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Central School

Home School Package

**Year :12**



**HOME SCHOOL PACKAGE CONTENT**



**LESSON Plan**

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| G:\Home Learning Packages\Documents for SHEFA Schools Principal\teacher-computer-icons-school-test-education-teaching.jpg Teacher | Name :Judy W VireSubject : Chemistry |
| G:\Home Learning Packages\Documents for SHEFA Schools Principal\download.jpg Date | Week 8 of term 2 |
| G:\Home Learning Packages\Documents for SHEFA Schools Principal\title.jpg | Topic :Chemistry of Aqueous solutionLesson number : 2 |
| Learning outcomesLearning outcomes | * Define the term conjugate acid and conjugate base
* Identify conjugate acids and based of weak acids and bases
* Describe water as an amhoteic substance
* Determine the strength of the following: HCL, HSO4, HNO3, CH3COOH, NaOH, Na2CO3, NH3
 |
| TopicIntroduction | Strong and weak acids are important to know both for chemistry class and for use in the lab. There are very few strong acids, so one of the easiest ways to tell strong and weak acids apart is to memorize the short list of strong ones. Any other acid is considered a weak acid. |
| Catch | Catch phrase for the lessonStrong Acids and Weak Acids | Strong Bases and Weak Bases | Acids ... |
| Learners notes 1Learners notes | SummaryThere are several ways for identifying conjugate acid-base in a given reaction. This is the easier way to look at it by lesser or morer H atom in the reaction.  A **conjugate acid** contains one more H atom and one more + charge than the base that formed it.A **conjugate base** contains one less H atom and one more - charge than the acid that formed it.Let us take the example of bicarbonate ions reacting with water to create carbonic acid and hydronium ions. HCO₃⁻ + H₂O → H₂CO₃ + OH⁻ base + acid → Conj A + Conj BWe see that HCO₃⁻ becomes H₂CO₃. It has one more H atom and one more + charge (-1 + 1 = 0). So H₂CO₃ is the conjugate acid of HCO₃⁻.The H₂O becomes OH⁻. It has one less H atom and one more – charge. So OH⁻ is the conjugate base of H₂O.In chemistry, an **amphoteric** compound that can react both as an acid and as a base. **Amphoteric** substance is that substance which has ability to donate as well as accept a Proton. According to Bronsted -Lowry concept,bases stronger than **water**,tend to accept proton from it. Thus **water** can donate as well as accept proton therefore shows an **amphoteric** nature.There are strong and weak of acids and bases. Study the table below carefully :  |
|  | * Conjugate acid-base pairs by Khan Academy <https://www.khanacademy.org/science/chemistry/acids-and-bases-topic/copy-of-acid-base-equilibria/v/conjugate-acid-base-pairs-acids-and-bases-chemistry-khan-academy>
* Distinguish between strong and weak acids and bases by Mike Sugiyama <https://www.youtube.com/watch?v=dr1-ZRYCt40>
* Chemistry help : strong vs weak acids by 5minute school - <https://www.youtube.com/watch?v=vQMafEpwaTU>
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|  | 1. Define the term conjugate acid and conjugate base
2. Identify base, acid , conjugate acids and based of the following:

1. Describe the movement of water? What does it called?
2. Determine the strength of the following acids and bases. If they are weak, state beside weak or moveon to next: HCL, HSO4, HNO3, CH3COOH, NaOH, Na2CO3, NH3
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| Assignment |  |
| Assessment | Written test after the topic covered |
| Reference ClipartReferences | * <https://socratic.org/chemistry/acids-and-bases/conjugate-acids-and-conjugate-bases>
* <https://www.engineeringtoolbox.com/acid-base-strong-weak-d_1962.html>
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**WEEKLY CHECKLIST For Parents**:

Term: 2 Week number 1 Date…… to…… Month: …………

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 2 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 3 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 4 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 5 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 6 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 7 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 8 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 9 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 10 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 11 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 12 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |

Term: 2 Week number 13 Date…… to…… Month: …………

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| **Subject** |  **Number of lessons** | **Days**  | **Tick when activity is complete** | **Parents comment**  | **Signature** |
|  | **1** |  |  |  |  |
|  | **2** |  |  |  |  |
|  | **3** |  |  |  |  |
|  | **4** |  |  |  |  |
|  | **5** |  |  |  |  |
|  | **6** |  |  |  |  |