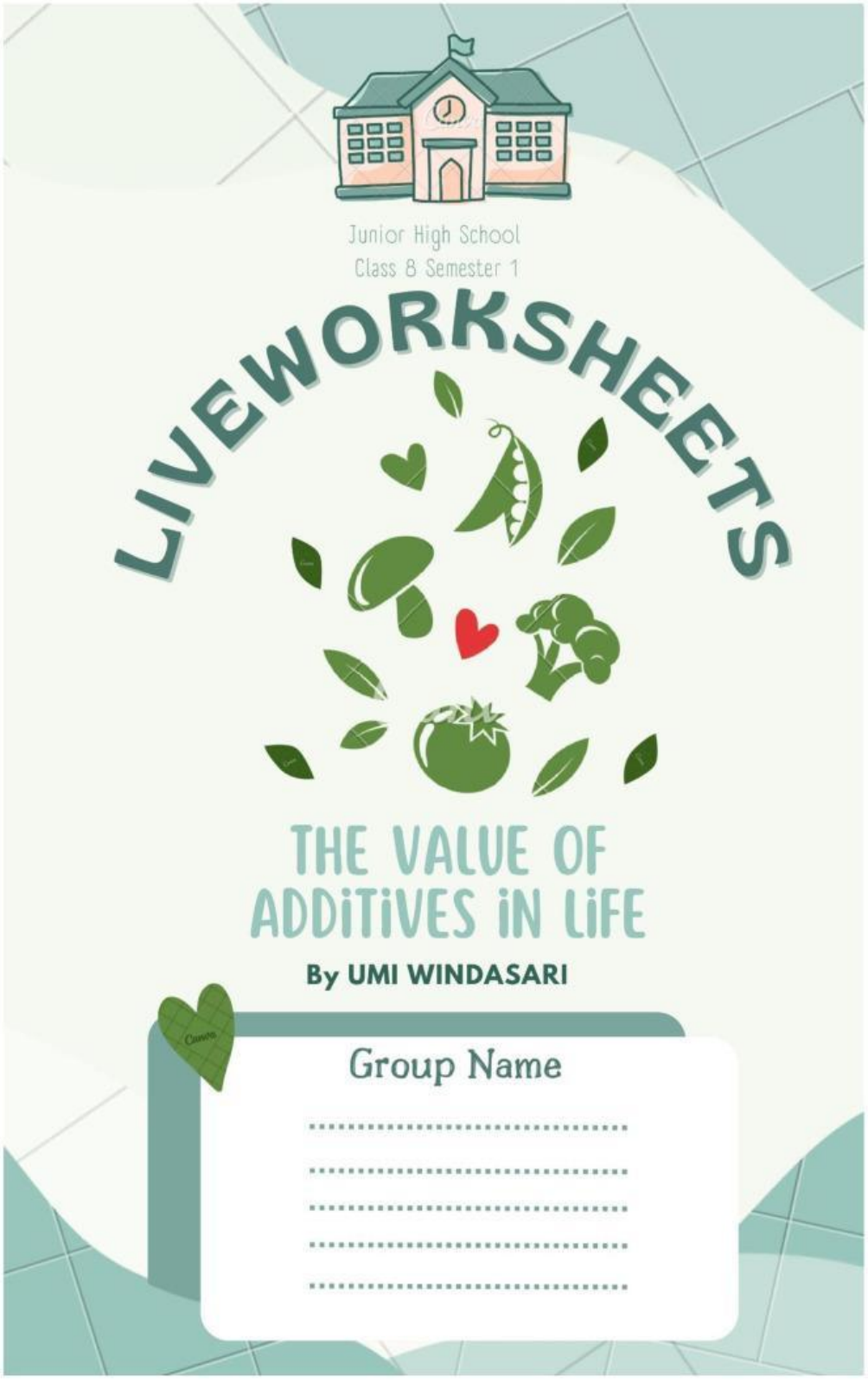
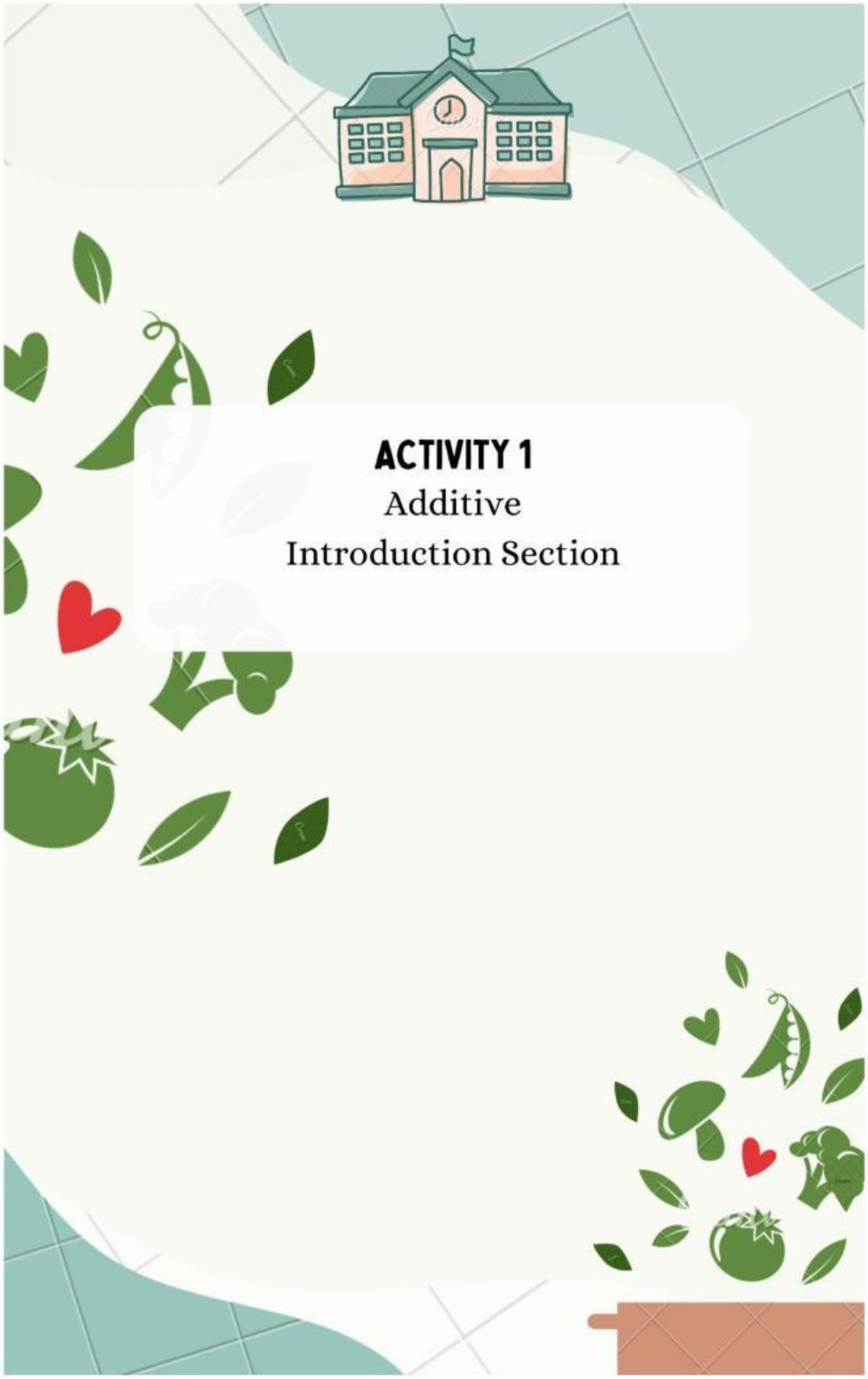


LIVEWORKSHEETS



ACTIVITY 1

Additive

Introduction Section

LIVEWORKSHEETS

PURPOSE

1. Know the types of additives
2. Know the ingredients of additives
3. Know the function of additives
4. Know the properties and characteristics of additives

GUIDELINES

1. Pray first before working on the following LKPD!
2. The teacher will form groups consisting of 4-5 people.
3. Read the description entitled "I'm the Most Additive" below!
4. Discuss with your group to complete the CROSSWORD PUZZLE (CP) on the sheet provided.

LIVEWORKSHEETS

READING MATERIAL

I'm the Most Additive

My full name is Additives. You can call me Additive. I have several hobbies including; coloring, making sweet things, preserving, giving a distinctive aroma, flavoring dishes, thickening, and emulsifying ingredients. People call me a consumer attention grab. In addition, I am predicted to have the property of not reducing essential substances in food, and I am able to maintain the quality of food and drink. I can be made of natural or artificial materials. Let's get to know me more closely.

I can make all kinds of colors. I often use it to color food and drinks. The food and drinks I color will look more beautiful and captivating. My color can be produced from natural or synthetic materials.

LIVEWORKSHEETS

READING MATERIAL

Natural ingredients that make me up include: turmeric, dragon fruit, strawberry, pandan leaves, carrots, purple sweet potato, and so on. Meanwhile, I am from synthetic materials in the form of: Tartrazine, Yellow FCF, Carmoisine, Ponceau, Erythrocin, Indigotin, Etc

I love making food and drinks sweeter. My sweetness can be made from natural or synthetic ingredients. However, people prefer that it is made from natural materials rather than synthetic materials. This is because many researchers state that I made from natural materials does not cause health problems as arising from I made of synthetic materials.

LIVEWORKSHEETS

READING MATERIAL

However, most manufacturers and sellers of food and beverage products prefer me made from synthesis because of my cheaper sweetness and more affordable price reasons. I made from natural ingredients including: Honey, Cane Sugar, Palm Sugar, Corn Sugar, Bot Sugar, Sorbitol, and Stevia Leaf Extract. Meanwhile, I am made of synthetic materials including: Sucrose, Aspartan, Neotam, Sucralose, etc.

I'm very happy to help. I can help food last. Just like dyes and sweeteners, I am also made of two ingredients: natural and artificial. From my natural ingredients in the form of salt, sugar, vinegar, lemon, even garlic.

LIVEWORKSHEETS

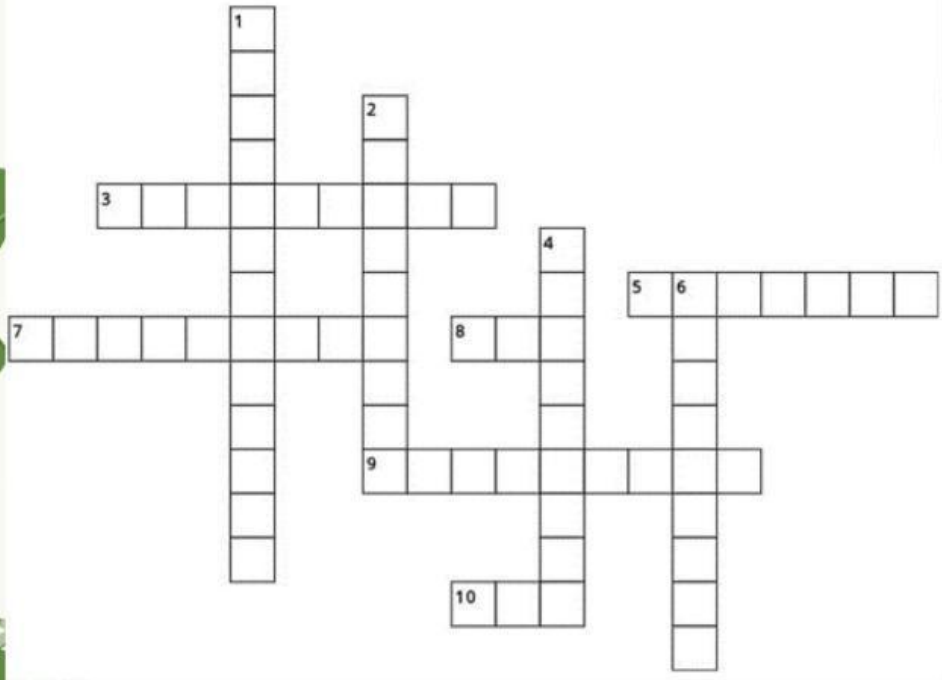
READING MATERIAL

Meanwhile, from artificial materials I commonly known as benzoic acid, sorbic acid, sulfi, as well as Nitrite and Nitrate. BHA (butylated hydroxyanisole) is an antioxidant and can make butter or oil not rancid.

In addition to helping make food and drinks last, I can also make food or drinks more delicious and have a certain smell or aroma. MSG is me as the most commonly encountered flavoring. Meanwhile, the aroma I cause can be made from various extracts of fruits, flowers, and other synthetic ingredients. I can even make the food thicker. Sometimes I also used to emulsify food.

LIVEWORKSHEETS

CROSSWORD PUZZLE (CP)



Down

1. I can make food last longer.

2. My material is not found in animals or plants.

4. I can make the food more delicious.

6. My hobbies are coloring, making sweet things, preserving, giving a distinctive aroma, flavoring dishes, thickening and emulsifying ingredients.

Across

3. I am Palm Sugar, Corn Sugar, Aspartame and Sucrose.

5. My ingredients come from animals and plants.

7. I can make candy have a distinctive smell.

8. Additives to prevent rancidity in butter

9. I am Carmoisine, Tartazine, Pandan Leaf and Turmeric.

10. The most frequently encountered flavoring

LIVEWORKSHEETS



ACTIVITY 2

Additives in
packaged foods

LIVEWORKSHEETS

PURPOSE

1. Know the types of additives in packaged foods and drinks.
2. Classifying natural and artificial additives in packaged foods and drinks.
3. Identify the properties and characteristics of additives in packaged foods and drinks.

GUIDELINES

1. Pray first before working on the following LKPD!
2. Identify the properties and characteristics of additives in packaged foods and drinks by completing the table below!!
3. Classifying natural and artificial additives in packaged foods and drinks by completing the table below!

LIVEWORKSHEETS

TABLE 1. IDENTIFICATION OF ADDITIVES IN FOOD AND BEVERAGES

No	Composition of food/drink	Additive Name	Types of Additives	
			(Sweeteners/Colorants/Preservatives/ Flavorings/Flavorers/Thickeners/Emulsifiers)	(Natural/Artificial)
1.	Ingredients: Sugar, glucose, acidity regulator (lactic acid), crystalline menthol, wine flavor, food coloring (carmoisin CI 14270, diamond blue CI 42090). Dosage Per Serving: Total energy 30kcal, energy from fat 0g.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
2.	Ingredients: Wheat flour, vegetable oil, tapioca sugar, shredded beef flavor (contains yellow dye FCF 15985 and red allura CI 16035), salt, ammonium bicarbonate, milk powder, sodium bicarbonate, malt extract, yeast, vitamin B1, vitamin B2, B6, B12.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
3.	Ingredients : MI: Wheat flour, vegetable oil, salt, vegetable thickener, acidity regulator, dye (tartrazine CI 19140), and iron. SEASONINGS: Salt, sugar, flavor enhancer, (monosodium glutamate), garlic flavoring, chicken flavor, pepper powder.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
4.	Sodium cyclone content 20 mg/200 ml, Asesulfam-K 18 g/200 ml, Sodium benzoate and tartrazin.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
5	air berkarbonasi, gula, pengatur keasaman (asam sitrat & trinatrium sitrat), penstabil (natrium polifosfat), pengawet (natrium benzoat & kalium sorbat), sekuestran (kalsium dinatrium edta), minyak lemon dan jeruk nipis (0.001%).	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.

LIVEWORKSHEETS



LIVEWORKSHEETS

PURPOSE

1. Knowing preservatives that can be found in everyday life.
2. Apply the use of additives in everyday life.

GUIDELINES

1. All students pray before beginning the learning activity.
2. Teachers form groups of 4-5 students.
3. Read the description entitled " I Don't Want to Change Color" below!
4. Each group carries tools and materials that have been delivered.
5. Each group conducts practicum according to instructions.
6. Each group completes the table, analyzes the results and concludes the results of the practicum.
7. Each group answers the questions listed on the LKPD sheet.
8. Each group precedes the results and conclusions of the practicum.

LIVEWORKSHEETS



READING MATERIAL

I Don't Want to Change Color

I am a fruit and vegetable that easily turns brownish after peeling or cutting. After changing color, it is not uncommon for me to be thrown away. Sometimes, after peeling or cutting I am smeared or soaked with certain liquids. The liquid makes my color not turn brown quickly and sometimes even does not change at all from my original color. Can you help me find out and prove that I can not turn brownish with these solutions?

LIVEWORKSHEETS



FORMULATION OF THE PROBLEM

HYPOTHESIS

LIVEWORKSHEETS