

TEACHER'S GUIDE SHEET

MODULE	BIOMECHANICS FOUNDATIONS
DIDACTIC UNIT	B: FORCE AND PRESSURE
TITLE OF ACTIVITY/CLASS	<ul style="list-style-type: none"> • Fundamental kinetic variables • Testing your knowledge about kinetic equations
OBJECTIVES	<ul style="list-style-type: none"> • To know that the causes that produce movements are related to kinetic variables. • To describe important variables and equations: forces, pressure, torque, power, work and energy. • To apply kinetic equations knowledge in exercises.
LENGTH	30' OF CLASS MATERIAL IN TOTAL
PREVIOUS KNOWLEDGE REQUIRED	In order to fully understand the concepts explained during class, the student should revise in advance the pdf document associated to this didactic unit (B): Force and pressure (Autonomous work section).
TECHNICAL NEEDS	<p>PC with software for the reproduction a power point presentation. Projector and screen to show contents appropriately to all the students during class.</p> <p>For performing kinetic equation exercises: If students solve the exercises directly in the web page, calculator is not required. In the case that they do not have computers/internet to solve them, teacher will use the exercises on the slides and students require a calculator. Students will solve two exercises for each part.</p>
RESOURCES NEEDED	Computers with internet to work by pairs or groups. If it is not possible, they can work directly with the exercises and solutions on the slides.



<p>WHERE TO LOCATE NEEDED RESOURCES</p>	<p>URL:</p> <p>Kinetic Energy exercises</p> <p>https://www.khanacademy.org/science/ap-physics-1/ap-work-and-energy/kinetic-energy-ap/e/kinetic-energy-exercises-ap1?modal=1</p> <p>Finding changes in gravitational potential energy exercises</p> <p>https://www.khanacademy.org/science/ap-physics-1/ap-work-and-energy/conservative-forces-and-gravitational-potential-energy-ap/e/gravitational-potential-energy-ap-physics-1?modal=1</p> <p>Work done by a force exercises</p> <p>https://www.khanacademy.org/science/ap-physics-1/ap-work-and-energy/introduction-to-work-ap/e/work-equation-ap-physics-1?modal=1</p> <p>Torque exercises</p> <p>https://www.khanacademy.org/science/ap-physics-1/ap-torque-angular-momentum/torque-and-equilibrium-ap/e/torque-calculations-ap-physics-1</p>
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DESCRIPTION OF THE CLASS/ACTIVITY

A power point will be used by the teacher in order to guide the class:

BRIEF EXPLANATION ABOUT KINETIC VARIABLES AND EQUATIONS (5-10')

SOLVE 8 EXERCISES ABOUT KINETIC VARIABLES (20')

The teacher will introduce this activity remembering the definitions of kinetic variables and their equations. After that, students will solve 8 exercises from a web site or from the slides of the power point.

In the case that students have any doubt, the teacher should solve it checking with the theoretical knowledge acquired in the autonomous work.

TASKS TO BE DEVELOPED BY THE STUDENT OUTSIDE OF CLASS (if required)

In order to fully understand the concepts explained during class, the student should revise in advance the pdf document associated to this didactic unit B: Force and pressure (Autonomous work section)

OPTIONAL (in case the teacher decides to evaluate the activity)

The teacher will collect the solution of the sheet of the activity: „Testing your knowledge about kinetic equations” from every group of students (before showing the solutions on the screen). Each of them should be properly identified by the students, who must have written down their full names in the specific space destined to do so.

The teacher will punctuate the answers given in terms of the correctness. 8 answers in total

EVALUATION METHODOLOGY

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