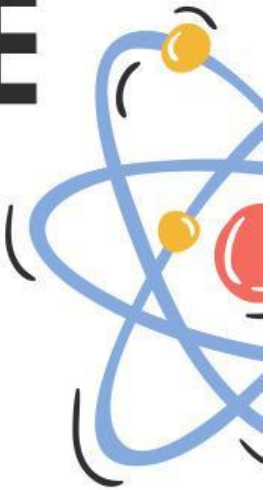




**STUDENT WORKSHEET (LKPD)**

# **CHANGE IN NATURE CHEMICAL & PHYSICS**



**CONTRACTOR:**

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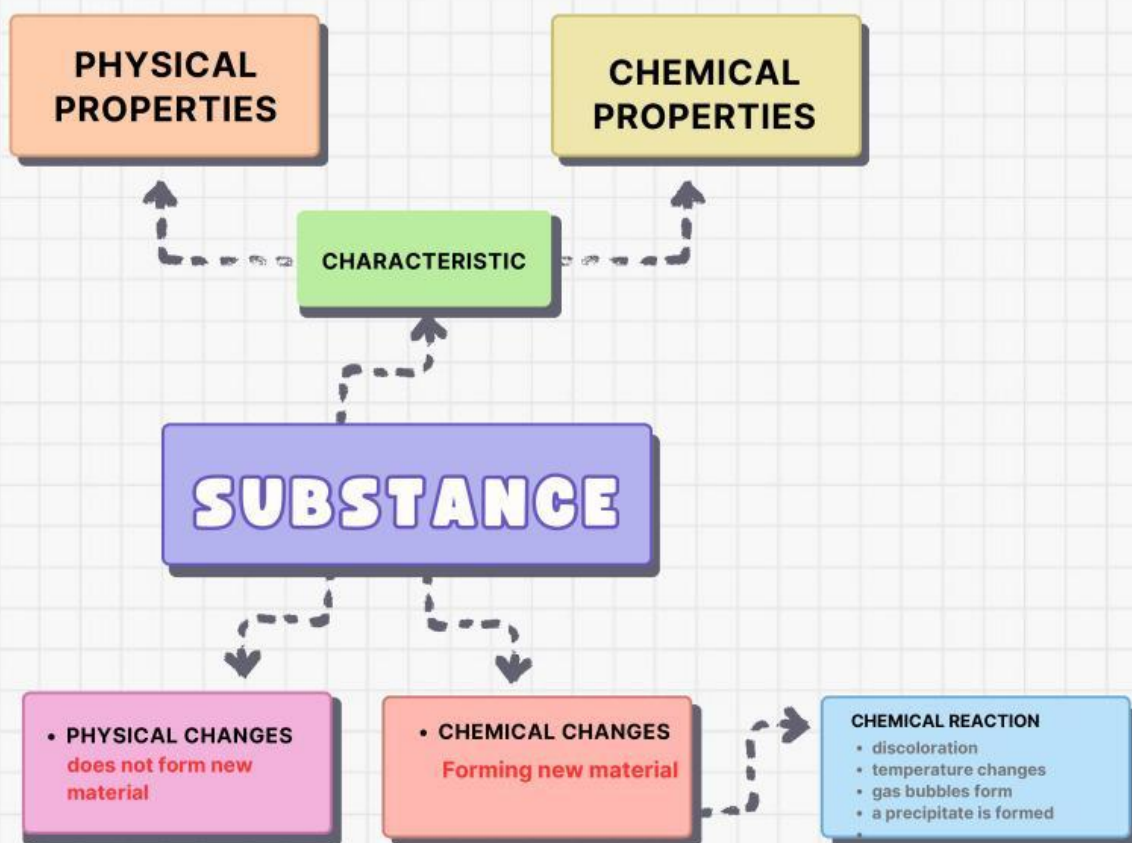
MEMBERS OF THE GROUP:

CLASS:





# MIND MAP







## **LEARNING OUTCOMES**

At the end of phase D, students are able to classify living things and objects based on observed characteristics, identify the properties and characteristics of substances, differentiate between physical and chemical changes, and separate simple mixtures.



## **LEARNING OBJECTIVES**

1. Students are able to identify examples of physical changes.
2. Students are able to identify examples of chemical changes.
3. Students are able to understand the differences between physical and chemical changes.
4. Students are able to develop critical thinking skills, be independent and work together in analyzing changes in material.



## **STUDY GUIDE**

1. Read the LKPD instructions carefully!
2. Experiment well!
3. Collaborate with group members!
4. Record the results of the observations that have been made!
5. Answer all the questions in the LKPD!
6. Don't forget to read the prayer first before doing the activity!



# MATERIAL



## WHAT IS SUBSTANCE ?

Substance is something that exists by itself and continues to exist even though conditions and properties change and everything that has mass and occupies space. Substances are usually also called substances, objects and matter. Substances are divided into three, namely:

- solid
- liquid
- gaseous substances



## PHYSICAL CHANGES

Physical changes are changes in matter that do not change the composition of the properties or components of the original material (do not form new substances). These changes can be in the form of size, shape or form.



## CHEMICAL CHANGES

Chemical changes are changes that occur in two or more materials that change the chemical properties so that new material is born and cannot be returned to the original material.







## PROBLEM ORIENTATION

Did you know that when you observe the clouds they will look like they are moving, then when it rains the clouds will start to gather and become dark in color. Or when you put water in the freezer which then freezes after a few hours. Not only that, when you cook water the water will evaporate. Apart from that, try observing that when you inhale air through your nose and exhale it through your mouth in front of a mirror, it will appear as if the mirror is condensing. Or iron that is continuously exposed to rainwater will rust. Do you know why this happened? What characteristics do these phenomena include?

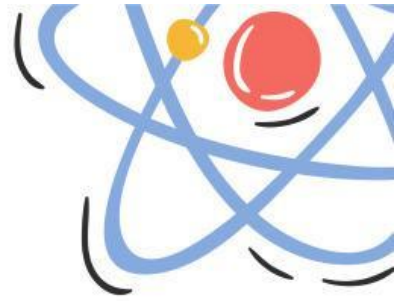


Let's investigate through observation!  
To understand how physical and chemical changes affect everyday life, let's make the following observations!





## RESEARCH QUESTION



Based on the above phenomena, problems that can be researched include:

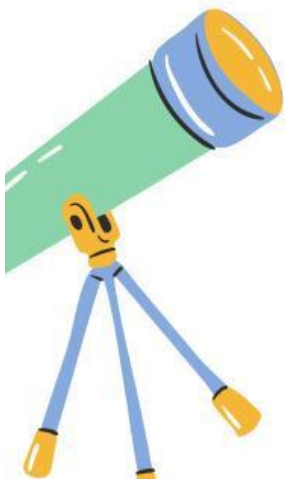
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## PURPOSE

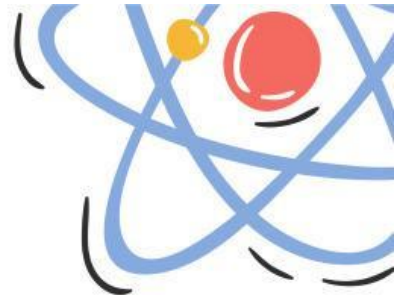
The objectives of carrying out this research are:

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## TOOLS AND MATERIALS



### TOOL :

1. Scissors
2. Match
3. Mortar
4. Glass
5. Spoon

### MATERIAL :

1. Paper
2. Sugar
3. Rice
4. Fruit



## EXPERIMENTAL DESIGN



PAPER CUTTING EXPERIMENT DESIGN



EXPERIMENTAL DESIGN FOR PAPER COMBUSTION



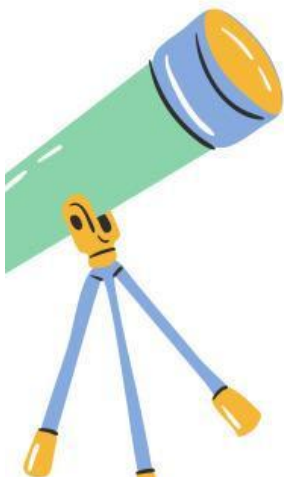
RICE GRINDING EXPERIMENTAL DESIGN



SUGAR DISSOLUTION EXPERIMENT DESIGN



FRUIT ROTTING EXPERIMENTAL DESIGN







# OBSERVATION STEPS

## first observation step

1. Prepare tools and materials.
2. Cut the paper into 6 parts
3. Observe the changes that occur
4. Classify what changes this phenomenon includes

## second observation step

1. Prepare tools and materials.
2. Take enough paper.
3. Turn on the match provided.
4. Burn the paper using the lighter.
5. Observe the changes that occur.
6. Classify what changes this phenomenon includes

## third observation step

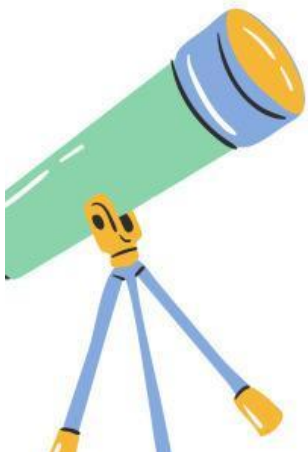
1. Prepare tools and materials
2. Put enough rice into the mortal and pestle
3. Grind the rice until it becomes flour
4. Observe the changes that occur

## fourth observation step

1. Prepare tools and materials
2. Put sugar into a glass
3. Give enough water
4. Mix the water and sugar until evenly mixed
5. Observe the changes that occur

## fifth observation step

1. Taking fruit that has been left for 5 days
2. Observing the changes that occur
3. Identifying what changes the event includes







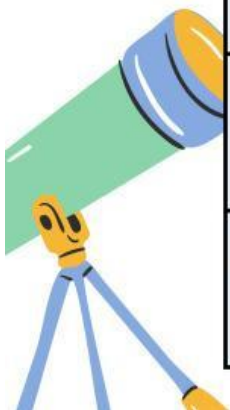
## TABLE OF EXPERIMENTAL RESULTS

Table 1. Data on Changes in Initial Products to Final Products:

Initial Products	The Final Product

Table 2. Experimental Data on Physical and Chemical Changes:

Phenomenon	Physical Changes	Chemical Changes	Information
Paper cutting			
Paper Burning			
Making Rice Flour			
Sugar Solution			
Fruit Rot			



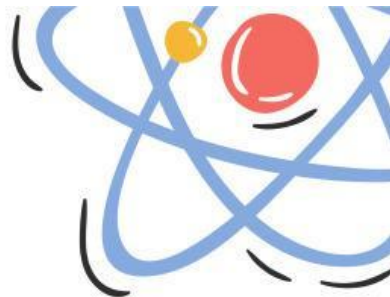


## ANALYSIS AND DISCUSSION

1. Analyze the table of results of observations that have been made!
2. Why does cut paper remain paper?
3. Why does fruit that is left for several days rot?
4. What is the difference between physical changes and chemical changes based on the experiments you have carried out?
5. Are the observations you have made in accordance with the research questions that were created previously?

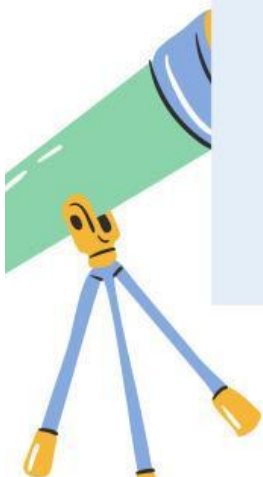






## CONCLUSION

Based on the analysis and discussion that you have prepared, write the conclusion of this experiment!





## QUESTION

Analyze the following video then answer the following questions accurately and briefly!

Scan the QR code below to access the video you are about to watch!



1. What changes to the video are classified as?

2. What chemical changes occur in making the tape in the video?

3. Can the tape return to its original shape? If not then explain!

