

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

বিস্মিল্লাহির রাহমানির রাহীম



উদ্দান

একাডেমিক এন্ড এডমিশন কেয়ার



Class X Academic Program -2020

Chemistry

Prepared by : Sadat Ahmed Dipro



(Fossil Fuel)

animal + plants
↓
Decompose

Heat energy

Wood
↑ + O₂
Biom
↓ energy
Diff. Type





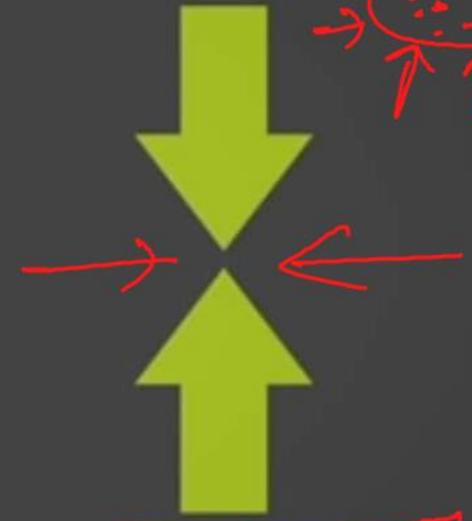
জীবাশ্ম ডায়াগ্রাম

4) Factors

Animal + plant

Decompose

Fossil!



ORGANIC MATTER

TEMPERATURE

TIME

PRESSURE CONDITIONS

Insects + bacteria

enzyme

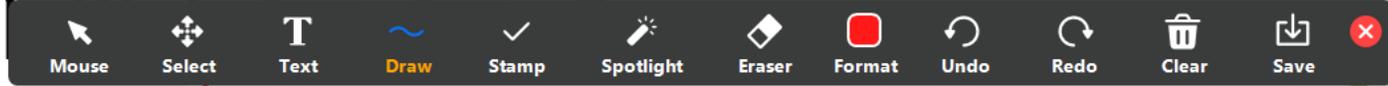
lengthy process

crucial factor



জীবাশ্ম জ্বালানি

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Fossil Fuel



COAL

Ingredient
C



OIL

petroleum
oil



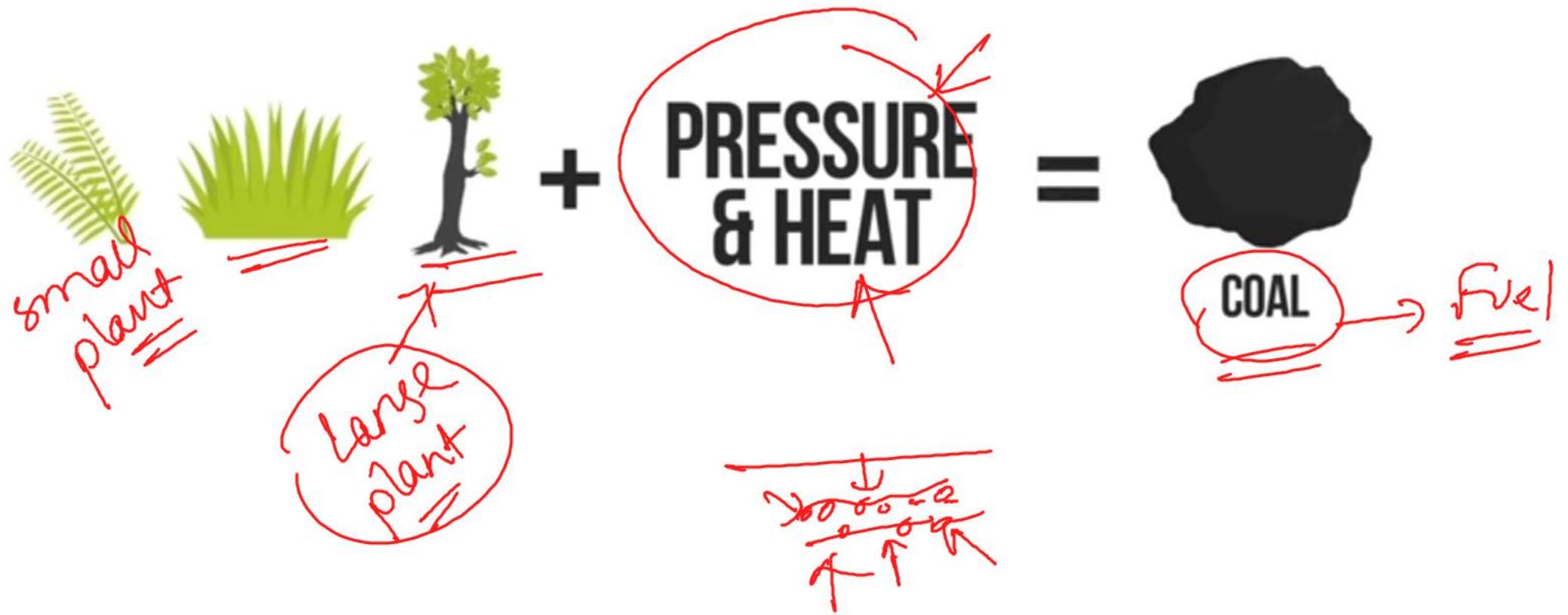
NATURAL GAS

CH_4
 C_2H_6

Mute Start Video Participants 277 Q&A 28 Polls New Share Pause Share Annotate Remote Control More 15

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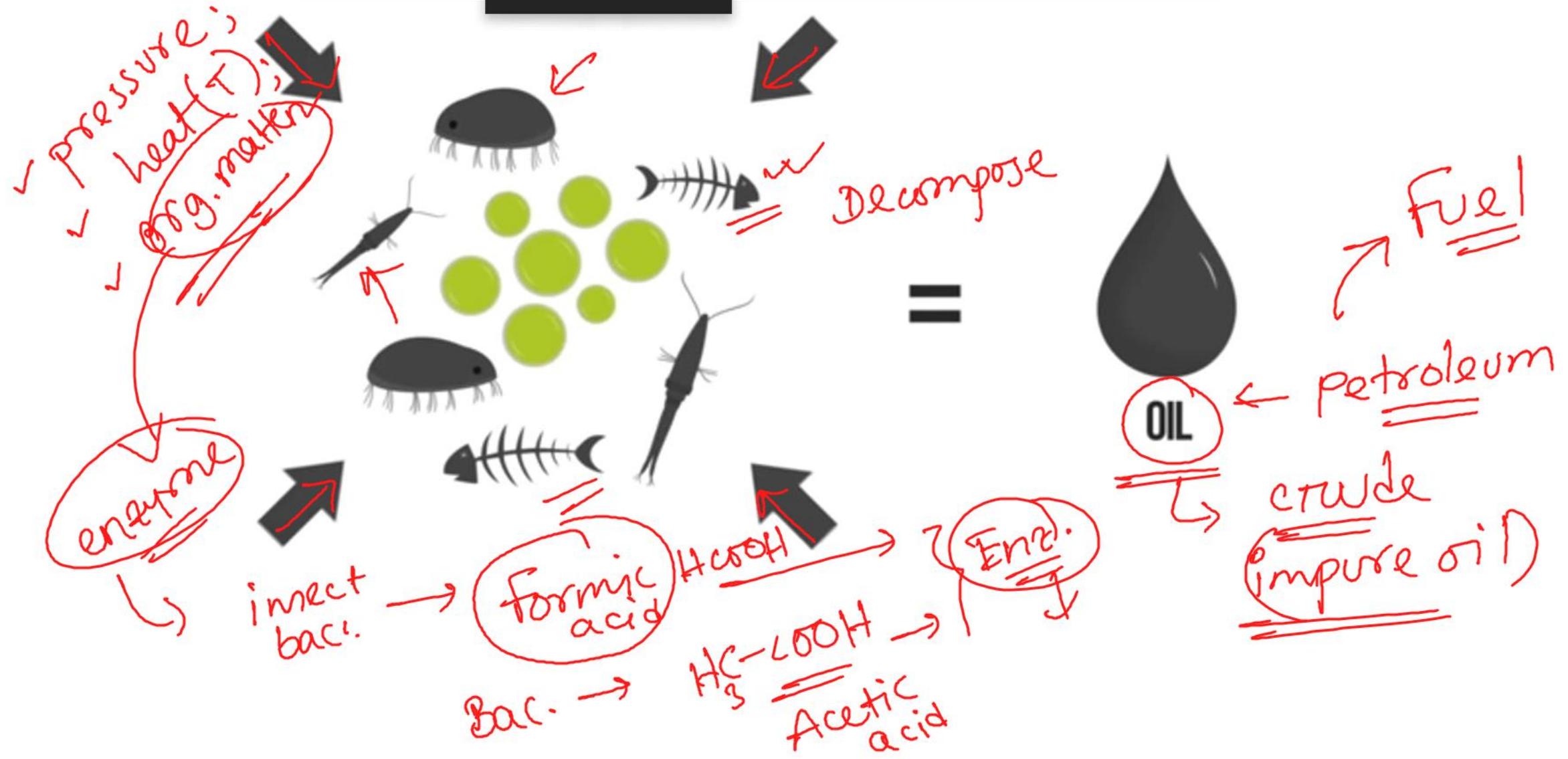
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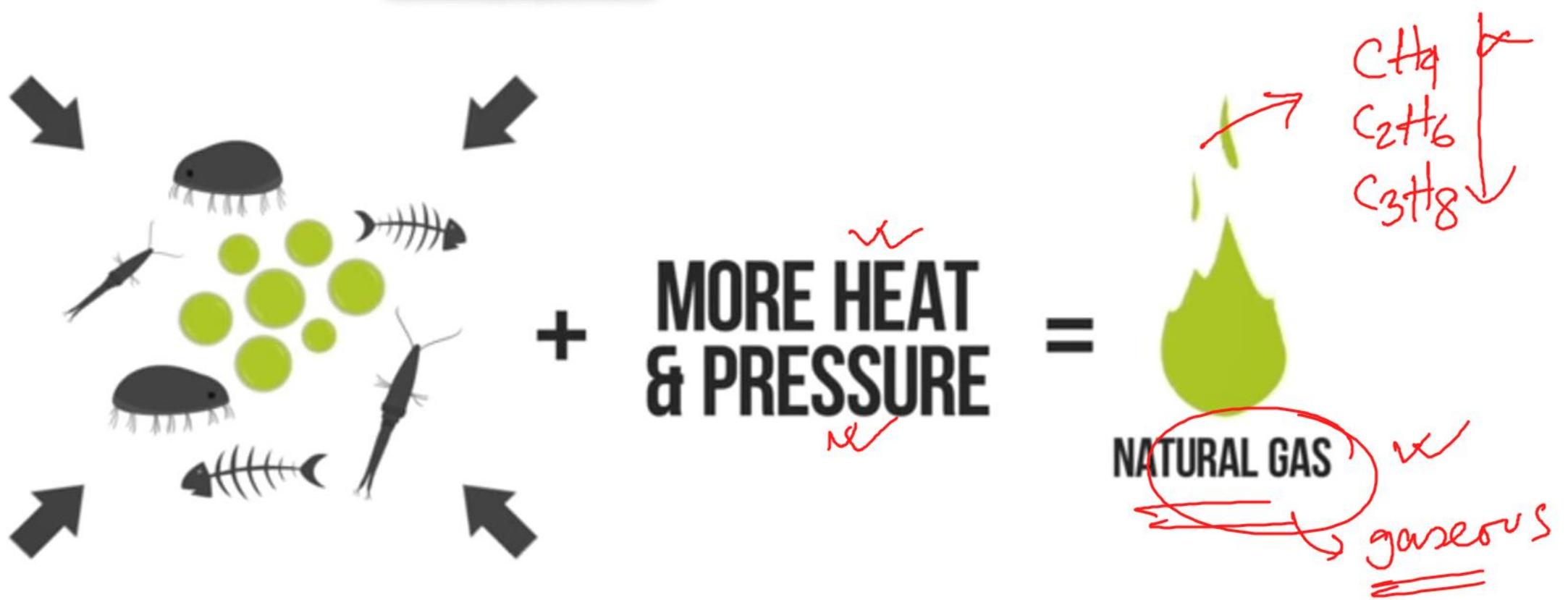
Mute Start Video Participants 290 Q&A 56 Polls New Share Pause Share Annotate Remote Control More 23

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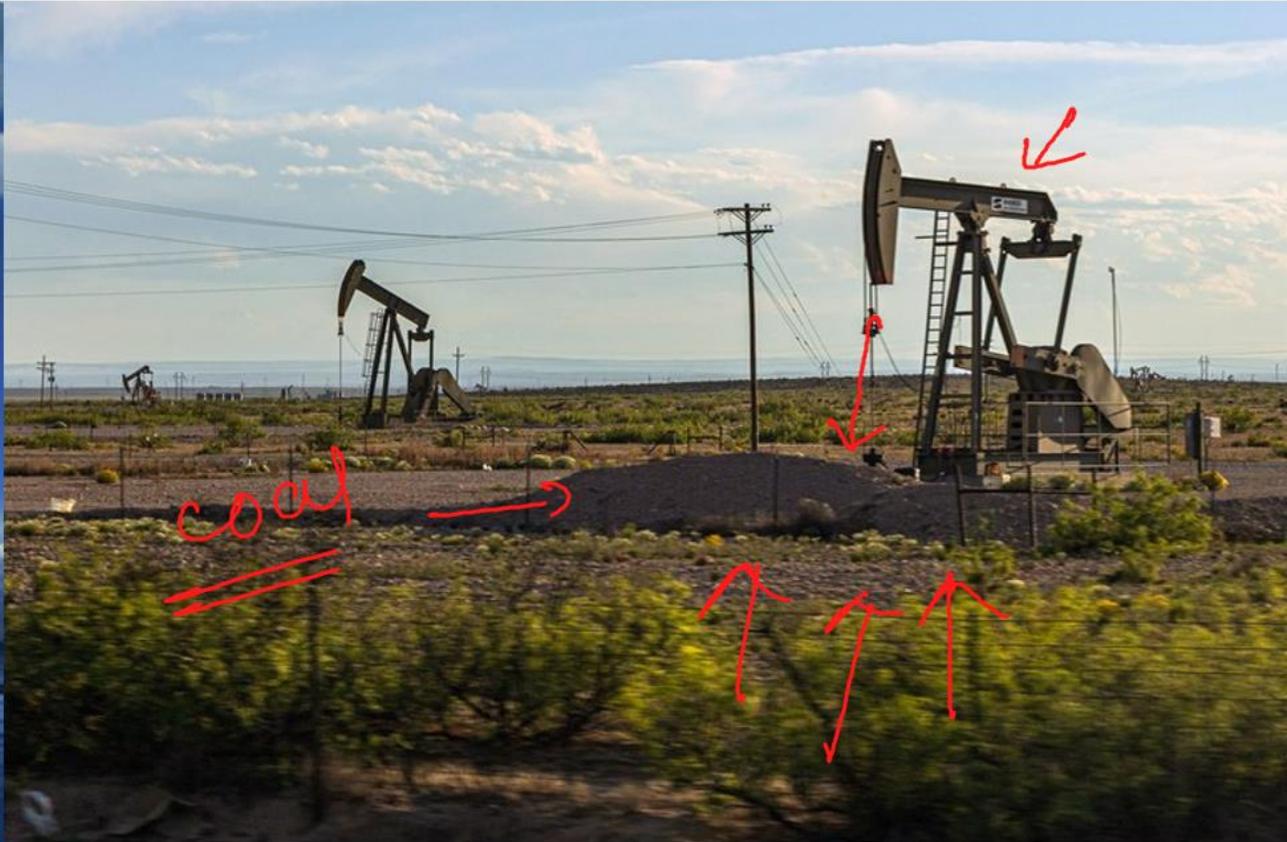




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✓ 1. Natural Resource
✓ 2. Enough sufficient



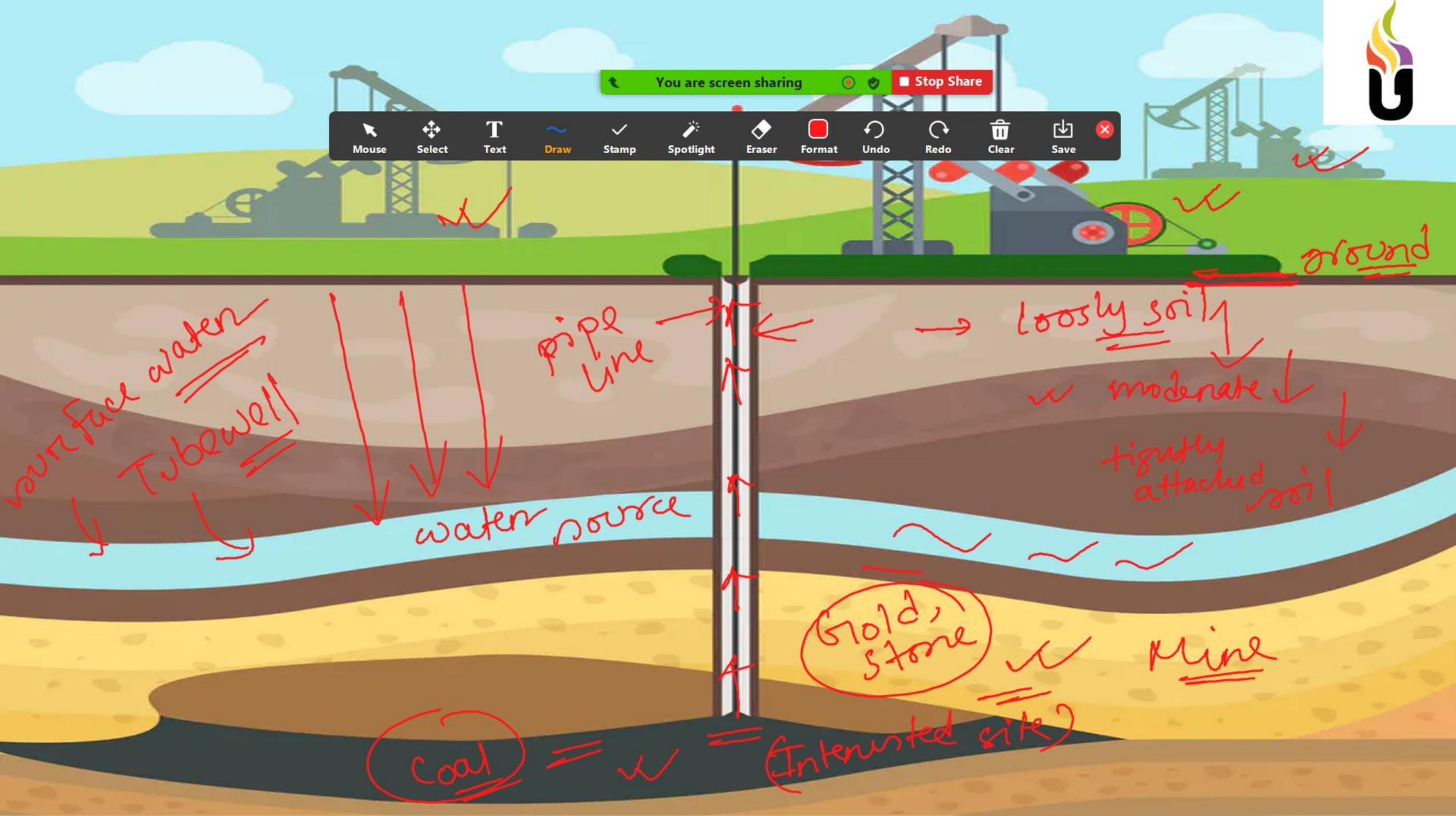
coal

scn



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Impure

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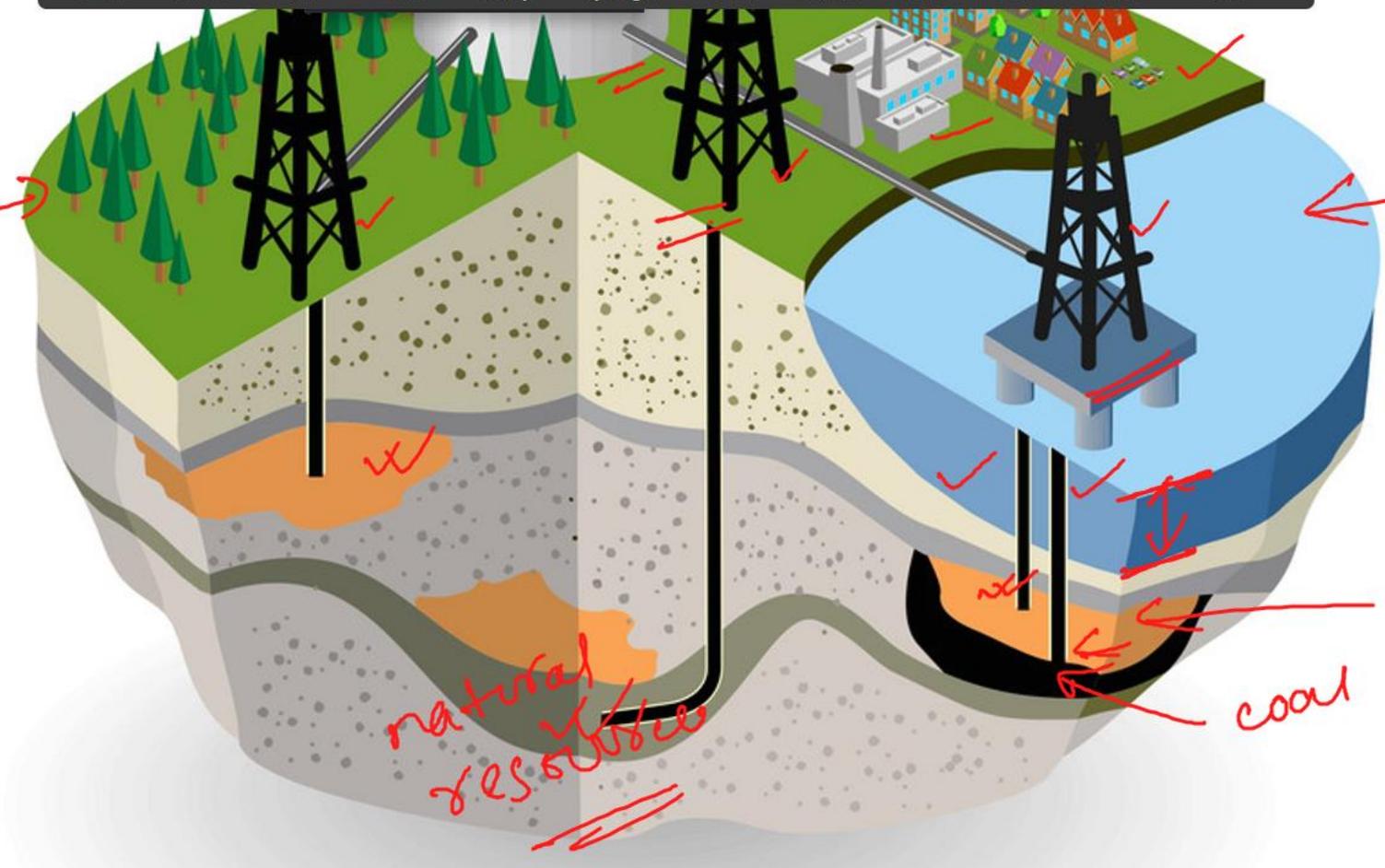
land

water (ocean)

natural gas or oil

coal

natural resources

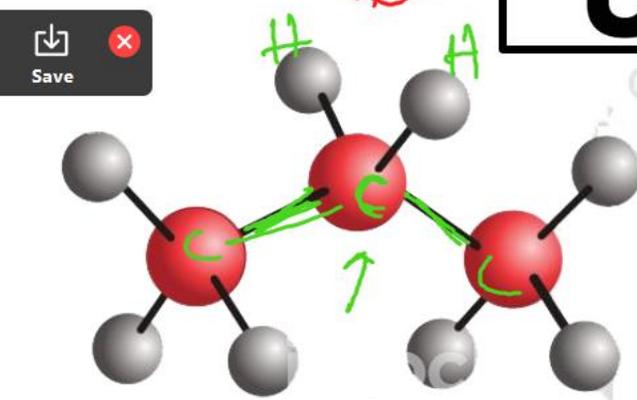
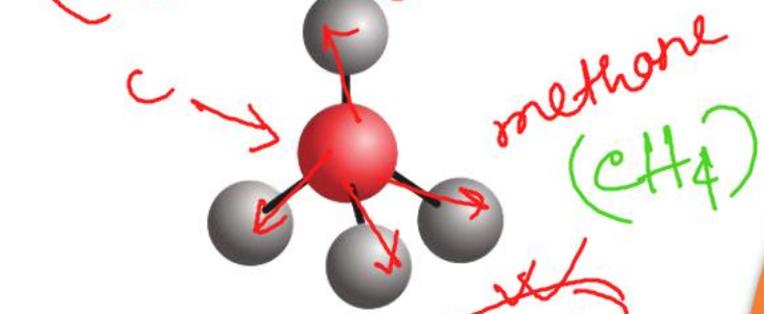
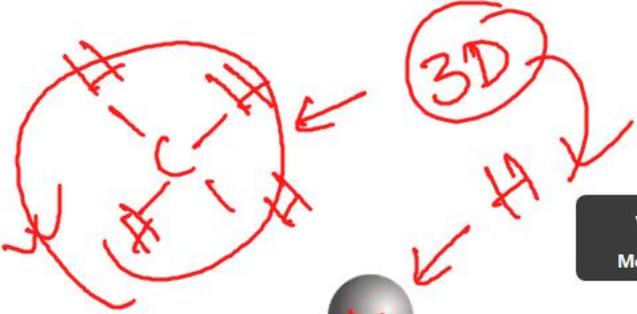
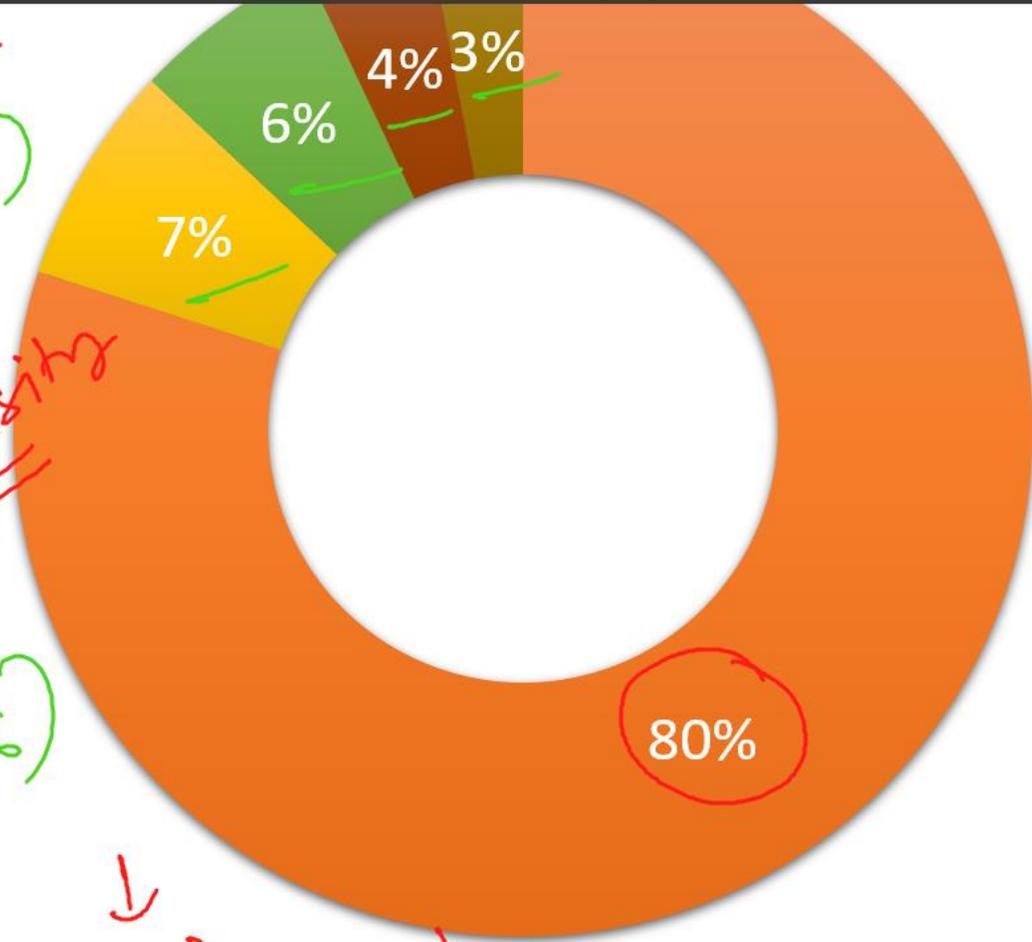


Natural Gas

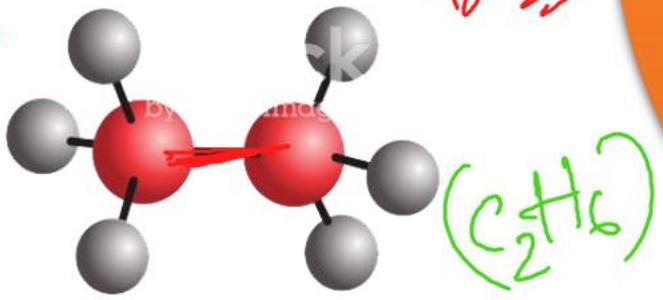


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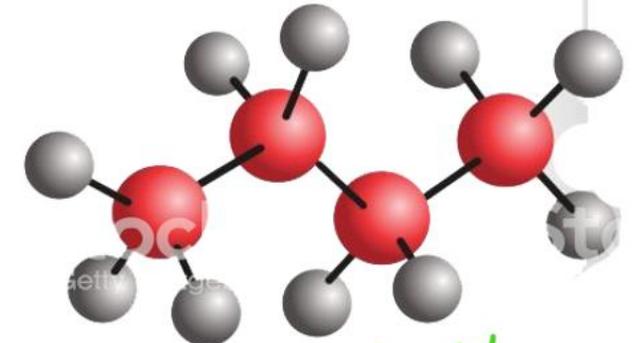
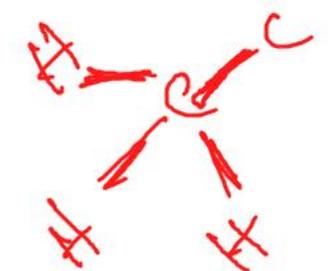
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Handwritten text: "Catenation" (circled in red) and "Diversity" (underlined in red). Below it is "HC-CH₃".



Handwritten text: "propane (C_3H_8)".



- Methane (1C)
- Ethane (2C)
- Propane (3C)
- Butane & Isobutane (4C)
- Pentane (5C)

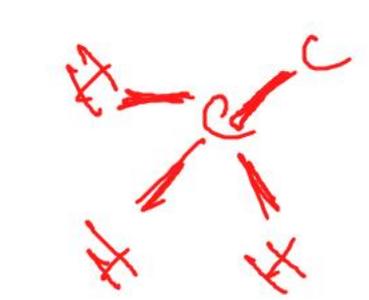
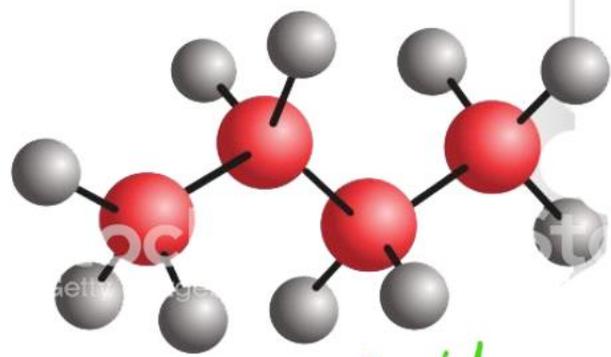
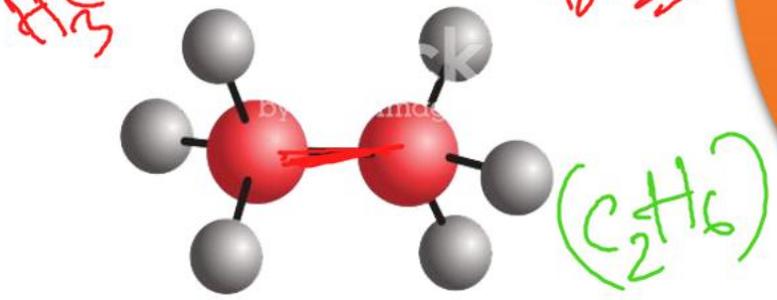
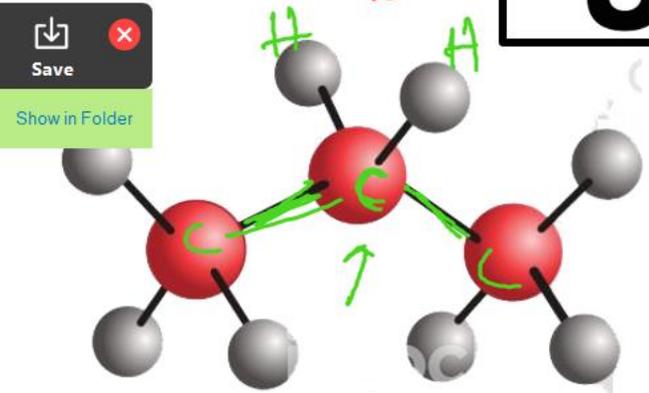
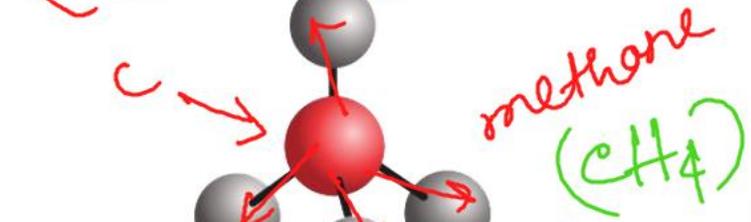
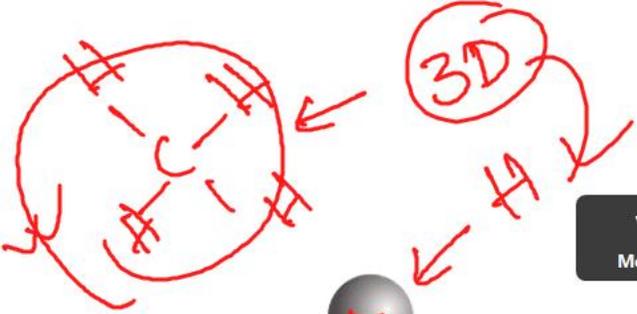
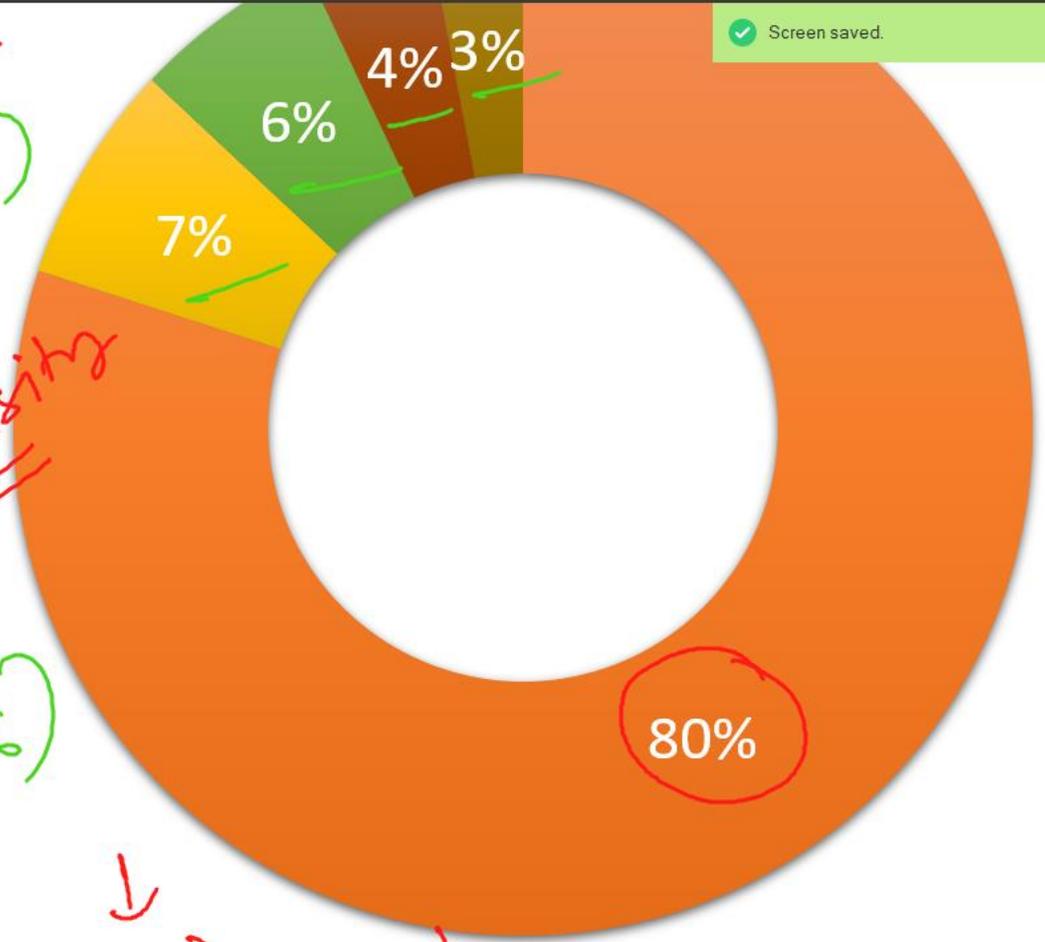
Natural Gas



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Screen saved. Show in Folder



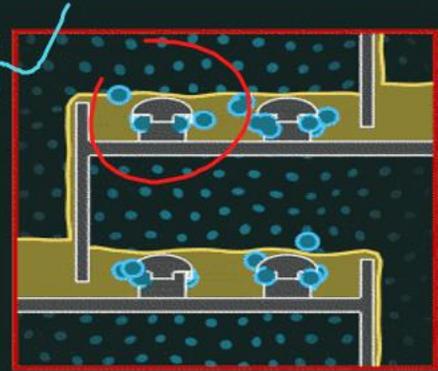
- Methane (1C)
- Ethane (2C)
- Propane (3C)
- Butane & Isobutane (4C)
- Pentane (5C)

DISTILLATION

Crude oil contains a variety of **hydrocarbons** that have different boiling points. To separate these compounds, the mixture is heated into a super-hot mixture of

The mixture is then fed into a **distillation tower**. In here, the compounds with a lower boiling point rise up as vapours, while the compounds with a higher boiling point fall downwards as liquids.

The tower contains trays that allow the vapour to bubble upward through the liquid, helping to exchange heat and resulting in more effective separation.

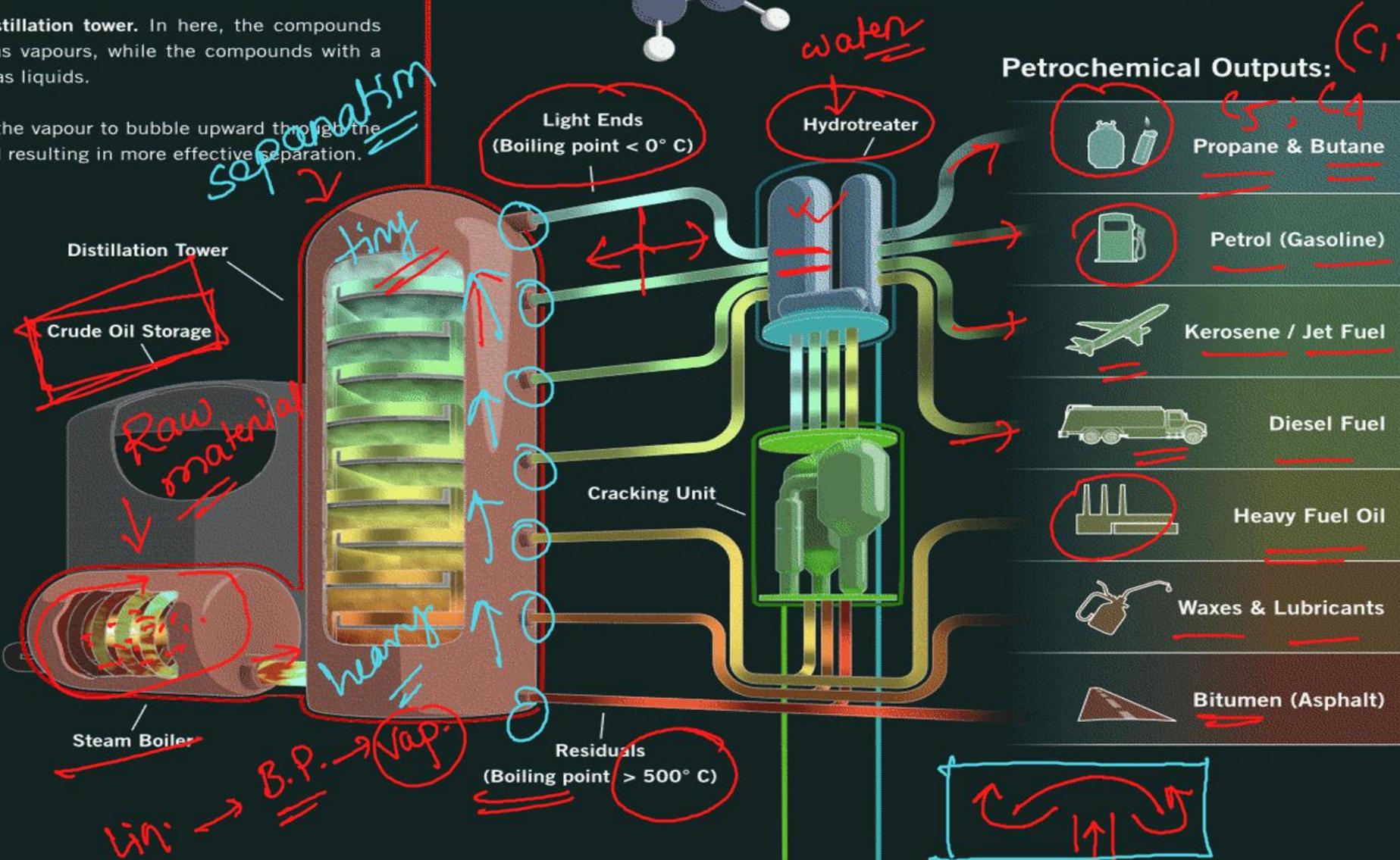


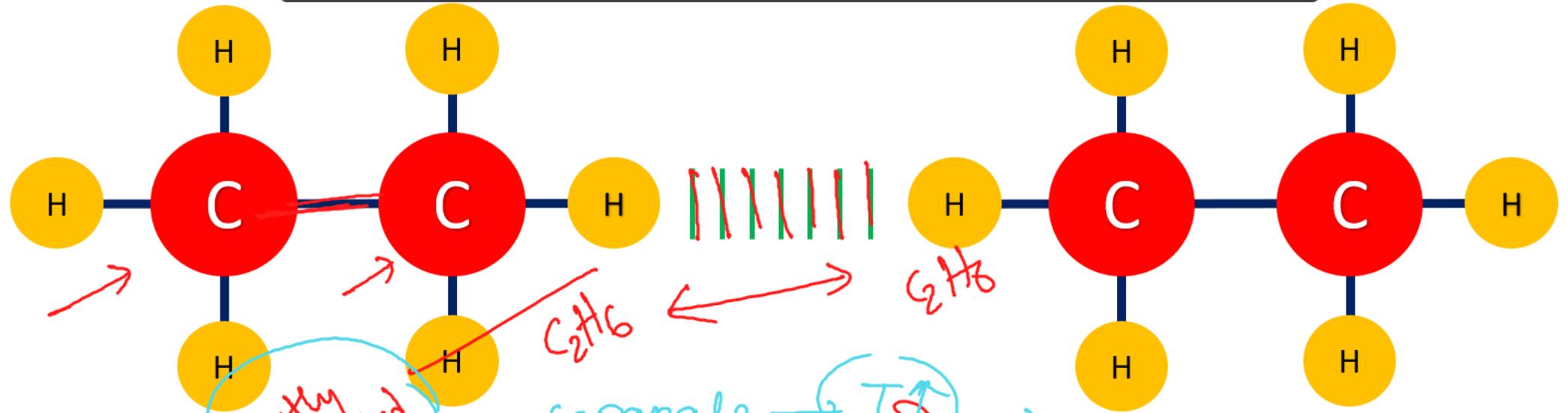
The distilled products are then piped off from the different levels of the tower. These separated products are called **fractions** or **distillates**.

This process may take place along multiple distillation towers.

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IMAF

→ Tightly attached

→ Loosely attached

T ↓

separate via temp.

(IMAF)

T ↑

আন্তঃআণবিক আকর্ষণ বল
(Inter-Molecular Attraction Force)

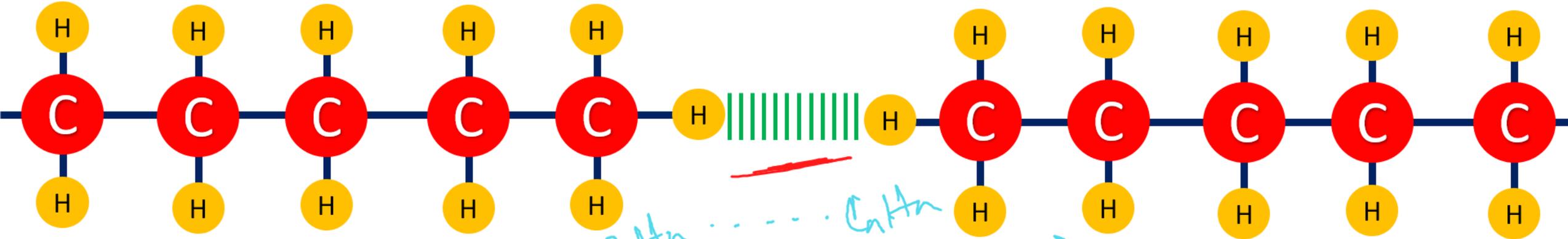
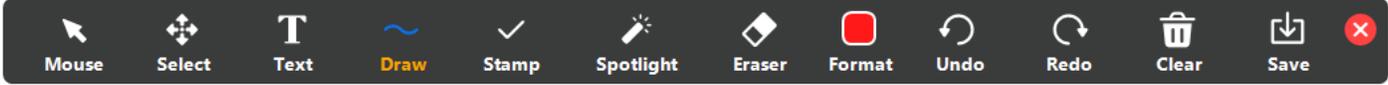
IMAF ↑ ; B.P. ↑

"Relate" ↓ ; B.P. ↓

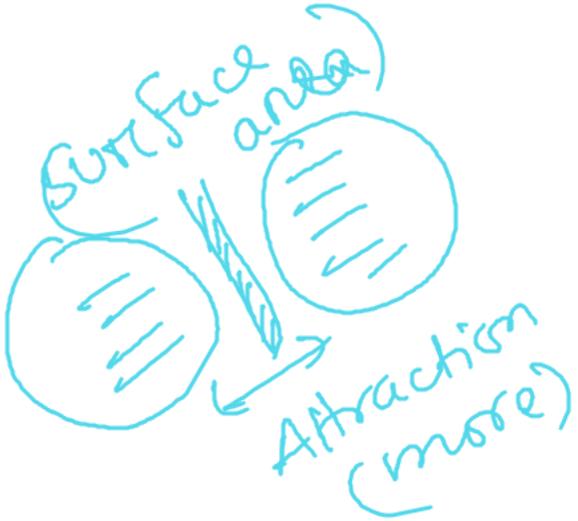
স্ফুটনাঙ্ক (Boiling Point)
(B.P.)



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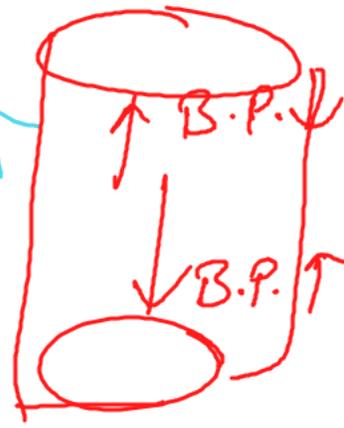
C_nH_n ... C_nH_n



আন্তঃআণবিক আকর্ষণ বল

IMAF

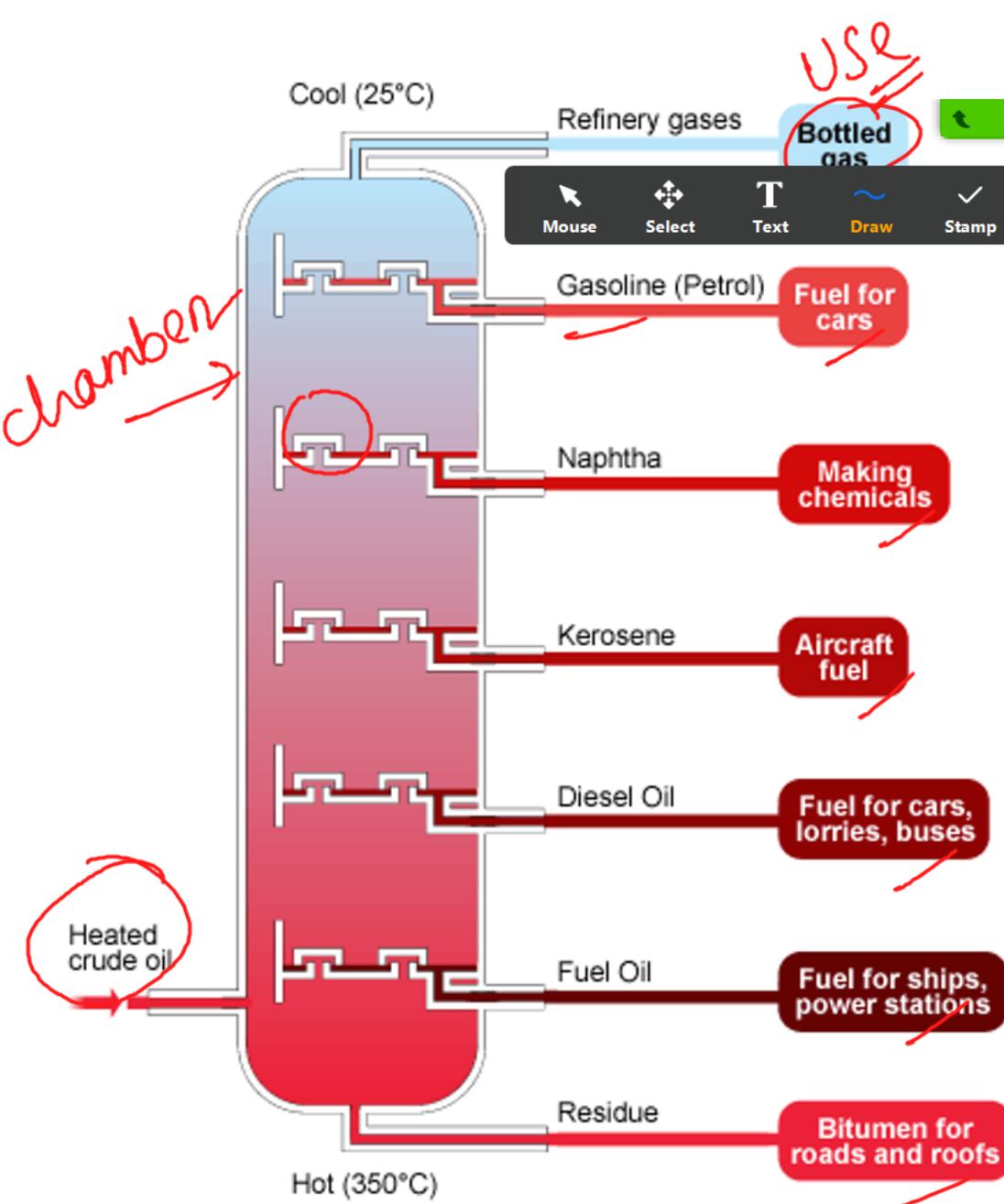
স্ফুটনাঙ্ক B.P.





chamber

Heated crude oil



USE

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Refinery gases	$C_1 - C_4$	-20°C
Gasoline (Petrol)	$C_5 - C_{10}$	$21^\circ\text{C} - 70^\circ\text{C}$
Naphtha	$C_7 - C_{14}$	$71^\circ\text{C} - 120^\circ\text{C}$
Kerosene	$C_{11} - C_{16}$	$121^\circ\text{C} - 170^\circ\text{C}$
Diesel Oil	$C_{17} - C_{20}$	$171^\circ\text{C} - 270^\circ\text{C}$
Fuel Oil	$C_{20} - C_{30}$	$271^\circ\text{C} - 340^\circ\text{C}$
Residue	$>C_{30}$	$>340^\circ\text{C}$

molecular surface ↓
I.M.A.F. ↓
B.P. ↓

gas → liquidified
↑
high pressure

molecular sur. ↑
I.M.A.F. ↑
B.P. ↑↑

made of
(C, H)
Hydrocarbon

Mute Start Video Participants 251 Q&A Polls New Share Pause Share Annotate Remote Control More 36

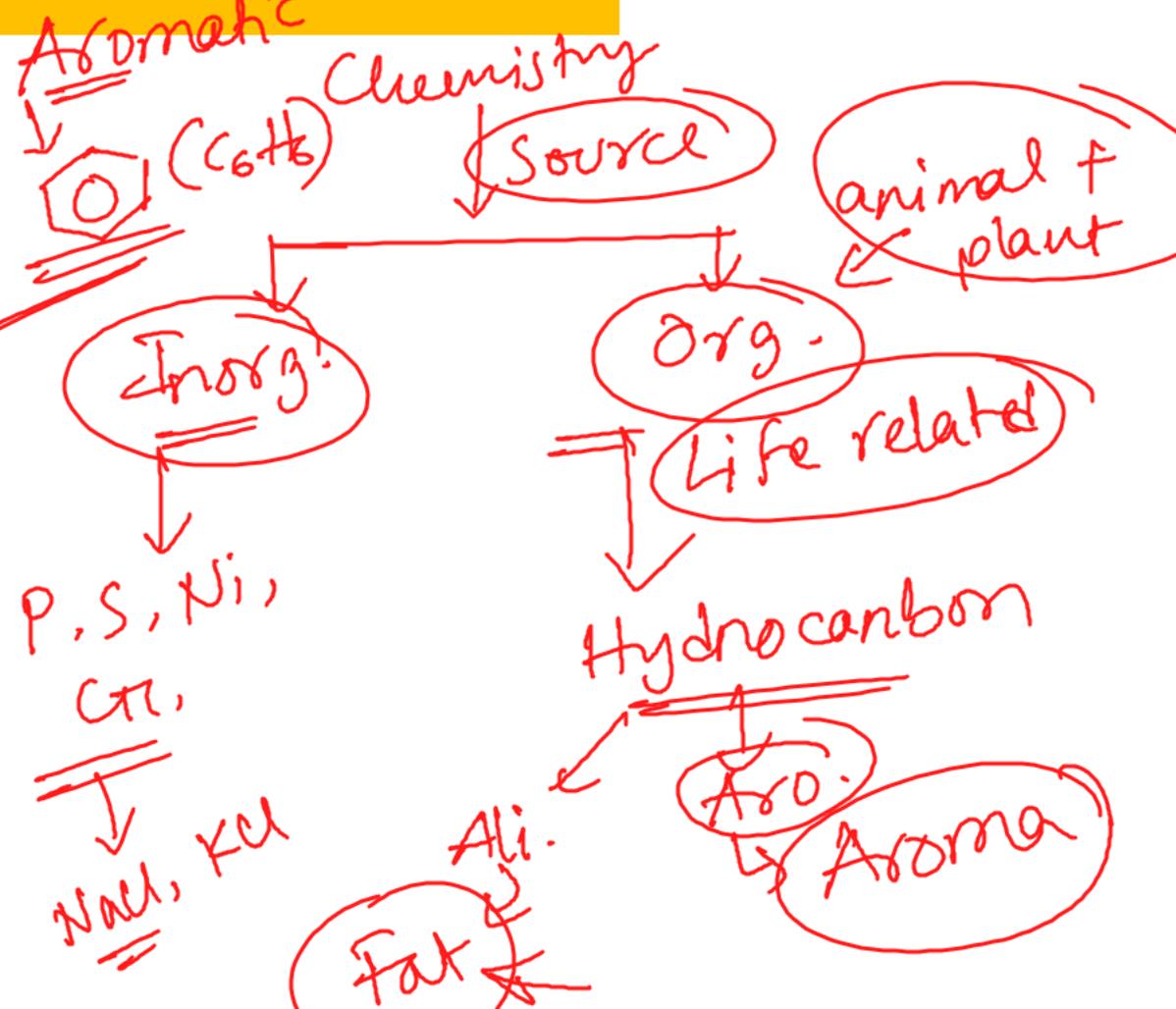
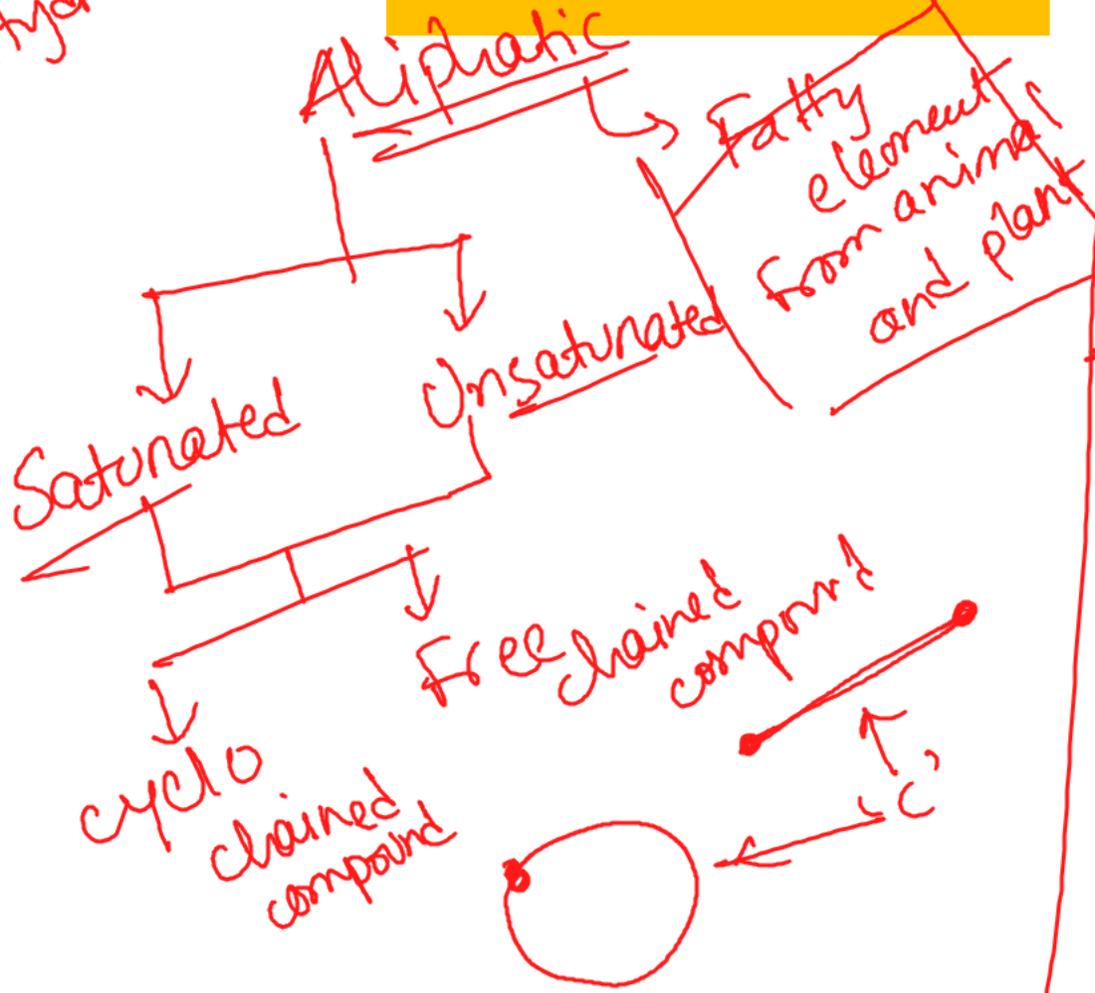
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অ্যালিফেটিক

অ্যারোমেটিক



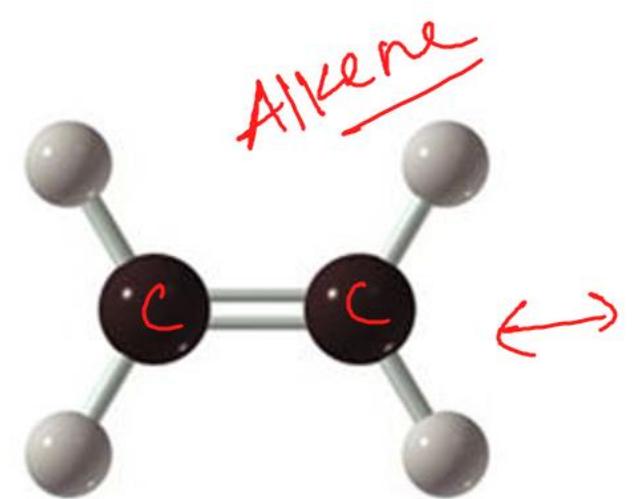
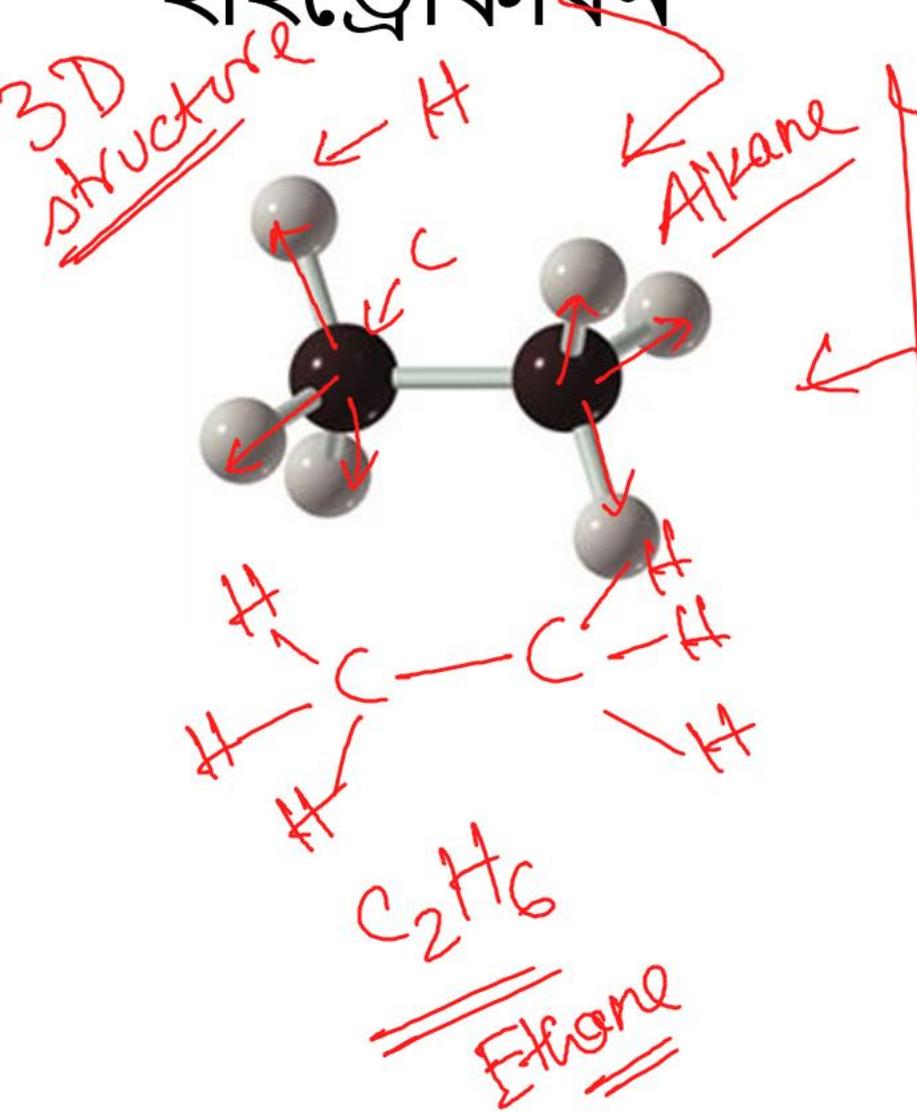
সম্পৃক্ত (Saturated) ও অসম্পৃক্ত (Unsaturated)

হাইড্রোকার্বন

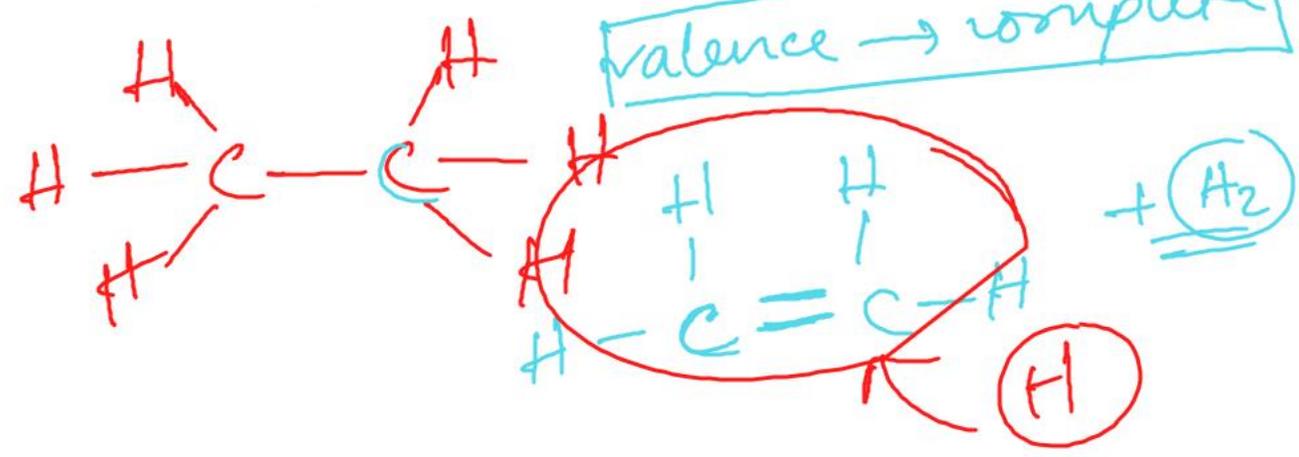
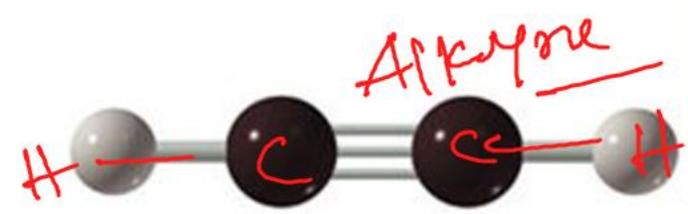


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Saturated: Single Bond
 Unsaturated: Double " or Triple "

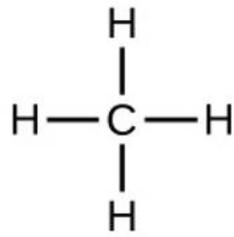


সম্পৃক্ত (Saturated) হাইড্রোকার্বন

Mute Start Video Participants 239 Q&A 66 Polls New Share Pause Share Annotate Remote Control More 38

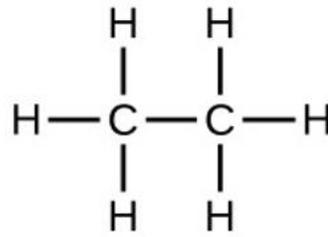
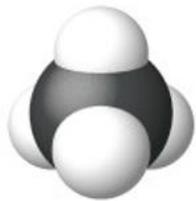
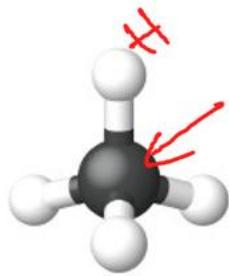
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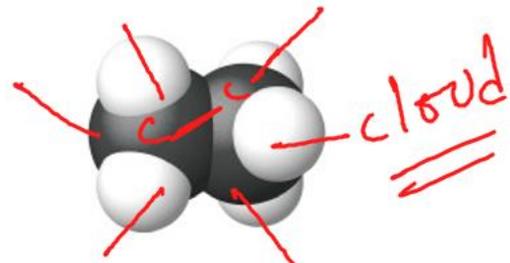
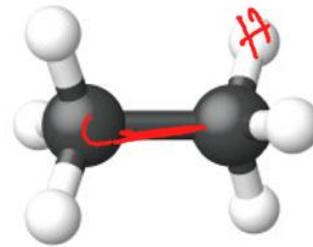
CH_4

c methane

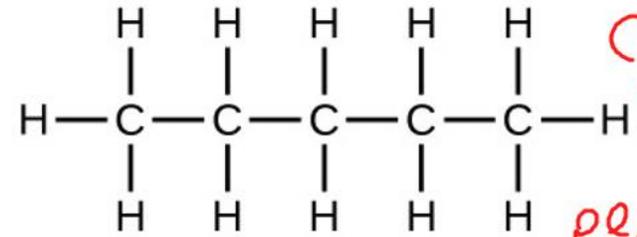


C_2H_6
ethane

stick

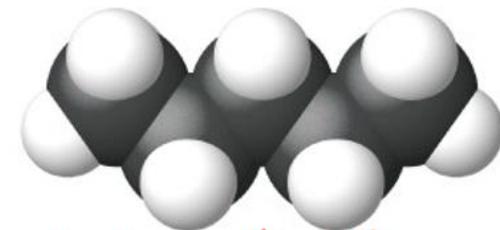
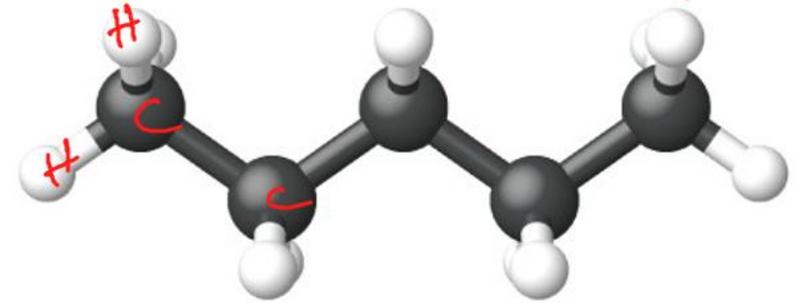


All of them are



C_5H_{12}

pentane



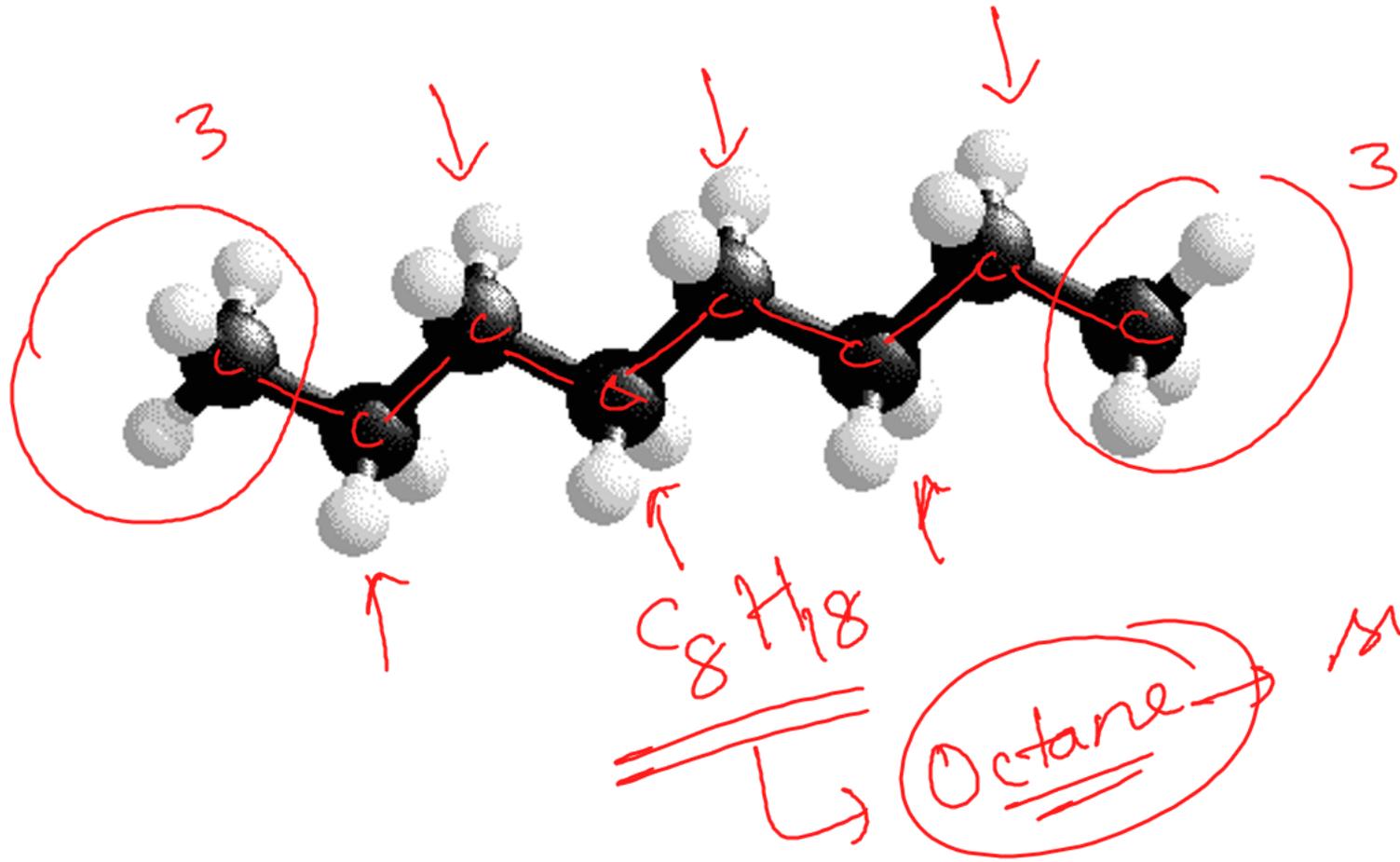
saturated hydrocarbons.

সম্পৃক্ত (Saturated) হাইড্রোকার্বন



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লগে থাকো সৎভাবে,
স্বপ্ন জয় তোমারই হবে

ঔদ্ভাস-উন্মেষ শিক্ষা পরিবার

Thank You