



# Development of innovative training solutions in the field of functional evaluation aimed at updating of the curricula of health sciences schools



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MODULE BIOMECHANICS FOUNDATIONS

Didactic Unit B: FORCES AND PRESSURES

## Self-Questionnaire

## Self-questionnaire:

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- Self-questionnaire aimed to test the knowledge acquired.
- It will include 5 objective questions with 4 answer options.
- Mark in bold the correct answer.

## Type of questions:

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- **Drag and drop into text:** Students select missing words or phrases and add them to text by dragging boxes to the correct location. Items may be grouped and used more than once.
- **Drag and drop markers:** Students drop markers onto a selected area on a background image. Unlike the drag and drop onto image question type, there are no predefined areas on the underlying that are visible to the student.
- **Drag and drop onto image:** Students make selections by dragging text, images or both to predefined boxes on a background image. Items may be grouped.
- **Matching:** A list of sub-questions is provided, along with a list of answers. The respondent must “match” the correct answers with each question.
- **Multichoice:** With the Multichoice question type you can create single-answer and multiple-answer questions, include pictures, sound or the other media in the question and/or answer options and weight individual answers.
- **Select missing words:** Students select a missing word or phrase from a dropdown menu. Items may be grouped and used more than once.
- **True/False:** In response to a question (that may include an image), the respondent selects from two options: True or False.

## Question 1

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Indicate which of the following statements is true:

- A When no action is made on a body, it tends to fall or stop.
- B The force applied to a body is directly related to the velocity it acquires: the greater the force, the greater the velocity.
- C When two bodies, one big and one small, collide, the force exerted by the big one on the small one is greater than the small one exerts on the big one.
- D **Bodies have a natural tendency to maintain their velocity. If no force is exerted on it, a body will move at constant velocity indefinitely (Newton's First Law).**

## Question 2

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A 1000 kg car is moving at a velocity of 20 m/s. A continuous braking force of 1000 N is then applied. Indicate which of the following statements is true about what happens then:

- A **The car's velocity will decrease at an acceleration of  $-1 \text{ m/s}^2$ .**
- B The car will move at a constant velocity of 1 m/s.
- C The car will move at a constant velocity of 2 m/s.
- D The car's velocity will decrease at an acceleration of  $-50 \text{ m/s}^2$ .

## Question 3

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Indicate which of the following is vectorial:

- A **Force**
- B Power
- C Work
- D Mass

## Question 4

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Where do you think the force exerted is greatest, in a wide-heeled shoe or in a narrow-heeled shoe?

- A **The force is the same. What changes is the pressure, which will be greater in a narrow-heeled shoe because the area is smaller.**
- B A wide-heeled shoe.
- C A narrow-heeled shoe.
- D The force is the same. What changes is the pressure, which will be greater in a wide-heeled shoe because the area is bigger.

## Question 5

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If the force we exert on the ground is the same that the ground exerts on us, why do we move but the ground doesn't?

- A Because we are faster than the Earth.
- B Because our acceleration is greater than the Earth's.
- C **According to Newton's Second Law, the forces are the same, but the masses of the bodies involved are different. The force that the ground exerts on our body (tens of kilograms) makes us move. However, the force we exert on the enormous mass of the Earth is not enough to move it.**
- D Because the Earth's acceleration is greater than ours.



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