

UPDAAN



2025

Bharat Mata Ki Jay ♡

[Live Experiments]

CHEMICAL REACTIONS AND EQUATIONS

Introduction to Change and Chemical Reactions

CHEMISTRY

Lecture – 01

BY: SUNIL BHAIYA



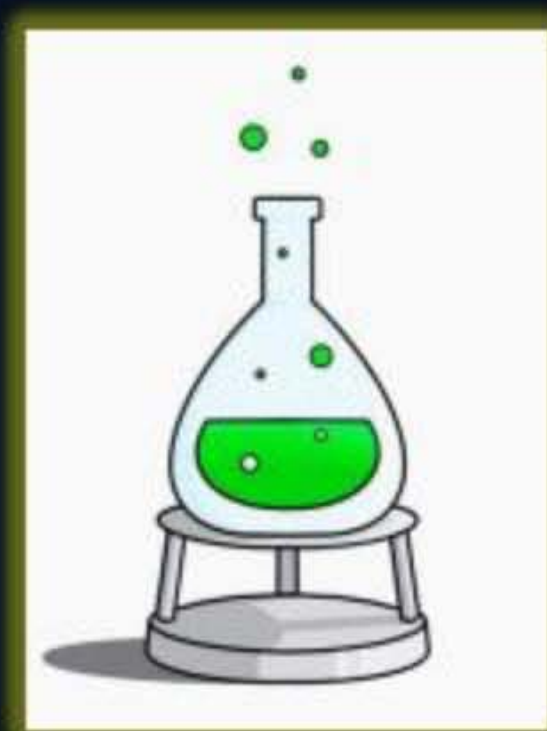
Topics

to be covered

- 1 Introduction to Change
- 2 Physical and Chemical Changes
- 3 Characteristics of Chemical Reaction



Knowledge Ride On



Introduction to Change

Knowledge Ride On



Physical and Chemical Changes

Knowledge Ride On



Characteristics of Chemical Reactions



Knowledge Ride On

NODOUBT

Non-academic Doubt Resolution

Knowledge Ride On



Insaniyat Ka Gyaan



Hasmukhlal to Simaila: Tata ki uss car ka naam batao jiska naam chemical symbols of elements with atomic number 11, atomic number 7 and atomic number 8 se bana hai.

Simaila to Hasmukhlal: Jyda Chemistry padhli kya apne Hasmukhlal ji? Baccho se pcho mjhe ni aata...

NaNO



Hasmukhlal to Simaila: Tata ki uss car ka naam batao jiska naam chemical symbols of elements with atomic number 11, atomic number 7 and atomic number 8 se bana hai.

Simaila to Hasmukhlal: Jyda Chemistry padhli kya apne Hasmukhlal ji? Baccho se pcho mjhe ni aata...

Hasmukhlal Gang Be Like



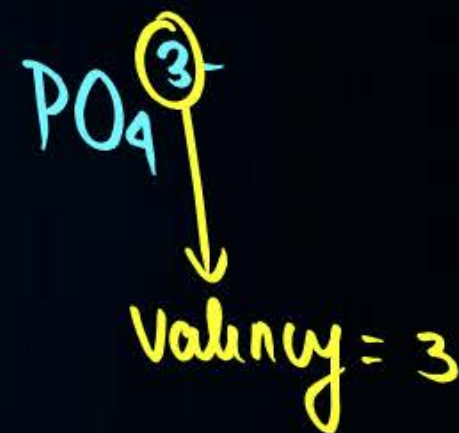
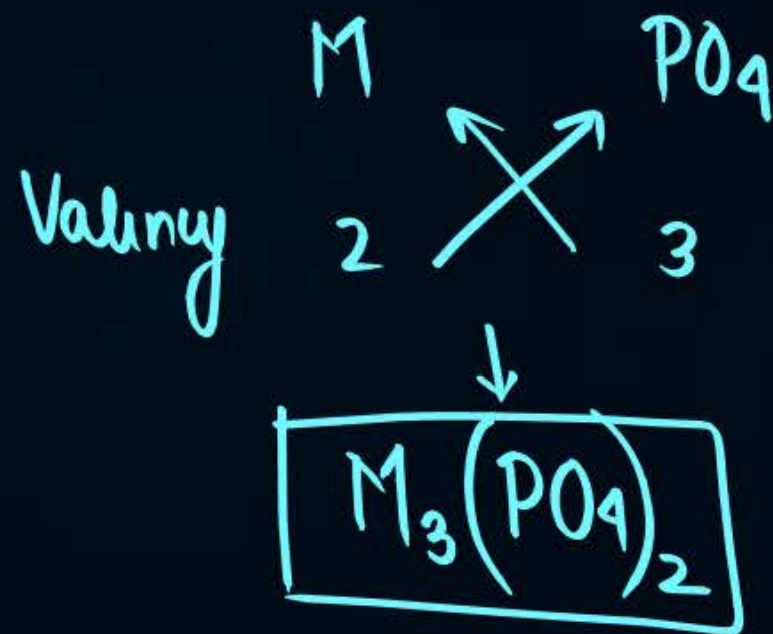
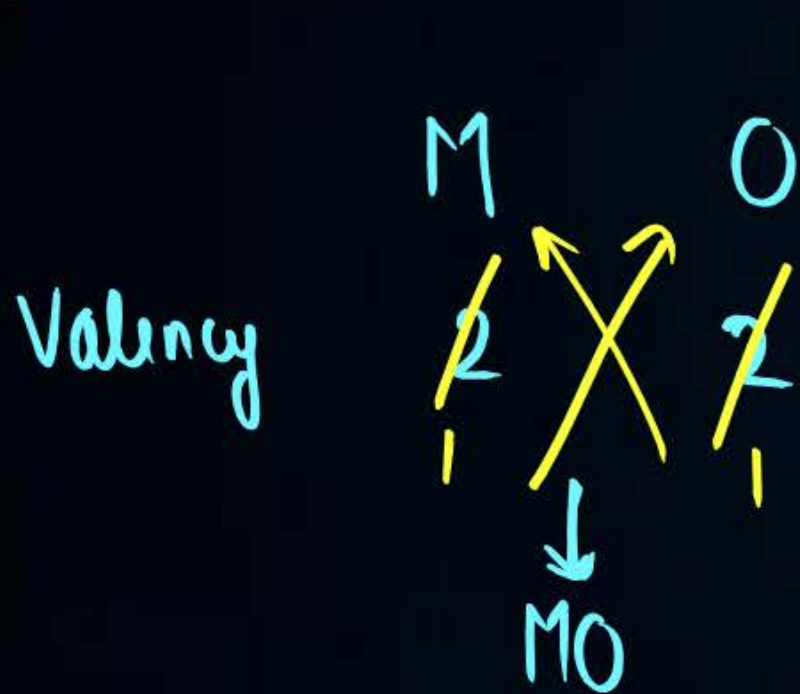
Concept Polish (गृहकार्य) - Discussion



QUESTION



An element M forms the oxide MO . What will be the formula of its phosphate?





Introduction to Change

Introduction to Change (परिवर्तन) | बदलाव



A process in which the final state of the substance is different from its initial or original state is known as change.

Initial State / Original State



THEN

Difference

PROCESS

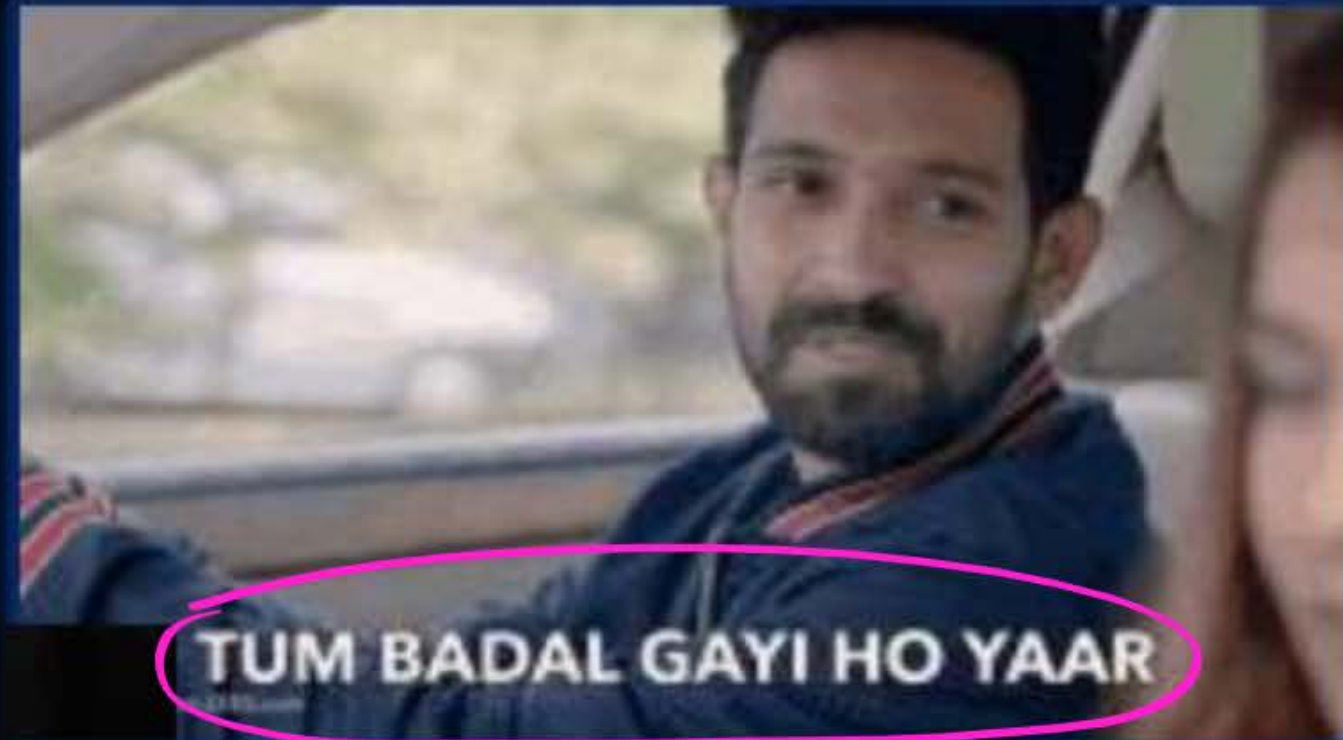
CHANGE
(परिवर्तन)

Final State



NOW

Meme Style of Change (परिवर्तन)



Tapu



THEN

Tapu



NOW

Difference

Process

CHANGE



Classification of Change (परिवर्तन)

On the basis of change in chemical composition, i.e. [chemical built-up]

NO

(भौतिक परिवर्तन)

Physical

YES

Chemical

(रासायनिक परिवर्तन)

Padarth (substance) woh jin particles se
bana h kya unme porivartan aaya?

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Samaj rahe ho

ISO 200 F 2.7 HD 720P 30 FPS

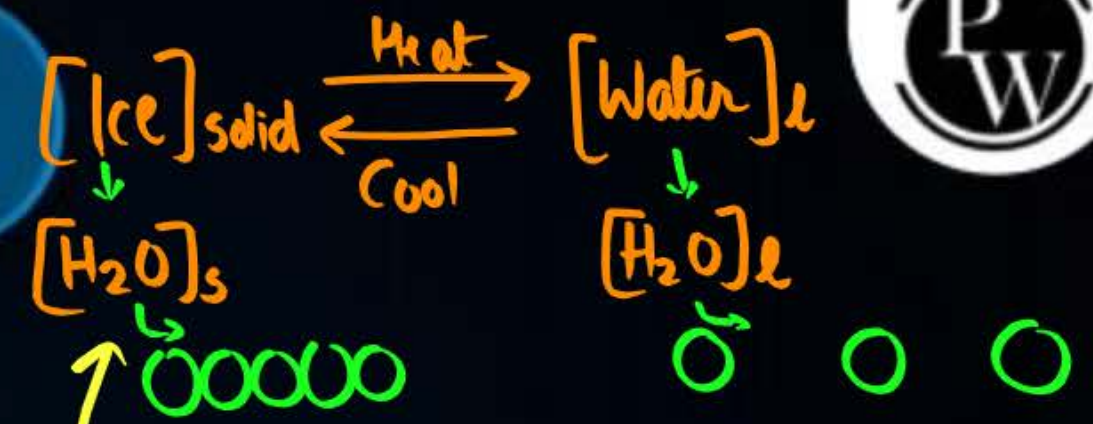
aye



Physical and Chemical Change



Physical Change (भौतिक परिवर्तन)



- (i) Chemical composition changes: **No**
- (ii) Shape/Size/Physical state change: Yes ✓

Physical Change
(भौतिक परिवर्तन)

(आकार)

physical properties



- (i) chemical composition changes
- (ii) shape & size
- (iii) physical state

(A)
NO

YES

NO

(B)
NO

YES

YES



Cutting a Paper Into Pieces

Melting of Ice Cubes



Chemical Change (रसायनिक परिवर्तन)

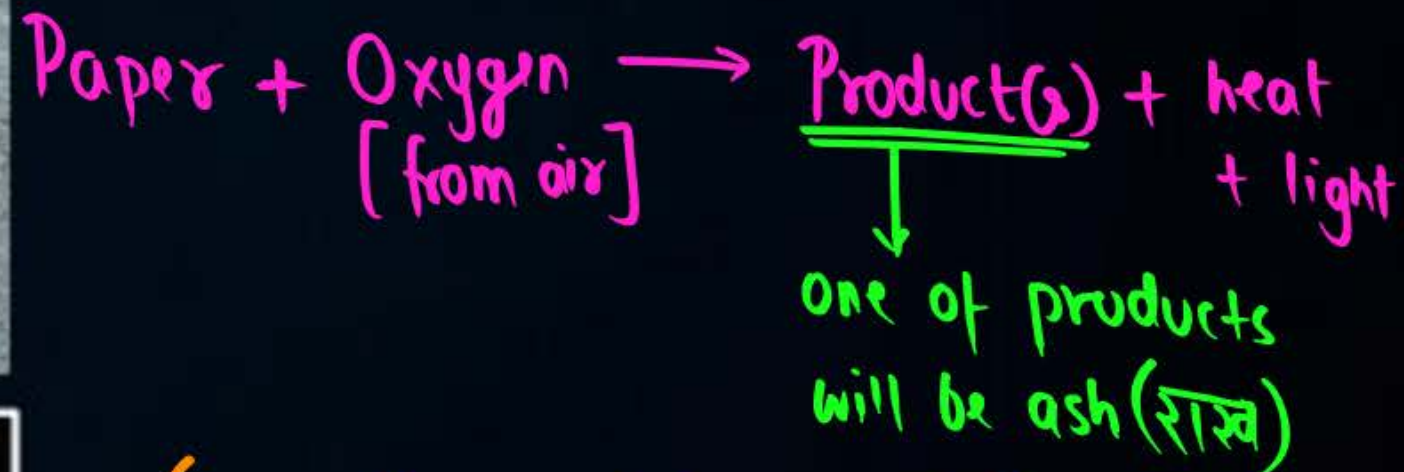
because of formation of a new substance with different chemical composition.

- ✓(i) Chemical composition changes: **Yes**
- ✓(ii) Shape/Size/Physical state change: Yes

Chemical Change
(रसायनिक परिवर्तन)



Burning of Paper



(रसायनिक प्रतिक्रिया / अभिक्रिया)

The process of a chemical change is known as a chemical reaction.



Fun Activity



CHEMICAL COMPOSITION CHANGES

Cutting a sodium metal



No, ^{only} shape & size changes → **PHYSICAL CHANGE**

Putting sodium in water

Yes, Chemical Change

(H₂O₃)

Sodium (Na) + Water (H₂O)

Sodium oxide
↓ further

Sodium hydroxide (NaOH)

Hydrogen gas (H₂)

← catches fire

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Samaj rahe ho

ISO 200 F 2.7 HD 720P 30 FPS

aye



Let's Practice



PW Ka **ChemStar!**

QUESTION

Cutting of apple \rightarrow  \rightarrow  \rightarrow shape & size changes \rightarrow Physical change



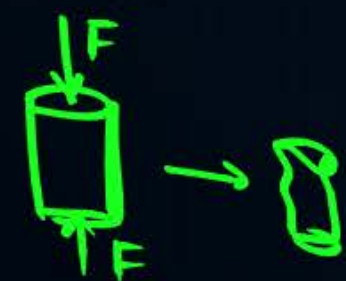
Which of the following is not a physical change?



A Melting of ice to give water



B Boiling of water to give water vapour

C Crushing a can 

☒ D Browning of apple

apple + oxygen \rightarrow

Chemical Composition Changes

NO, Physical Change

NO, Physical Change

NO, Physical Change

yes, Chemical Change

Characteristics of Chemical Reaction

Indicators that tell whether a chemical rxn has taken place or not!



Characteristics of Chemical Reaction

(i) Change in Colour

Barium chloride + Sodium sulphate \rightarrow Barium sulphate + Sodium chloride

Colourless Soltⁿ

Colourless Soltⁿ

White insoluble solid

Colourless Soltⁿ

(ii) Formation of a Precipitate

\rightarrow insoluble solid formed after a chemical rxn

Characteristics of Chemical Reaction



Gas का निर्माण हो

(iii) Evolution of Gas

Combustion of coal/charcoal



(iv) Change in Physical State

If only change in physical state is happening then it might be a physical change. So, do check that if there is any change in chemical composition!

Characteristics of Chemical Reaction



(✓) Change in Temperature

(तापमान)

Heat is given/absorbed from the surroundings

↔ drop in temperature (↓)

Heat is released into the surroundings

Temp. of surrounding (↑)

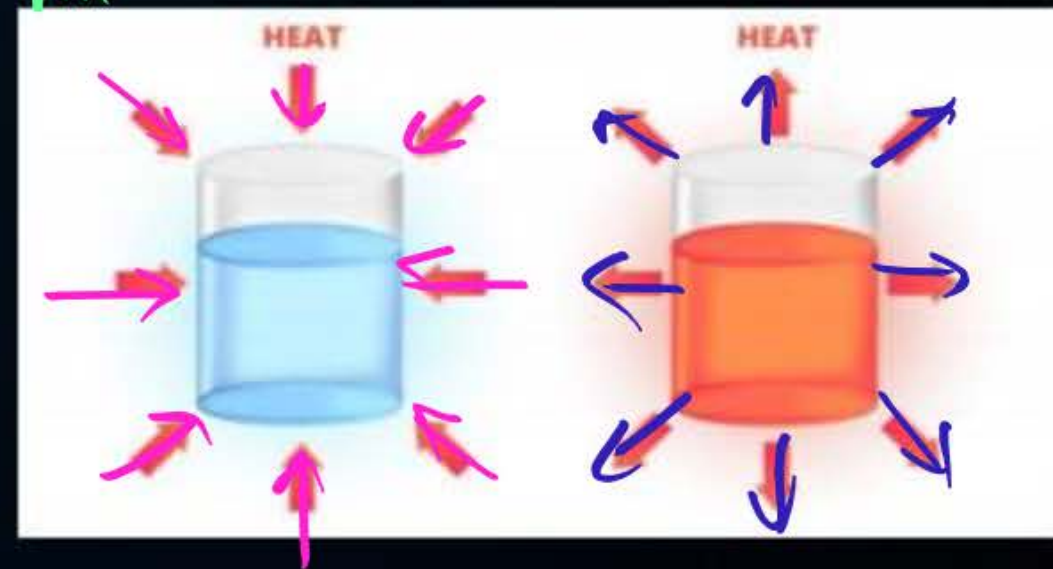
Exothermic Rxn

exit

heat

Endothermic Rxn

entry of heat



✱✱ Exothermic and endothermic generally focuses on entry or exit of heat energy but other forms of energies are also considered.

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examples

Endothermic / Exothermic Rxn



① Sodium in water

EXOTHERMIC

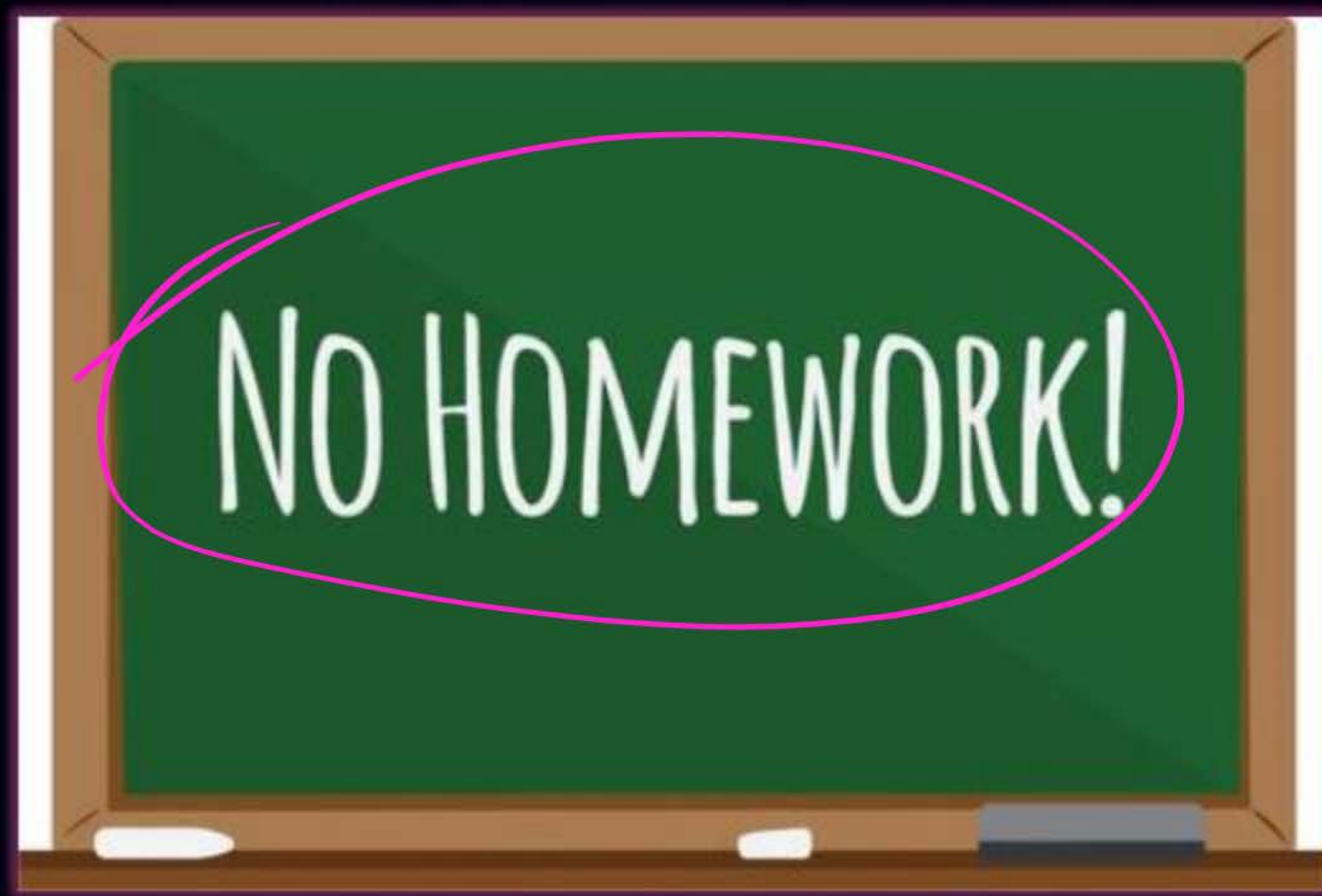
② Burning of paper

EXOTHERMIC

↓
more examples as we will study more rxn

Concept Polish (गृहकार्य)





Non-academic Doubt Resolution



Udaan 2025

→ To score good marks in Boards!

 Anamika 1 hours ago

bhaiya school mai chapter 2 star ho gya hai or periodic test bhi 10 may ke baad h or syllabus 2 ch bhaiya kese complete hoga 😬🗨️

👍 1

 Ankush Rajawat 2 hours ago

bhaiya meri class 8 second piche chalti ha

👍 2

Sabki peche chalti hai!

 Doremon Patil 5 hours ago

Sir my non academic problem, Sir kisese bolne ka man nahi karta. Aj kal baut akela rahne ka man karta hai. distraction baut hota hai (mobile, toxic friends etc.) Concentration kam ho raha hai 9th mein essa bilkul nahi tha

👍 5

[fix a time for social media]

Limited Use

① Mobile


② Toxic people/
People who try
to bring your
down

→ Bhaga Do



Non-academic Doubt Resolution



 Gyandeep Raj 9 hours ago

my doubt :- bhaiya mera dar shir chemistry me hai mere padne ke baad v lagta h kuch yaad he nhi h compound names yaad nhi rehte first chapter maine 2 bar apki video dekhi phir v kuch kuch lagta h jhut raha h chemical equations nhi likh pate and major doubt how to break any compound after reaction and is it important to learn every example for every type of reactions bhaiya please help kar do...

👍 5



Watch all upcoming lectures!

L-1, L-2, L-3 of basics

 Ayushi Singh 17 hours ago

bhaiya namaste. bhaiya my non academic doubt is that ki m jyda der tk baith hi nhi pati na concentrate kr pa rhi hu jbse 10th m aayi kuch samjah nhi aa rh a sb ekdm khichdi ban rhi hai bhaiya dimaag jaise work nhi krta ab bhaiya school m bhi ekdm shant akele hi kuch smjh nhi aata na hi energy rehti h. kuch b taiye bhaiya

👍 1



Non-academic Doubt Resolution



 Kartik Jakhar 20 hours ago

my non academic doubt sir schools ma bahut Jada discrimination hota for ex - jab hamra hw Pura nahi hota to girls ko koi kuch nahi kahata aur unhe aram sa pyar sa kah kar chood da ta ha aur whai boys ka sath to physical violence hoti ha ya bus ise ek case sath nahi ha ex 2 jab girls aur boys ki uniform sahi nahi hoti to girls ko koi kuch nahi kaha ta aur boys ka to parents ko bhi bula lat a ha sir agar ya mara sath ho to ma kya karu mara man to karta ki ma teacher ka samna ho jauuu plz sir tell any solution for this problem I shared this thing with my parents they said kuch nahi ho t 😞

4



Jindagi Ka SATYA!
संसार लडको के लिए
मुश्किल है।

Insaniyat Ka Gyaan



*Insaniyat Ka Gyaan
Jo Banae Behtar Insan*

✓खैर, ✓खून, ✓खाँसी, ✓खुसी, ✓बैर,
✓प्रीति, ✓मदपान✓
रहिमन दाबे ना दबैं, जानत
सकल जहान॥

→ SUNIL BHAIYA IS ALWAYS THERE FOR YOU.

#sbsathhai

#pwsathhai



THANK
YOU

