# Active Learning Lesson Plan

## Chemistry - Fossil Fuels and Carbon Compounds

### Homologous series, structural formulae and naming of carbon compounds (Conceptboard)

| | | | |
|---|---|---|---|
| School : | XXX Secondary School | | |
| Subject : | Chemistry | | |
| Form : | S5 | Date: | DD/MM/YYYY |
| Number of students: | 24 | Time: | 50 minutes |
| Topic : | Structural formulae and systematic naming of carbon compounds | | |

**Prior Knowledge:**

- Structural formulae of covalent compounds
- Meaning of a homologous series

**Learning Objectives:**

- Write structural formulae of carbon compounds (alkanes, alkenes, alkanols and alkanoic acids)
- Give systematic names of carbon compounds (alkanes, alkenes, alkanols and alkanoic acids)

**Learning activities planned for this lesson:**

- Work out questions related to structural formulae and systematic names of carbon compounds on the collaborative problem-based learning and peer assessment (Co-PBLa-PA) using **Interactive Online Whiteboards (IOWB)**.

## Flow/Breakdown of lesson

### Review and Warm-up (5 mins)

Teacher helps students to recall the prior knowledge including:

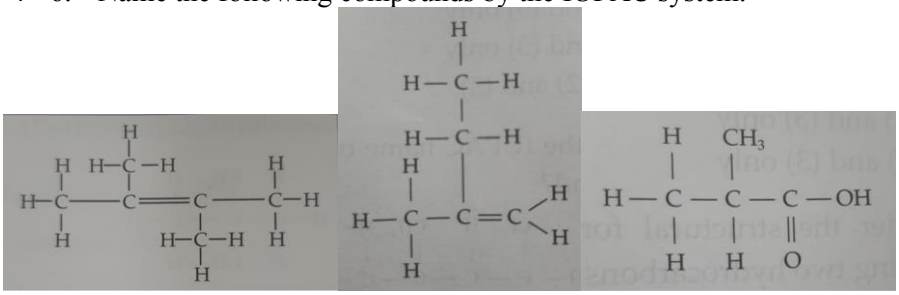
- Structural formulae of covalent compounds
- Meaning of a homologous series

### Teacher's demonstration and explanation (20 mins)

Teacher teaches the following concepts.

- How to write structural formulae of carbon compounds according to their IUPAC names
- How to name carbon compounds by the IUPAC system

## Collaborative Problem-based Learning and Peer Assessment (Co-PBLa-PA) Activities for Students (20 mins)

| Teacher's Activity | Students' Activity |
|---|---|
| **Interactive Online Whiteboards (IOWB)** will be used for students to show their works.<br><br>Teacher assigns students in groups to finish the questions on the **Interactive Online Whiteboards (IOWB)**.<br><br>1. Group students into 6 groups.<br>2. Students first finish questions in groups with a given time limit.<br>3. Students then are assigned to mark other groups' works.<br>4. Students share works/markings of their groups with the class and explain their ideas.<br>5. Teacher highlights the correct answers/ideas and corrects the misunderstandings/mistakes<br><br>**Questions**<br><br>1. Give the structural formula for but-2-ene.<br>2. Give the structural formulae for 2-methylpropan-1-ol.<br>3. Give the structural formula for 2,2-dichloropropanoic acid.<br>4 - 6. Name the following compounds by the IUPAC system.<br><br>  | Enter the room by scanning the QR code.<br><br>Actively engaging in discussion and working out the solution collaboratively using the **Interactive Online Whiteboards (IOWB)**.<br><br>Students can ask questions through **YoTeach!**.<br><br>  |

## Conclusion and Homework assignment (5 mins)

Teacher concludes the lesson by recapping the concepts/objectives learnt in this lesson.

Assign homework to students.

**Total: 50 mins**