CLIL
activities in a mechanical context

Teaching methods

- Working pairs, for example for mutual dictation.
- Working teams, for example for matching with words or images pratical workshops
- Class work

Preparing a lesson

Some CLIL features to keep in mind:

- Chunking, scaffolding
- Code switching
- Vocabulary introduction
- The four language skills : listening, speaking, reading, writing

CLIL learning styles

- Introducing collaborative learning
- Interaction, immagine and videos

GENERAL STUDENTS OUTCOMES

Learning the basic contents on the brake system

Basic lexicon learning, using all four language skills

SPECIFIC LEARNING OUTCOMES

Language : by the end of the session, learnes

will be able to

- Recognise the essenzial lexis (listening and reading)
- List the components of the brake system

Subject : by the end of the session, learnes

will be able to

- Identify the different between two types of brake
- **Subject and Language:**
- Say and explain the operation of the brakes

PROCEDURE

1. **K–W–L CHART (K – W)**
2. PRIOR KNOWLEDGE – Introduction with few statements to explain the prior knowledge of the students.
3. VOCABULARY (Actyvity 1)

- In pairs , students mactch words to definitions, to introduce new vocabulary and language chunks
- After filling the gap teacher asks one student at a time to read the definition, completed by the word matched to it.

4. INTERACTIONS BETWEEN FOUR ENTITIES

- Individually, students label a diagram with 5 words missing (Actyvity 2)

  Students compare their answers with a partners. Finaly the teacher write the correct answer in the board.
- In pairs, students discuss and complete sentences with the words used in the previus activity to reinforce vocabulary and content knowledge (Activity 3)

5. MUTUAL DICTATION

- In pairs, with information gaps. Students, read and write language chunks alternately,

  (Activity 4) the 4 language skills are involved in this pratctise and a few more contents were added .

6. **K–W–L CHART (L)**

K–W–L CHART

Name:_____ Date: _____

Fill in the first two columns before you do your research.
Fill in the last column after finishing your research

(K) What I Know	What I Want to Know(W)	What I have Learned (L)
Hydraulic brake Disc Brakes Drum brake Foot brake Brake fluid		

K–W–L CHART

Name:_____ Date: _____

Fill in the first two columns before you do your research.
Fill in the last column after finishing your research.

What I Know (K)	What I Want to Know (W)	What I have Learned (L)
Hydraulic brake **Disc brakes** Drum brake Foot brake **Brake fluid**	A.1 What is it useful for? A.2 What is its function? B.1What are they made up of ? B.2 What's the material they are made up of? B. 3 Where are they positioned? B.4 What are the differences between these brakes and the other types? C.1What are they made up of ? C.2 What's the material they are made up of? C. 3 Where are they positioned? C.4 What are the differences between these brakes and the other types? D.1 Where is the foot brake? D.2 What does the foot brake operate? E 1. What are its features **?**	

Prior Knowledge
Auto Braking Systems

1. An automotive braking system is a group of mechanical, electronic and hydraulically activated components which use friction / heat to stop a moving vehicle.

2. Disc Brakes

- Disc Brakes are comprised of a disc or rotor, a caliper assembly, disc brake pads and the wheel bearings and hardware necessary to mount the components on the vehicle. The caliper is connected to the master cylinder through tubes, hoses and valves that conduct brake fluid through the system.

https://www.youtube.com/watch?v=Mmls5foCor0

https://www.youtube.com/watch?v=F4fAPpj3p48

3. Drum Brakes

- Drum Brakes are comprised of a drum and backing plate, a hub or axle assembly, brake shoes , wheel cylinder, wheel bearings and hardware necessary to mount these components on the vehicle. The wheel cylinder is connected to the master cylinder through tubes, hoses and valves that conduct brake fluid through the system.

https://www.youtube.com/watch?v=bnc3VnQ8kUY

Prior Knowledge
Auto Braking Systems

How does a braking system work?

When the brake pedal is depressed, the pressure on the brake pedal moves a piston in the master cylinder, forcing the brake fluid from the master cylinder through the brake lines and flexible hoses to the calipers and wheel cylinders. The force applied to the brake pedal produces a proportional force on each of the pistons.

The calipers and wheel cylinders contain pistons, which are connected to a disc brake pad or brake shoe. Each output piston pushes the attached friction material against the surface of the rotor or wall of the brake drum, thus slowing down the rotation of the wheel.

When pressure on the pedal is released, the pads and shoes return to their released positions. This action forces the brake fluid back through the flexible hose and tubing to the master cylinder.

https://www.youtube.com/watch?v=bMg_j5_AGMg
https://www.youtube.com/watch?v=MAuVDB-G-HQ
https://youtu.be/bGKJOICWmFQ

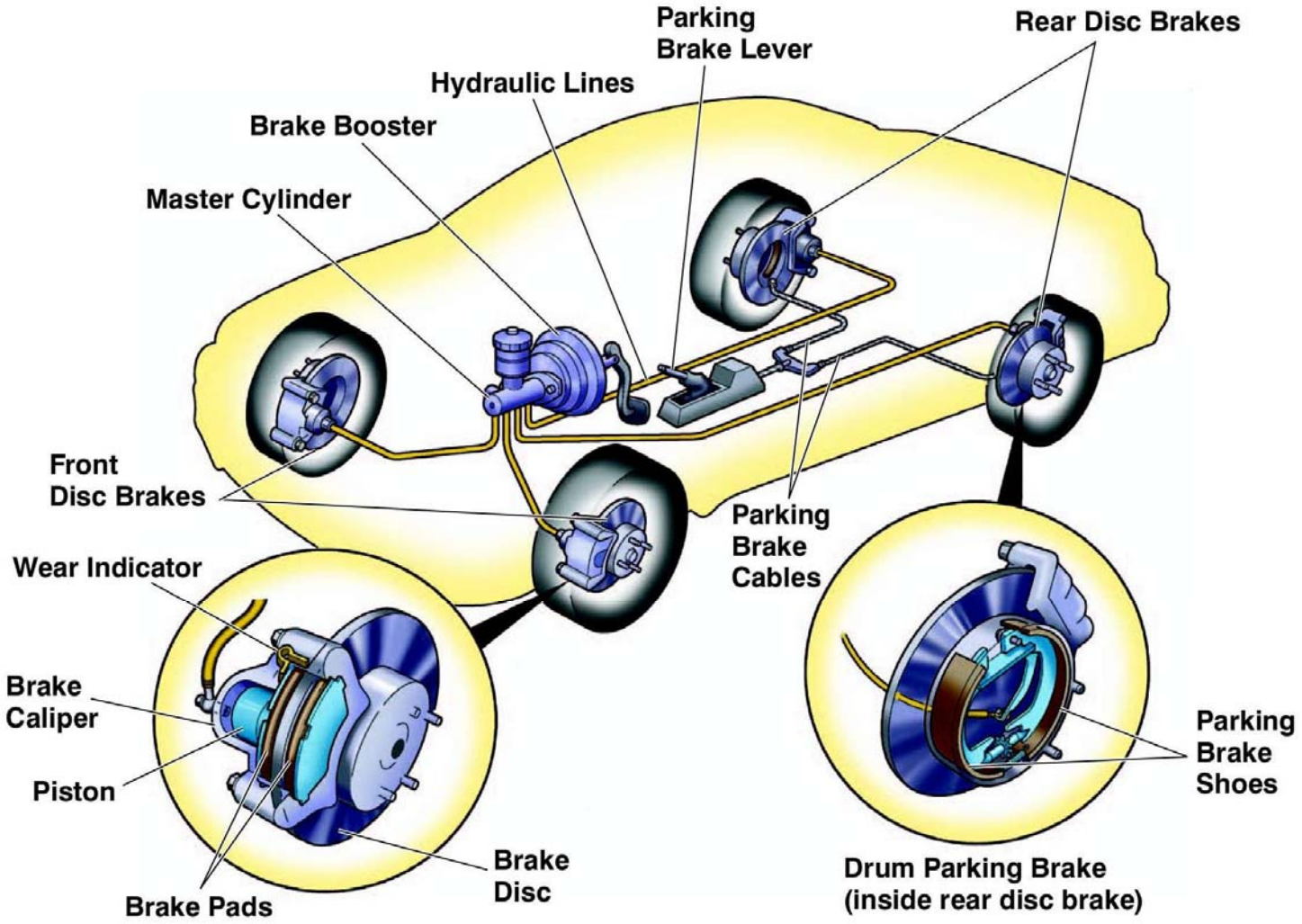
Prior Knowledge
Auto Braking Systems

Brake fluid

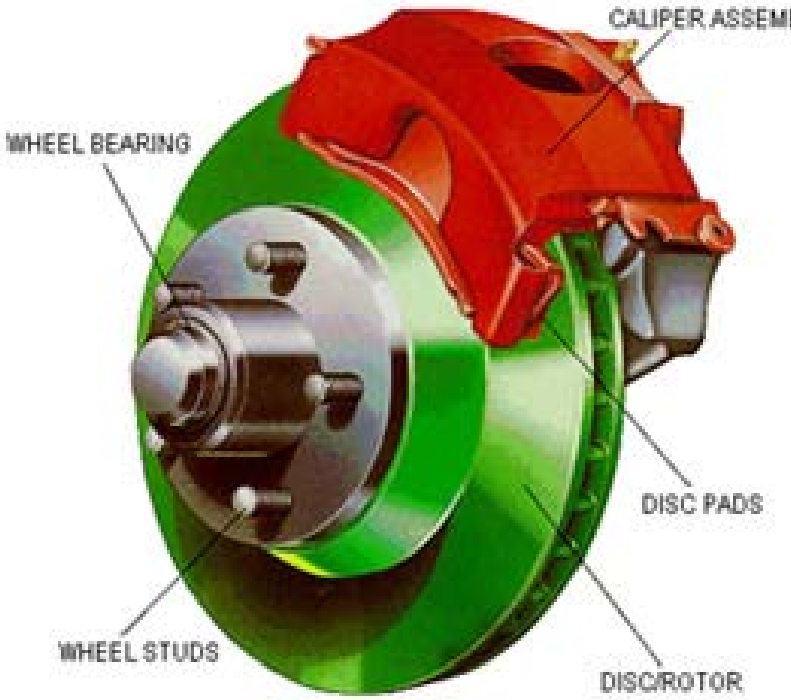
The Brake fluid is a type of hydraulic fluid used in brake applications for automobiles .

It is used to transfer force under pressure from where it is created through hydraulic lines to the braking mechanism near the wheels

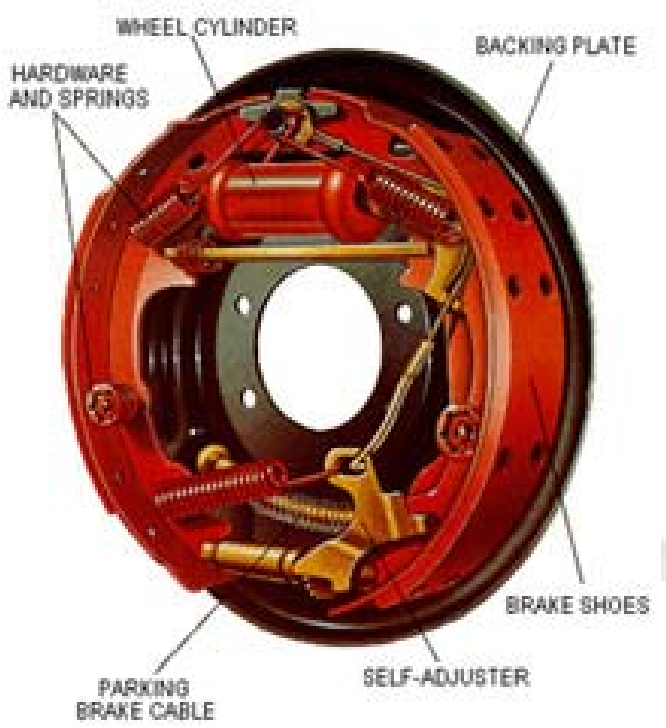
Conventional Brake System (non-ABS)



Prior Knowledge
Auto Braking Systems



DISK BRAKE



DRUM BRAKE

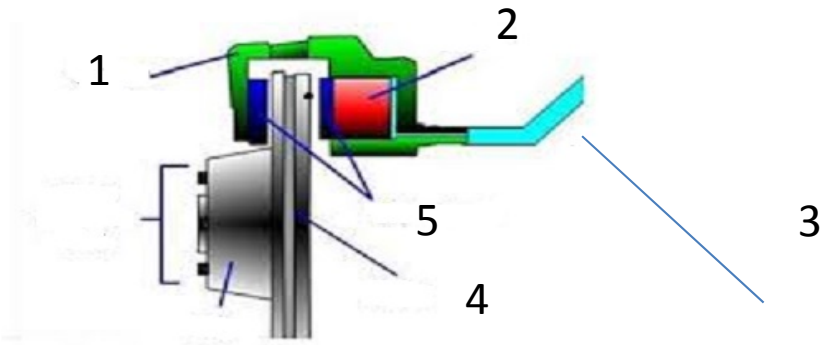
Vocabulary activity
fill in the gaps with the appropriate word

(students work in pair)

1. Disc Brakes are comprised of a disc or ……..
2. The caliper is connected to the master cylinder through ……
3. Drum Brakes are comprised of a ……and backing plate
4. The Brake ……..is a type of hydraulic fluid
5. The Brake fluid is a type of hydraulic fluid used in brake applications for ……

fluid	**Automobiles**	**rotor**	**drum**	**tubes**

Interactions between four entities



1. Give a name to the numbered entities of the diagram

1_____ 3_____

2_____ 4_____

5_____

Mutual dictation

(reading, speaking, listening, writing) -In pairs

Read dictate to the mate and fill the gap:

A

1. **hydraulic brake**, brake …… in which a brake pedal moves a piston in the master ……..; brake fluid then applies great force to the brake …… or shoes
2. **disc brake**, hydraulic brake in which friction is applied to both sides of a spinning …….. by the brake pads
3. **drum brake** hydraulic brake in which …….. is applied to the inside of a spinning drum by the …… shoe
4. **foot brake** hydraulic brake operated by pressing on a foot ……

B

1. **hydraulic brake**, brake system in which a brake …… moves a piston in the master cylinder; brake fluid then applies great force to the brake pads or ……
2. **disc brake**, hydraulic …… in which friction is applied to both sides of a spinning disk by the brake pads
3. **drum brake** hydraulic brake in which friction is applied to the inside of a spinning …….. by the brake shoe
4. **foot brake** hydraulic brake operated by …….. on a foot pedal

K–W–L CHART

Name:_____ Date: _____

Fill in the first two columns before you do your research.
Fill in the last column after finishing your research.

What I Know (K)	What I Want to Know (W)	What I have Learned (L)
Hydraulic brake **Disc brakes** **Drum brake** **Foot brake** **Brake fluid**	A.1 What is it useful for? A.2 What is its function? B.1What are they made up of ? B.2 What's the material they are made up of? B. 3 Where are they positioned? B.4 What are the differences between these brakes and the other types? C.1What are they made up of ? C.2 What's the material they are made up of? C. 3 Where are they positioned? C.4 What are the differences between these brakes and the other types? D.1 Where is the foot brake? D.2 What does the foot brake operate? E 1. What are its features **?**	A.1 It is useful to transmit high level forces on the disc or drum brake through a little force on the brake pedal. A.2 Brake system in which a brake pedal moves a piston in the master cylinder. B.1 Disc brakes are made of cast iron or carbon ceramic alloy B.2 They are positioned near the front wheels. B.3 The differences between disc brakes and drum brakes consist of the form and the efficiency while breaking C.1 Drum brakes are made of cast iron C.2 They are positioned near the rear wheels. C.3 The differences between drum brakes and disc brakes consist of the form and the efficiency while breaking D.1 It is inside the car under our feet