

## БӨЛІМ: ХИМИЯ

## Ашық сабақ "Acides"

ЖАРИЯЛАНДЫ  
12.03.2019

СІЛТЕМЕ  
<https://bilimger.kz/38894/>

## АННОТАЦИЯ / АҢДАТПА

Ayazbaeva Gulbarshyn

Short term plan

Theme of the Lesson:	Review : Acids
Subject : chemistry	Teacher name: Ayazbaeva Gulbarshyn
Date: 28.03.18	Class:
Lesson objectives	Give the concepts of acids and their classification, about properties
Criteria assessment	Learners achieve the aim if: can write classification acids can write chemical properties
Values	Group work- collective, responsibility for command work result; Individual work- learn forever, honesty while doing self work
Connection with other subjects	Science: physics, biology
Org moment Warm — up	Good morning! who is absent? who's on duty? The mossay method is divided into groups . I. «Brain Attack» 1. Types of oxides? 2. The general formul of oxides? 3. What is oxide? 4. With what do oxides react?  Division into the group by the Mosaic method  Let is watch video

<p><b>Prezentaitions</b></p>	<p>What is an Acid?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> An acid is a substance that produces hydrogen ions, H<sup>+</sup> in water.</li> <li><input type="checkbox"/> An acid therefore can conduct electricity.</li> <li><input type="checkbox"/> pH &lt; 7</li> <li><input type="checkbox"/> It has a sour taste.</li> <li><input type="checkbox"/> It has a stinging feeling.</li> <li><input type="checkbox"/> It is corrosive.</li> </ul> <p>Examples of Acids Names of acids Chemical formula  Hydrochloric acid — HCl In gastric juice in the stomach  Sulphuric acid -H<sub>2</sub>SO<sub>4</sub> In car battery  Nitric acid- HNO<sub>3</sub> In the preparation of fertilizers and explosives  Carbonic acid H<sub>2</sub>CO<sub>3</sub> In fizzy drinks  Citric acid C<sub>6</sub>H<sub>8</sub>O<sub>7</sub> In oranges and lemons</p> <p>Acids                      Strong- H<sub>2</sub>SO<sub>4</sub>    HNO<sub>3</sub>    HCl</p> <p>Strong                      weak                      Weak — H<sub>2</sub>CO<sub>3</sub>    HNO<sub>2</sub></p> <p><b>CHEMICAL PROPERTIES OF ACIDS</b></p> <p><b>NEUTRALIZATION</b></p> <p>An acid when reacts with a base, salt &amp; water are produced. This reaction is called neutralization  HCl + NaOH → NaCl + H<sub>2</sub>O</p> <p>HNO<sub>3</sub> + NaOH → NaNO<sub>3</sub> + H<sub>2</sub>O</p> <p>HCl + KOH → KCl + H<sub>2</sub>O</p> <p><b>REACTION WITH CARBONATES</b></p> <p>Acid and carbonates are combined to produce salt, water and carbon dioxide  MgCO<sub>3</sub> + 2HCl → MgCl<sub>2</sub> + CO<sub>2</sub> + H<sub>2</sub>O</p> <p>CaCO<sub>3</sub> + 2HCl → CaCl<sub>2</sub> + CO<sub>2</sub> + H<sub>2</sub>O</p> <p>Na<sub>2</sub>CO<sub>3</sub> + H<sub>2</sub>SO<sub>4</sub> → Na<sub>2</sub>SO<sub>4</sub> + CO<sub>2</sub> + H<sub>2</sub>O</p> <p>CaCO<sub>3</sub> + H<sub>2</sub>SO<sub>4</sub> → CaSO<sub>4</sub> + CO<sub>2</sub> + H<sub>2</sub>O</p> <p><b>REACTION WITH BICARBONATES</b></p> <p>Acid and bicarbonates are combined to produce salt, water and carbon dioxide  NaHCO<sub>3</sub> + HCl → NaCl + CO<sub>2</sub> + H<sub>2</sub>O</p> <p><b>REACTION WITH METAL</b></p> <p>With Zinc:  Zn + 2HCl → ZnCl<sub>2</sub> + H<sub>2</sub></p> <p>With Aluminum:  2Al + 6HCl → 2AlCl<sub>3</sub> + 3H<sub>2</sub></p> <p>Reaction with iron oxide:  6HCl + Fe<sub>2</sub>O<sub>3</sub> → 2FeCl<sub>3</sub> + 3H<sub>2</sub>O</p>

Practice	group work Lab works. 7 properties of acids Introduction Acids change the colours of indicators. They are corrosive. They react with metals, bases and some of the salts. Materials Sulfuric acid solution, methylorange indicator, piece of chalk, aluminium pieces. Procedure 1. Pour 20ml of Sulfuric acid solution into the beaker, check with methylorange indicator. 2. Add 3-4 pieces of aluminium pieces to the sulfuric acid solution. 3. Repeat procedure with adding 5 g of chalk into solution of Sulfuric acid. Observation and questions 1. Write equation of chemical reaction 2. Try to explain colour change of litmus paper indicator after the reaction.																										
	<table border="1"> <thead> <tr> <th>Oxide</th> <th>Types acids</th> <th>end equation and equation</th> </tr> </thead> <tbody> <tr> <td><math>H_2PO_4</math></td> <td></td> <td><math>P_2O_5 + H_2O \rightarrow</math></td> </tr> <tr> <td><math>H_2CO_3</math></td> <td></td> <td><math>H_2O + CO_2 \rightarrow</math></td> </tr> <tr> <td><math>H_2SO_3</math></td> <td></td> <td><math>SO_3 + Na_2O \rightarrow</math></td> </tr> <tr> <td><math>H_2SO_4</math></td> <td></td> <td><math>N_2O + H_2O \rightarrow</math></td> </tr> <tr> <td><math>HNO_3</math></td> <td></td> <td><math>HCl + NaOH \rightarrow</math></td> </tr> <tr> <td>HCl</td> <td></td> <td><math>N_2O_5 + H_2O \rightarrow</math></td> </tr> <tr> <td>HCOOH</td> <td></td> <td></td> </tr> </tbody> </table>			Oxide	Types acids	end equation and equation	$H_2PO_4$		$P_2O_5 + H_2O \rightarrow$	$H_2CO_3$		$H_2O + CO_2 \rightarrow$	$H_2SO_3$		$SO_3 + Na_2O \rightarrow$	$H_2SO_4$		$N_2O + H_2O \rightarrow$	$HNO_3$		$HCl + NaOH \rightarrow$	HCl		$N_2O_5 + H_2O \rightarrow$	HCOOH		
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<b>Assessment criteria</b>	Descriptors fully describes acids																										
<b>end of lesson</b>	will respond to questions on a new topic by using the pen medium																										
<b>home work</b>	Acids																										
<b>End of the lesson reflection</b>	<b>writes the effect on the lessons to the smileys</b>																										

**ҚМ АА** Күәлік нөмірі: **KZ45VPY00102718** — ҚР Мәдениет және Ақпарат министрлігі

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