

SAINIK SCHOOL CHANDRAPUR
SUMMER HOLIDAY HOMEWORK 2024-25

SUBJECT: SCIENCE

CLASS - X

ACTIVITY 1: Reflection Collage (Creating a collage to explore the concept of reflection).

Materials Needed:

- Magazines or printed images
- Scissors
- Glue or adhesive
- Drawing paper or poster board
- 2 A4 sheets (one for the cover page and the second one to reflect on their artwork with a short note)
- Markers, coloured pencils, or crayons (optional)

Instructions:

- ★ Explore different types of reflection (e.g., Regular and Irregular).
- ★ Gather Materials from old magazines or printed images of mirrors, reflective surfaces, or images that can be creatively interpreted as reflections.
- ★ Cut out the selected images and paste them on drawing paper or poster board to create a composition representing the concept of reflection. After arranging the images, add artistic elements using markers, coloured pencils, or crayons. Students can draw lines, patterns, or shapes around the collage to enhance the overall design and convey the theme of reflection.
- ★ Once the collage is completed, students have to reflect on their artwork with a short note on
 - What do the images represent in terms of reflection?
 - How were the visual elements used to convey the concept of reflection?

Assessment Criteria:

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| ➤ Creativity: | 3 m |
| ➤ Artistic Technique: (e.g., cutting, gluing, drawing) | 2 m |
| ➤ Understanding of Reflection: | 3 m |
| ➤ On-time submission | 2 m |

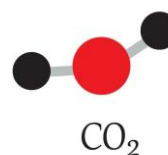
ACTIVITY 2: Drawing Molecular Models to Explore Bonding (Min 10)

Materials Needed:

- Instructional materials (handouts, diagrams of molecules).
- Minimum three A4 sheets including the cover page.

Instructions:

- Identify the atoms needed for the building models of any two molecules (e.g., hydrogen, oxygen, water, carbon dioxide, ammonia, methane, glucose etc.).
- Arrange the atoms in the correct geometry based on the molecule's structure (e.g., tetrahedral for methane).
- Differentiate how these molecular structures influence the physical and chemical properties of the molecules. (Differentiate both physical and chemical properties of both molecules separately in columns.)



RUBRICS:

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| ★ Accuracy of Model Construction: | 4 M |
| ★ Identification of Bonding Types: | 2 M |
| ★ Analysis of Molecular Properties: | 2 M |
| ★ On-time submission | 2 M |

ACTIVITY 3: Investigatory project

Topic: The theme of Earth Day 2024 is 'Planet vs plastic'

Answer the following:

1. What are microplastics? How are they different from virgin plastics?
2. What are the 2 main causes of microplastics?
3. What are 3 possible ways to solve the problems of microplastics?
4. What is the new EU (European Union) proposal to restrict microplastics?
5. How can we as students help in reducing microplastic pollution?