

Chapter 5: macroscopic aspects

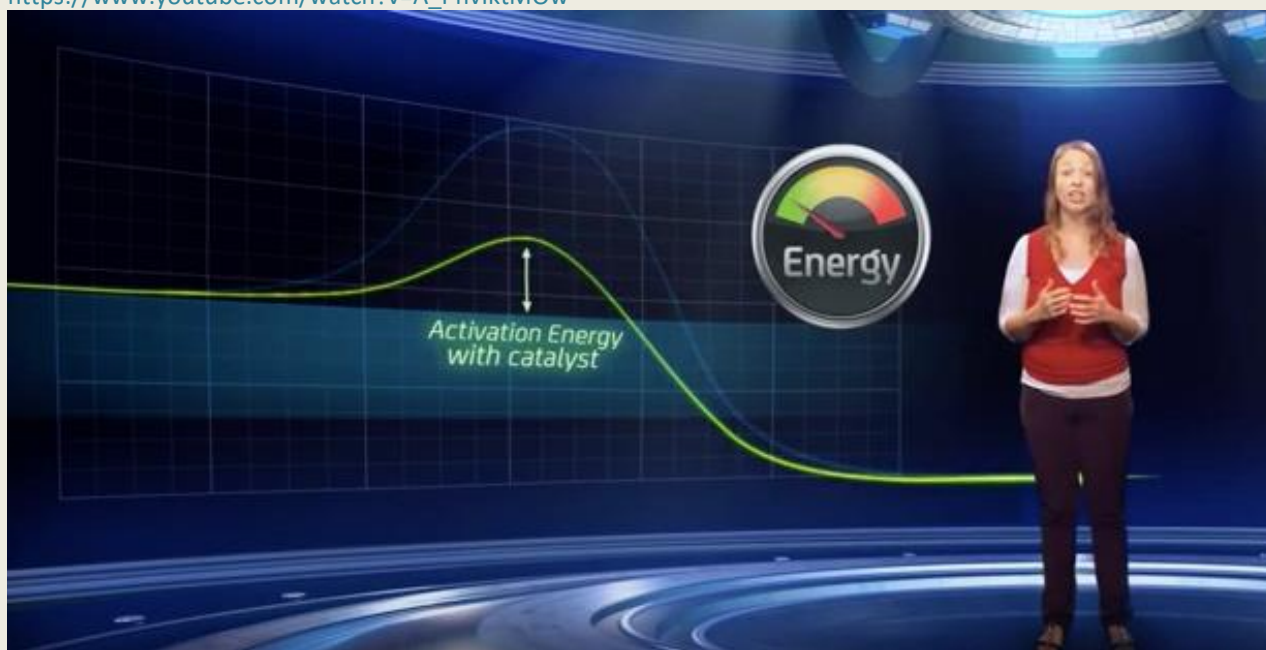
ACTIVITY 4 : Discovering catalysis

Part 1: Discovering catalysis

DOCUMENT 1 : Catalysis video

Southampton University Open Course Ware : catalysis

https://www.youtube.com/watch?v=A_PhVlktMOW



Watch the “Catalysis” video from the Southampton online learning course. **(Start at 1:10s end 2:20s)**

What does the video deal with? _____

Give your definition of a catalyst:

List some advantages of using a catalyst:

Part 2 : Using a homogeneous catalyst

Watch the “Catalysis” video: **(Start at 2:20s end 3:45s)**

Write the chemical reaction that needs to be sped up.

Which solution is added to speed up the reaction?

Which ion in your opinion acts as a catalyst of the reaction?

How does the catalyst work Explain its mode of action.

ACTIVITY 5 : Homogeneous catalysis versus heterogeneous catalysis

Part 1: Homogeneous versus heterogeneous catalyst

Watch the “Catalysis” video: (Start at 3:45s end 5:30s)

What is homogeneous catalysis? Give an example

What is heterogeneous catalysis? Give two examples and write the chemical reactions involved.

Part 2 : Summing up vocabulary

Using the previous activities, find an equivalent for :

English	French
<i>a catalyst</i>	
<i>reaction rate</i>	
<i>to be sped up</i>	
<i>iron nitrate</i>	
<i>hydrogen peroxyde</i>	
<i>oxygen gas</i>	
<i>homogeneous catalysis</i>	
<i>activation energy</i>	
<i>a hill</i>	
<i>heterogeneous catalysis</i>	
<i>a catalytic converter</i>	
<i>a honeycomb structure</i>	

Activity summary

What you must remember :

- vocabulary associated with catalysis
- a catalyst enables to be speed up a reaction rate
- a catalyst lowers the activation energy of the reaction
- catalysis can take place in homogeneous phase or heterogeneous phase

Skills linked to the curriculum:

Compétences	Capacités à maîtriser
<ul style="list-style-type: none">- APP- ANA	<ul style="list-style-type: none">- Utiliser le vocabulaire lié à la catalyse
<ul style="list-style-type: none">- APP- ANA	<ul style="list-style-type: none">- Identifier les facteurs permettant d'accélérer une réaction : changement de température, de concentration, utilisation d'un catalyseur.