications.  <b>6 marks</b>	Shows a partial understanding of the scientific or technological principles inherent in the issues by using few of the relevant concepts, laws, models and theories to provide explanations or to take a stand and formulate incomplete justifications.  <b>4 marks</b>	Shows a poor understanding of the scientific or technological principles inherent in the issues and provides confusing explanations or justifications.  <b>2 marks</b>	<b>/10</b>
	<b>b)</b>	Makes perfect use of own knowledge to accurately determine all the parameters using mathematical relationships or scientific data.  <b>10 marks</b>	Makes appropriate use of own knowledge to accurately determine most of the parameters using mathematical relationships or scientific data.  <b>8 marks</b>	Makes adequate use of own knowledge to determine some of the parameters using mathematical relationships or scientific data.  <b>6 marks</b>	Makes limited use of own knowledge to determine few of the parameters using mathematical relationships or scientific data.  <b>4 marks</b>	Makes very little use of own knowledge to determine very few of the parameters using mathematical relationships or scientific data.  <b>2 marks</b>	<b>/10</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

## Theory Part

**Competency 2: *Makes the most of own knowledge of science and technology*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)**

**Instructions:**

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale Evaluation criteria	Topics	Advanced competency development	Thorough competency development	Acceptable competency development	Partial competency development	Minimal competency development	Mark
2.3 Appropriate formulation of explanations or solutions	a)	Provides complete and clear explanations, solutions or justifications and meticulously organizes the elements of the message.  <b>5 marks</b>	Provides complete and clear explanations, solutions or justifications and correctly organizes the elements of the message.  <b>4 marks</b>	Provides acceptable explanations, solutions or justifications but the elements of the message are not very well organized.  <b>3 marks</b>	Provides brief explanations, solutions or justifications and the elements of the message are not very well organized.  <b>2 marks</b>	Provides partial explanations, solutions or justifications without organizing the elements of the message.  <b>1 mark</b>	<b>/5</b>
	b)	Always follows scientific, technological and mathematical terminology, rules and conventions.  <b>5 marks</b>	Generally follows scientific, technological and mathematical terminology, rules and conventions.  <b>4 marks</b>	Sometimes follows scientific, technological and mathematical terminology, rules and conventions.  <b>3 marks</b>	Rarely follows scientific, technological and mathematical terminology, rules and conventions.  <b>2 marks</b>	Very rarely follows scientific, technological and mathematical terminology, rules and conventions.  <b>1 mark</b>	<b>/5</b>

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

**Result: \_\_\_\_/40**





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