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DepED
DEPARTMENT OF EDUCATION

Science Activity Sheet

Quarter 2 – MELC 2
Week 2
Properties of Ionic and Covalent Compounds

REGION VI – WESTERN VISAYAS

Science Grade 9
Activity Sheet No. 2 – Properties of Ionic and Covalent Compounds
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Introductory Message

Welcome to Science Grade 9!

The **Learning Activity Sheet** is a product of the collaborative efforts of the Schools Division of Escalante City and DepEd Regional Office VI - Western Visayas through the Curriculum and Learning Management Division (CLMD). This is developed to guide the learning facilitators (teachers, parents and responsible adults) in helping the learners meet the standards set by the K to 12 Basic Education Curriculum.

The **Learning Activity Sheet** is self-directed instructional materials aimed to guide the learners in accomplishing activities at their own pace and time using the contextualized resources in the community. This will also assist the learners in acquiring the lifelong learning skills, knowledge and attitudes for productivity and employment.

For learning facilitator:

The **Science Activity Sheet** will help you facilitate the leaching-learning activities specified in each Most Essential Learning Competency (MELC) with minimal or no face-to-face encounter between you and learner. This will be made available to the learners with the references/links to ease the independent learning.

For the learner:

The **Science Activity Sheet** is developed to help you continue learning even if you are not in school. This learning material provides you with meaningful and engaging activities for independent learning. Being an active learner, carefully read and understand the instructions then perform the activities and answer the assessments. This will be returned to your facilitator on the agreed schedule.

Name of Learner: _____
Grade and Section: _____Date: _____

SCIENCE 9 ACTIVITY SHEET No 2
Properties of Ionic and Covalent Compounds

I. Learning Competency with Code

Recognize different types of compounds (ionic or covalent) based on their properties such as melting point, hardness, polarity, electrical and thermal conductivity. **(S9MT-IIb-14)**

II. Background Information for Learners

Can you imagine yourself living alone? Will you survive without others like your family and friends? No man is an Island, that is, being alone is difficult. Life would be so boring. You need someone to be with, to laugh with and to share what feelings, thoughts or ideas you have. You also have this give and take relationship with others by giving what others do not have and take something from others.

Same thing happened to compounds. They are formed by the type of bond that joined them. Ionic compounds are formed by the complete transfer of electrons while covalent compounds are formed by sharing of electrons by the combining atoms. Since the two types of compounds are formed differently, will they behave differently too? Let us find out their properties by going through this learning activity sheet.

III. Accompanying DepEd Textbook and Educational Site

Department of Education. (2014). K to 12 Basic Education Curriculum. Science 9 Learner's Material (pp.31-33)

IV. Activity Proper

Refer to Activity 6 (Differences between Ionic and Covalent Compounds) in Science 9 Learner's Module, p. 123. Write your answer in a separate sheet of paper.

Guide Questions

Q1. What type of compound…

a. dissolves easily in water?
b. conducts electricity in solution?
c. melts easily when heated?

Q2. What type of compound does not…

a. dissolve easily in water?
b. conduct electricity in solution?
c. melt easily when heated?

Q3. Why can salt and Monosodium Glutamate (vetsin) conduct electricity in a solution?

Q4. What type of compounds are harder than the other? Why?

Q5. How do you describe ionic compounds? How about covalent compounds?

V. Reflection

1. As a student, what daily activities can you relate to the properties of ionic compounds and covalent compounds?

_____
_____
_____

V. Answer Key

Compound	Reaction to Heat (melted easily/did not melt)	Electrical conductivity	Solubility in water (soluble/not soluble)	Type of compound (ionic/covalent)
salt	did not melt easily	Conducts electricity when dissolved in water	soluble	Ionic
vetsin	did not melt easily	Conducts electricity when dissolved in water	soluble	ionic
wax	melt easily	Conducts electricity when dissolved in water	insoluble	Non polar covalent
sugar	melt easily	Conducts electricity when dissolved in water		Polar Covalent

Answers to guide questions:

1. a. Polar covalent and ionic compounds
   b. Ionic compounds
   c. Covalent compounds (they have low melting temperature
2. a. Non polar covalent compounds
   b. Covalent compounds
   c. Ionic compounds
3. Ionic compounds give off positive ions and negative ions in solution.
4. Ionic compounds. Ionic compounds are held together in rigid lattice structures, resulting from the strong ionic bonds (electrostatic attraction) between positive and negative ions.
5. Ionic compounds are hard and water soluble. They have high melting point and can conduct electricity in solution. Covalent compounds are brittle, have low melting point and are poor conductors of heat and electricity. Nonpolar covalent compounds are insoluble in water.