Académie de Caen **Session 2016**

Épreuve de DNL Anglais Physique-Chimie

Sujet n° 2 – Série S

Durée de l'épreuve : 40 minutes

- 20 minutes de préparation
- 10 minutes de présentation et 10 minutes d'échange avec le jury

COULD YOUR FUTURE INTERNET COME THROUGH YOUR LIGHTBULB ?

Watch the video « Sujet 2 » (duration: 1'32) and read the following text.

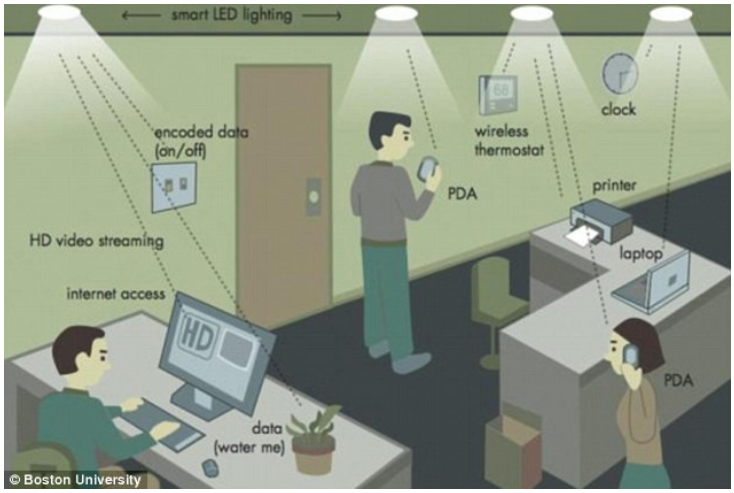
Li-Fi and Wi-Fi technologies

The next big thing in wireless connectivity could rely on something as fragile as a light bulb.

A light-based Internet technology known as Li-Fi has been kicking around for a few years. But as reported by the International Business Times, Estonian start-up Vilmenni just recently used a Li-Fi-enabled light bulb to transmit data at speeds up to 1 gigabit per second, or 100 times faster than current Wi-Fi technology.

Deepak Solanki, CEO (chief executive officer) of Velmenni, holds up a wireless device in front of a light. It quickly starts to stream video or toggle* through a stream of videos without any lag.

But when Solanki holds his hand in front of the device, blocking the signal, the connection is broken.



And therein* lies the dilemma with Li-Fi. It cannot travel through walls like traditional Wi-Fi, so it could not replace your home's existing network. It could also get pricey with lights blazing at all times.

But these Li-Fi's limitations might actually be good for security. If the signal cannot travel through walls, it can be contained in one room, with people in offices, for example, powering their devices via the overhead lights. But lights in a kitchen could keep that Internet-connected coffee maker brewing or fridge LED updated.

Li-Fi could also serve as just another connection point. Today, smartphones skip from cellular to Wi-Fi, depending on which connection is best, but in the future, Li-Fi could be part of that mix, too.

Adapted from http://www.pcmag.com/article2/0,2817,2495891,00.asp
Light-Based Li-Fi: Faster Than Wi-Fi, But Still Limited By Stephanie MLOT November 30, 2015

Glossary : to toggle : to switch
therein : d'où

Tasks :

1- Present and comment on these documents.

2- Use your knowledge to explain the way these technologies work. You will focus on the properties of the waves used.

3- Compare the Wi-Fi and Li-Fi technologies.

4- Discuss the Li-Fi future and possible uses.