**ACTIVITY 1 - Ways to unlock**

**Questions :**

How many methods can be used to open locked access?

5 opening methods are available

Among these methods, indicate those that are mechanical and those that are wireless (or contactless?):

Mechanical: METAL KEY and PIN UNLOCK

Wireless: NFC badge or DIGITAL KEYS APP UNLOCK

Both together : DIGITAL KEYS APP UNLOCK

How many combinations are available on the keyboard to open the door?

4 digits are used to enter the unlock code, therefore 10 000 combinations are available (0000-9999)

How to make and encode new NFC cards?

NFC cards can be encoded thanks to an application with a mobile phone (smartphone)

**ACTIVITY 2 - Digital Keys Universal App (Android and iPhone)**

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**Questions :**

What are the two technologies used to open the door remotely?

IoT Network and NFC technologies can be used to open the door remotely

What is the necessary condition to connect to the mobile application?

You must identify yourself by a password received by email

How can the application contactless code an NFC card

An NFC card can be coded by activating the NFC module of the mobile phone

**Specifications:**

**Questions :**

What are the main conditions to use this lock?

The temperature should be between -25 and 60 ° C, with a humidity between 15 and 95%. The door thickness must be between 35 and 55mm.

What is the maximum distance to encode an NFC card?

The NFC card must be within 5 cm of the smartphone

How many AA 1.5V battery cells are needed to power the system?

The system are needed a supply voltage of 6V. Therefore 4 AA cells are necessary to power it.

What is the role of the sim card slot?

The sim card allows to communicate remotely to send SMS alert

Indicate the elements of the lock allowing the sending of alerts by SMS

The SIM card slot which allows to place and connect the SIM card

The BC95 microcontroleur which allows to communicate with GSM network

The external Antenna witch allows to convert electrical signals to wave form

**Questions : translate this words**

The screw : la vis

a spindle : une **tige** / axe / broche

The handle : la poignée

Battery status: état de la batterie

Remote unlock: déverrouillage à distance

Digital Keys Management Software: Logiciel de gestion de clés numériques

External wiring: Câblage externe

NFC token : "jeton" NFC