



Form	: 4
Time	: 9.00-9.40a.m
Number of students	: 30
Theme	: Gravitational Potential energy
Objective	: Define and use the principle of conservation of mechanical energy
Learning outcome	<p>: Students should be able to:</p> <ol style="list-style-type: none"> State the meaning of Kinetic energy and potential energy Use the conservation of mechanical energy formula Explain the differences of mechanical energy in other location. Sketch the graph
Prior knowledge	<p>:Sstudents should know:</p> <ol style="list-style-type: none"> Students know the formula of gravitational energy Students already learn that there are forces exerted in certain locations.
Objective	<p>: At the end of the lesson, students should be able to</p> <ol style="list-style-type: none"> Content knowledge <ul style="list-style-type: none"> Define the meaning of the kinetic energy and potential energy Explain what kind of energy had at the certain location Sketch the graph Scientific skills <ul style="list-style-type: none"> Observing Stimulating Sketching Scientific attitude and noble values <ul style="list-style-type: none"> Being cooperative Being confident and independent Interest and curiosity towards the conservation mechanical energy Open-minded and flexible while criticized by teacher or peer.

Phase	Content	Teaching and learning activities	Remark
Engaging Introduction (5 minutes)	Attract attention  <u>Making connection/ prior knowledge</u> Questions: a) What makes the skater in the animation from falling down? b) How many types of energy in this case?	<ul style="list-style-type: none"> Wish ‘Assalamualaikum’ and good evening for everybody. Ask student: ‘Are you ready for our lesson today?’ Introduce the topic of conservation of mechanical energy. Teacher play the animation video about skater playing at curve pathway to the students Teacher elicits students learning knowledge by asking a few questions. 	Teaching aids: <ul style="list-style-type: none"> Video Teaching skills: <ul style="list-style-type: none"> Generating ideas Prediction Making inferences
Empowering (step 1) 12 minutes	Explanation	<ul style="list-style-type: none"> Teacher start by showing the title and learning outcomes for the lesson using Power Point presentation. Teacher show the concept of kinetic energy, potential energy and conservation of mechanical energy. Teacher show the types of energy occurred Teacher explain the relationship between kinetic energy and potential energy 	Teaching aids: <ul style="list-style-type: none"> Power point
Step 2 5minutes	Activity reinforcement	<ul style="list-style-type: none"> Students are divided into four groups which consist of 5 members. Each group will represent four different location: <ol style="list-style-type: none"> Space Moon Jupiter Earth Teacher distributes marker pen 	Teaching aids <ul style="list-style-type: none"> Marker pen “mahjung “ paper

		<p>and “mahjung paper” to each group.</p> <ul style="list-style-type: none"> Teacher asks the students to explain the kinetic energy, potential energy, the conservation of mechanical and also the graph of each energy occurred in their own location. 	
<p>Enhancing (Step 3) 15 minutes</p>	<p>Enrichment</p>  <p>Energy Skate Park: Basics</p>	<ul style="list-style-type: none"> Students are still in their group. Each group has to present their group works in front of the class. The other students are allowed to share their opinion. Teacher show the interactive animation about the energy skater park. Then, teacher explains the animation and relate it with the concept of conservation of mechanical energy. 	<p>Teaching aids</p> <ul style="list-style-type: none"> Video <p>Teaching skills</p> <ul style="list-style-type: none"> Generating ideas Sharing ideas Problem solving Analyse and attribute
<p>Closure 3minutes</p>	<p>Cognitive</p> <p>Social</p>	<ul style="list-style-type: none"> Teachers reinforce learning outcomes or objectives of the topic. Teacher asks student whether they understand the topic today. Teacher makes conclusion about the topic today Teacher gives homework to students Teacher end the class by asking thank you and salaam 	