



# Scoring instructions PBL

# 2026

period 1  
Monday, May 18  
7.30 – 9.30 a.m.

## Physics and Chemistry 1

### **Submitting scores**

Process scores of all candidates in the online AWP program.

The scores must be posted no later than Monday June 1, 2026 at 12.00 noon.

The scoring instructions comprise:

- 1 Assessment standards
- 2 General rules
- 3 Subject-specific rules
- 4 Appraisal model

## 1 Assessment standards

---

The candidate's work is assessed with due observance of articles 30, 31 and 32 of the Federal Examination Decree vwo-havo-vsbo of 23-06-2008, PB 2008 no 54.

The following passages from the articles of the Federal decree mentioned above are of essence.

- 1 The school principal submits the completed exam assignments including a copy of the exam questions, the scoring instructions and the official report of the exam to the examiner. The examiner evaluates the work and submits it to the principal along with his/her evaluation. The examiner applies the assessment standards and the appraisal model decreed by ETE (the Examination Bureau).
- 2 The principal immediately submits the deposited exams, including a copy of the exam questions, the scoring instructions and the official report of the exam to the external examiner.
- 3 The external examiner promptly evaluates the work, applying the appraisal model and the assessment standards decreed by ETE (Examination Bureau).
- 4 The examiner and the external examiner confer and jointly determine the score totals for the national exam.
- 5 If they cannot reach a consensus, the score totals are determined by way of a mathematical average of the scores proposed by each of them, rounded off upwards if so required.

## 2 General rules

---

As far as evaluation of the exam goes, the following stipulations apply:

- 1 The examiner declares on a list, the candidate names and/or numbers, the scores awarded to each candidate for each question and the total score acquired by each candidate.
- 2 The examiner and the external examiner award scores to the answer to a question in accordance with the appraisal model. Scores are represented by the numbers 0, 1, 2, ..., n, whereby n represents the maximum score attainable for a question. Additional scores, not being a whole integer, or a score being less than 0, are not legitimate.
- 3 Scores are awarded in compliance with the following rules
  - 3.1 If a question is answered correctly in full, the maximum score attainable is awarded;
  - 3.2 If an answer to the question is partially correct, a portion of the score attainable is awarded, in compliance with the appraisal model;
  - 3.3. If the answer to an open-end question does not appear on the appraisal model, while said answer may be deemed correct or partially correct by virtue

- of demonstrable arguments with regard to subject matter content, scores must be awarded on the analogy or in the spirit of the appraisal model;
- 3.4 If solely one example, reason, elaboration, quote or answer of a different nature is required, then only (and exclusively) the first-offered answer is evaluated;
  - 3.5 If more than one example, reason, elaboration, quote or answer of a different nature is required, then only (and exclusively) the first-offered answers are evaluated, up to a maximum of the number of answers asked for;
  - 3.6 If a required statement or explanation or derivation or calculation is missing or wrong in an answer, then a score of 0 is awarded, unless the appraisal model indicates otherwise;
  - 3.7 If various options separated by the symbol / appear in the appraisal model, then said options are valid as different phrasings of the same answer or part of the answer;
  - 3.8 If a portion of the answer is bracketed in the appraisal model, then said portion is not absolutely required in the candidate's answer.
- 4 The correct answer to a multiple-choice question is the capital letter that matches the correct choice. For a correct answer to a multiple-choice question, the number of points listed in the appraisal model is awarded. For each other answer, no points are awarded. If more than one answer is given, no points are awarded either.
  - 5 An error in the elaboration of a question may be charged but once, unless said error simplifies the question significantly and/or unless the appraisal model states otherwise.
  - 6 A same-like error in the response to different questions must be charged consistently for each individual case, unless the appraisal model states otherwise.
  - 7 If the examiner or the external examiner is of the opinion that there is an error or discrepancy in an exam or in the appraisal model of said exam, then he evaluates the work as if the exam and its appraisal model were correct. He should, however, report the error or discrepancy to ETE. It is not allowed to deviate independently from the appraisal model. Such errors, if any, will be taken into account when the final marking of the exam is determined by ETE.
  - 8 Points are awarded on the basis of answers given by the candidate to each question. No points shall be awarded in advance.
  - 9 The grade for the national exam is arrived at in the following fashion: The first and second corrector determine the score of each candidate. Said score is conveyed to the principal.  
The principal determines the grade of the national exam on the basis of standards with regard to converting score to grade. Said grade may be read from conversion tables that are made available by ETE after the final marking of the exam has been established.

### 3 Subject-specific rules

---

For this central written exam VSBO PBL Physics & Chemistry 1, first period 2026, a maximum of 61 score points can be scored. The exam consists of 33 questions.

As far as evaluation of the exam goes, the following stipulations apply:

1. For each calculation error, 1 score point is deducted to the maximum of the number of score points that can be given for that part of that particular question.
2. If the candidate has made a notation error when answering a question and if it is evident that this has no further influence on the final answer, no score point will be deducted for this.
3. Per question, no more than 1 score point can be deducted for giving an incorrect unit or not mentioning the corresponding unit. In the entire exam, no more than 2 score points may be deducted in this respect.
4. The total number of score points that may be deducted in the entire exam for rounding off incorrectly, is no more than 2. That is to say, a maximum of 1 point if the candidate rounds up incorrectly once or several times and also a maximum of 1 point if the candidate rounds down incorrectly once or several times.
5. If there is no instruction with regard to the manner in which an answer must be rounded off, then all approaches to the answer that ensue from a correct calculation and that are also plausible, are outright correct. In the entire exam the following applies: unless the appraisal model explicitly awards points for rounding off, the instruction: "round off to ... decimals" serves only as an indication to the candidate how accurately he may round off and is never intended for examining the skill of *rounding off numbers*.
6. If, from the answer given, it appears that the candidate has simplified the formulation of the problem, it is not allowed to award the maximum score to the answer given.

## 4 Appraisal model

Question	Answer	Scores
----------	--------	--------

*The correct answer to a multiple-choice question is awarded 1 score point.*

- |    |  |             |
|----|--|-------------|
| 1  | <b>A</b>   |             |
| 2  | <b>maximum score 3</b><br>Mass = $753 \div 1000 = 0.753$ kg.<br>Gravitational acceleration is $10 \text{ m/s}^2$ , force of gravity = $0.753 \times 10 = 7.53$<br>Force of gravity = 7,53 newtons. | 1<br>1<br>1 |
| 3  | <b>B</b>   |             |
| 4  | <b>maximum score 2</b><br>Insight that the reaction distance is 11 (m) and<br>that the braking distance is 35 (m).<br>Stopping distance = $11 + 35 = 46$ (m).                                      | 1<br>1      |
| 5  | <b>C</b>   |             |
| 6  | <b>A</b>   |             |
| 7  | <b>maximum score 1</b><br>Najira must wear <b>gloves</b> .   |             |
| 8  | <b>maximum score 1</b><br>Paraffin   |             |
| 9  | <b>C</b>   |             |
| 10 | <b>maximum score 2</b><br>Consequence 1: breeding mosquitoes.<br>Consequence 2: creating bacteria/the water stinks.  | 1<br>1      |

*Other consequences mentioned that are deemed by correctors as also true, also plausible, regard as correct answers.*

Question	Answer	Scores
----------	--------	--------

**11 maximum score 3**

	name or type	letters
type 1	Vfg-waste / food(scrap)	A, B, J
type 2	plastic	C, F, I
type 3	carton / paper	E, G, H
type 4	metal	D, K, L

Disregard the names filled in.

*10 or 9 letters correct, 3 points.  
8, 7 or 6 letters correct, 2 points.  
5, 4 or 3 letters correct, 1 point.  
Fewer correct, 0 points.*

**12 maximum score 3**

component	present	not present
voltage source		x
resistor		x
changeover switch	x	
motor (electric motor)	x	

*Four rows correct, 3 points.  
Three rows correct, 2 points.  
Two or just one row correct, 1 point.*

**13 maximum score 2**

The number is **1** 1  
The name is **NTC**. 1

**14 maximum score 2**

The number is **3** 1  
The name is **LDR**. 1

**15 maximum score 2**

Component P is a **transformer**. 1  
Drawing:  1

**16 C**

**17 B**

Question	Answer	Scores
----------	--------	--------

18 C

19 C

20 maximum score 2

component	conductor	insulator
1. orange casing (P)		x
2. gold colored metal clamp (Q)	x	
3. copper colored screw (R)	x	
4. silver colored connection rod (S)	x	

*Four rows correct, 2 points.*

*Three or two rows correct, 1 point.*

*Less than 2 rows correct, 0 points.*

21 maximum score 3

$R_{\text{total}} = 200 + 300 = 500 \text{ ohms.}$

1

$I = 4.5 \div 500 = 0.009 \text{ A.}$

1

$I = 9 \text{ (mA).}$

1

22 maximum score 2

$\text{Time} = 1 \text{ hour.}$

1

$\text{Energy consumed} = 0.000162 \times 1 = 0.000162 \text{ (kWh).}$

1

23 maximum score 3

$\text{Time} = 365 \times 24 = 8760 \text{ (hours).}$

1

$E = 2.5 \div 1000 \times 8760 = 21.9 \text{ (kWh).}$

1

$\text{Amount} = 21.9 \times 0.35 = 7.67 \text{ guilders.}$

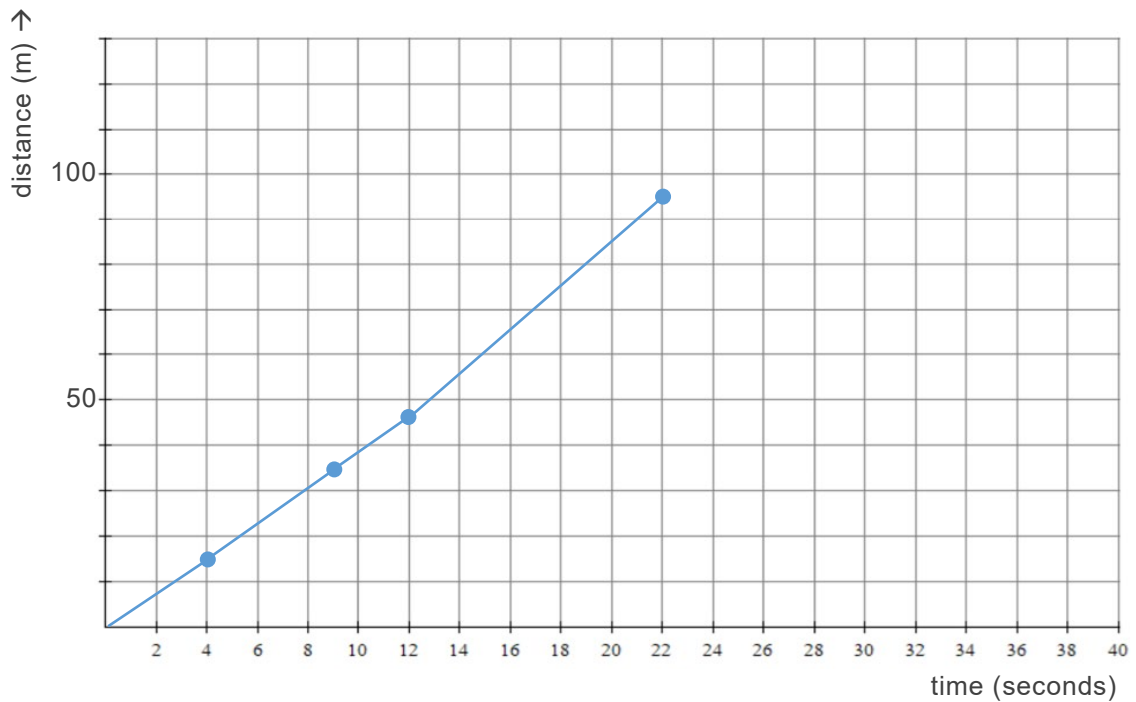
1

24 D

Question	Answer	Scores
25	<p><b>maximum score 3</b></p> <p>The five sentences written must show that:</p> <ol style="list-style-type: none"> <li>1. The generator is a <b>sound source/transmitter</b>.</li> <li>2. The generator is also a <b>transmitter/sound source</b>.</li> <li>3. Mrs. Job is a <b>receiver</b>.</li> <li>4. Mrs. Job hears a <b>frequency/volume/pitch</b>.</li> <li>5. The air is an <b>intermediate material</b>.</li> </ol> <p><i>Numbers 1 and 2 must not be the same word.</i></p> <p><i>Five sentences correct: 3 points</i></p> <p><i>Four or three sentences correct: 2 points.</i></p> <p><i>Two sentences or just one sentence correct: 1 point.</i></p> <p><i>Zero sentences correct: 0 points.</i></p>	
26	<p><b>maximum score 2</b></p> <p>The words to be underlined:</p> <p>higher than</p> <p>higher than.</p>	<p>1</p> <p>1</p>
27	<p><b>maximum score 2</b></p> <p>Elastic force and force of gravity.</p> <p>Muscular force.</p>	<p>1</p> <p>1</p>
28	<p><b>C</b></p>	
29	<p><b>maximum score 4</b></p> <p><math>V_{\text{average}} = \text{distance} \div \text{time}</math>.</p> <p>Total distance = 15 + 20 + 10 + 50 = 95 m.</p> <p>Total time = 4 + 5 + 3 + 10 = 22 seconds.</p> <p><math>V_{\text{average}} = 95 \div 22 = 4.32\dots \approx 4.3 \text{ (m/s)}</math>.</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
30	<p><b>B</b></p>	

Question	Answer	Scores
----------	--------	--------

**31 maximum score 4**



- The unit on the vertical axis is 10. 1
- Two points plotted correctly. 1
- Another two points plotted correctly. 1
- Drawn points connected by line segments. 1

**32 maximum score 2**

- The calculation:  $250 - 110 - 50 - 50 =$  1
- The net force is 40 (N). 1

*The wrong calculation with corresponding answer in calculation error, 1 point.  
The correct answer without the calculation, maximum 1 point.*

**33 C**