

**Aim:** To make an introduction to Physics, definitions and method.

Teaching objectives I want to teach	Learning Outcomes At the end of the lesson students should be able
<b>Content</b> To introduce them to the Physics. To differentiate physical and chemical changes. To explain the scientific method. To distinguish different parts of Physics (mechanics, statics, kinematics, dynamics).	<b>Content</b> To know Physics aims. To define physical and chemical changes. To know the steps of the scientific method.
<b>Cognition</b> To describe phenomena. To encourage critical thinking. To relate an image to its description. To provide opportunities to develop a variety of skills.	<b>Cognition</b> To describe and classify phenomena. To compare and synthesise visual and written skills. To work in groups effectively. To problem-solve collaboratively.
<b>Communication</b> To use 'perhaps' or 'maybe' to make hypotheses. To write definitions and conclusions. To explain why changes happen. To use language of cause and effect.	<b>Communication</b> To explain phenomena using scientific vocabulary. To use new vocabulary in context.
<b>Culture</b> To relate physics to life changes. To study daily life changes. To recognise the contribution of scientists in physics.	<b>Culture</b> To identify physical changes in their daily routine. To search for information using different sources. To write biographies. To be aware of the relevance of scientific thinking.

### Tasks planned and timing

- Power Point to introduce the subject: what it is about, the explanation of the topics and some examples.
- Students will be provided with a handout with their tasks. There will be some different kinds of exercises: working in pairs, matching pictures with a sentence, filling gaps, plenary to discuss conclusions
- Homework: some exercises of the handout to clarify new concepts or do some research on their own.

### Resources

- For the power-point: a computer, a screen and a projector
- For the class activities: a handout for each student with the theoretical basis they are supposed to learn and with the exercises to support them and to enable effective learning.
- For the homework: some exercises of the handout given (biographies and some exercises of physical and chemical changes depending on the time left).

### Assessment

- Teacher assesses the work done during the lesson, the homework done at home and the students' attitude towards the content and the use of language.

**Aim:** To make an introduction to the physical magnitudes.

<b>Teaching objectives</b> I want to teach	<b>Learning Outcomes</b> At the end of the lesson students should be able
<b>Content</b> To define motion. To introduce them the International System of Units. To differentiate position from trajectory. To distinguish between basic and derived units.	<b>Content</b> To recognise the need of a reference point. To distinguish between position, speed/velocity and acceleration. To know the International System of units. To convert units.
<b>Cognition</b> To describe images related to motion. To encourage critical thinking. To relate an image to its description. To provide opportunities to develop a variety of skills.	<b>Cognition</b> To describe and classify motion. To compare and synthesise visual and written skills. To work in groups effectively. To problem-solve collaboratively.
<b>Communication</b> To use 'perhaps' or 'maybe' to make hypotheses. To write definitions and conclusions. To explain why motion is relative. To use language of cause and effect.	<b>Communication</b> To explain motion using scientific vocabulary. To use new vocabulary in context. To solve problems accurately and make themselves understood.
<b>Culture</b> To relate physics to life changes. To study daily life changes. To recognise non International System Units.	<b>Culture</b> To understand motion in the Universe. To be aware of the relevance of scientific thinking.

### Tasks planned and timing

- Power Point to introduce the subject: what it is about using some examples.
- Students will be provided with a handout with their tasks. There will be some different kind of exercises: working in pairs, matching pictures with a sentence, filling gaps, plenary to discuss conclusions.
- Homework: some exercises of the handout to clarify new concepts or do some research on their own.
- Experiment: calculate the average speed.

### Resources

- For the power-point: a computer, a screen and a projector.
- For the class activities: a handout for each student with the theoretical basis they are supposed to learn, with the exercises to support them and to enable effective learning and an easy experiment.
- For the homework: some exercises of the handout given (some exercises of unit conversion depending on the time left).

### Assessment

- Teacher assesses the work done during the lesson, the homework done at home and the students' attitude towards the content and the use of language.

**Aim:** To describe Motion with words, diagrams, numbers, graphs and equations.

<b>Teaching objectives</b> I want to teach	<b>Learning Outcomes</b> At the end of the lesson students should be able
<b>Content</b> To introduce them to the different linear motions. To differentiate scalars from vectors. To distinguish between distance and displacement. To differentiate constant speed from changing speed. To define acceleration.	<b>Content</b> To recognise the different types of motion. To define and distinguish between distance and displacement. To know the definition of acceleration. To distinguish a uniform motion from an accelerated motion.
<b>Cognition</b> To describe motion with words and diagrams. To encourage critical thinking. To relate an image to its description. To provide opportunities to develop a variety of skills.	<b>Cognition</b> To classify motion. To compare and synthesise visual and written skills. To work in groups effectively. To problem-solve collaboratively.
<b>Communication</b> To provide scientific vocabulary to describe motion. To write definitions and conclusions. To explain how to calculate speed and acceleration. To interpret data tables and ticker tape diagrams. To provide the general scheme to solve numerical problems.	<b>Communication</b> To use scientific vocabulary to describe motion. To use new vocabulary in context. To explain speed and acceleration calculations. To interpret data tables and ticker tape diagrams.
<b>Culture</b> To study daily life types of motion. To recognise the use of kinematical quantities in life.	<b>Culture</b> To identify kinematical information in their daily routine. To interpret information. To be aware of the relevance of scientific thinking.

### Tasks planned and timing

- Power Point to introduce the subject: what the lesson is about and visual support of some worksheets.
- Students will be provided with a handout with their tasks. There will be some different kind of exercises: working in pairs, matching pictures with a sentence, filling gaps, plenary to discuss conclusions.
- Homework: some exercises of the handout to clarify new concepts.

### Resources

- For the power-point: a computer, a screen and a projector
- For the class activities: a handout for each student with the theoretical basis they are supposed to learn and with the exercises to support them and to enable effective learning.
- For the homework: some exercises of the handout given (diagrams, data tables and some exercises of speed and acceleration calculation depending on the time left).

### Assessment

- Teacher assesses the work done during the lesson, the homework done at home and the students' attitude towards the content and the use of language.

**Aim:** To describe Motion with graphs and equations.

Teaching objectives I want to teach	Learning Outcomes At the end of the lesson students should be able to
<b>Content</b> To understand the different linear motions. To differentiate between uniform and uniformly accelerated motion. To describe motion with graphs and equations. To introduce free fall movement.	<b>Content</b> To recognise the different types of motion. To define and distinguish between distance and displacement. To distinguish a uniform motion from a uniformly accelerated motion.
<b>Cognition</b> To extract information from graphs. To apply formulae to solve problems. To encourage critical thinking. To provide opportunities to develop a variety of skills.	<b>Cognition</b> To classify motion. To solve problems through trial and error. To work in groups effectively. To organize and manipulate data.
<b>Communication</b> To extend scientific vocabulary to describe motion. To describe and extract information from graphs. To interpret data from a problem. To provide the general scheme to solve numerical problems.	<b>Communication</b> To use scientific vocabulary to describe motion. To use new vocabulary in context. To interpret different graphs. To explain the procedure of solving problems. To express the result of a calculation.
<b>Culture</b> To relate the theoretical knowledge to motion to their lives. To recognise the application of speed graphs in life.	<b>Culture</b> To interpret information. To develop growing curiosity and interest in the motion of objects.

### Tasks planned and timing

- Power Point to introduce the subject: what the lesson is about and visual support of some worksheets.
- Students will be provided with a handout with their tasks. There will be some different kind of exercises: working in pairs, matching pictures with a sentence, filling gaps, plenary to discuss conclusions.
- Homework: some exercises of the handout to clarify concepts.

### Resources

- For the power-point: a computer, a screen and a projector.
- For the class activities: a handout for each student with the theoretical basis they are supposed to learn, with the exercises to support them and to enable effective learning and a practical experiment.
- For the homework: some exercises of the handout given (diagrams, data tables and some exercises of uniform motion and uniformly accelerated motion depending on the time left).

### Assessment

- Teacher assesses the work done during the lesson, the homework done at home, the practical work and the students' attitude towards the content and the use of language.