

WELCOME TO ENGLISH CLASS



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HOW ARE
YOU?



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‘Mision
TIC2022’

WELCOME TO ENGLISH CLASS



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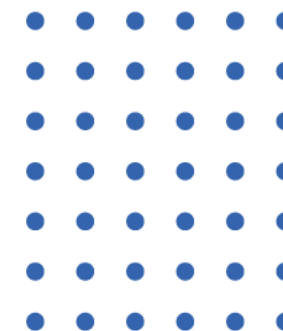
“Never give up. Today is hard, tomorrow will be worse, but the day after tomorrow will be sunshine.”
Jack Ma,



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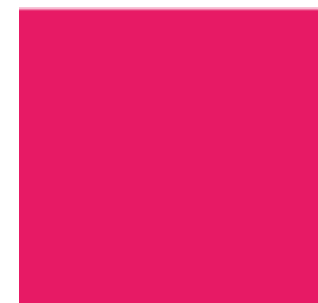
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Boolean Algebra and Truth Table



Imagen

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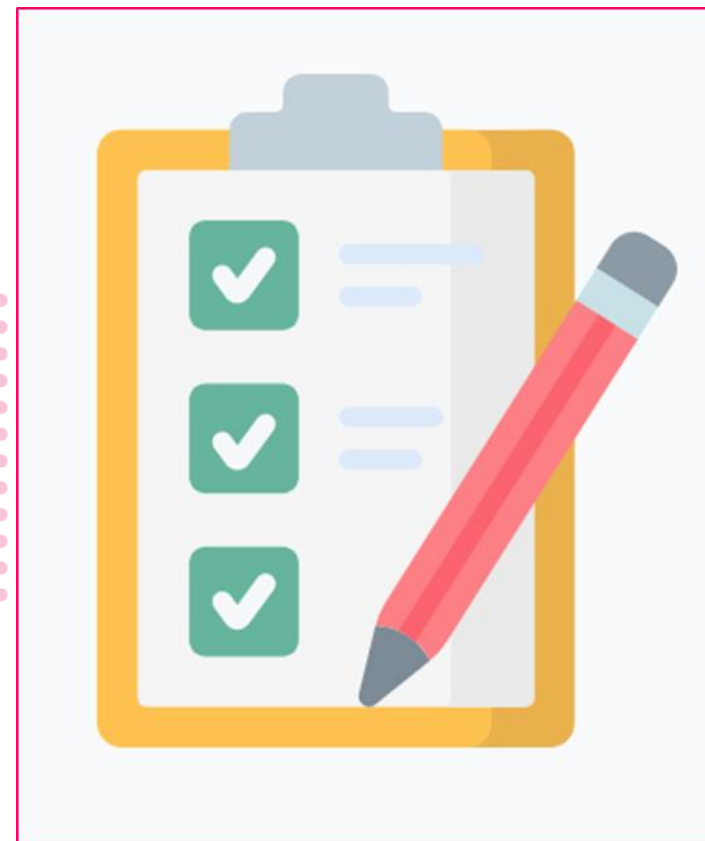
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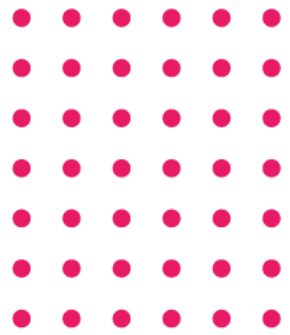
DATE

Objective:

Students will demonstrate their understanding of Boolean Algebra by creating three basic operations



AGENDA



WARM UP:

Game

CLASS ACTIVITY:

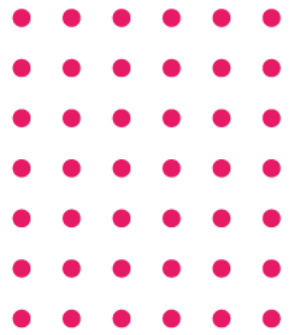
- Video (“inferring clues from the context”)
- Reading Strategy: Rereading
- Reading: Boolean Algebra

Wrap- Up

Examples of basic operations

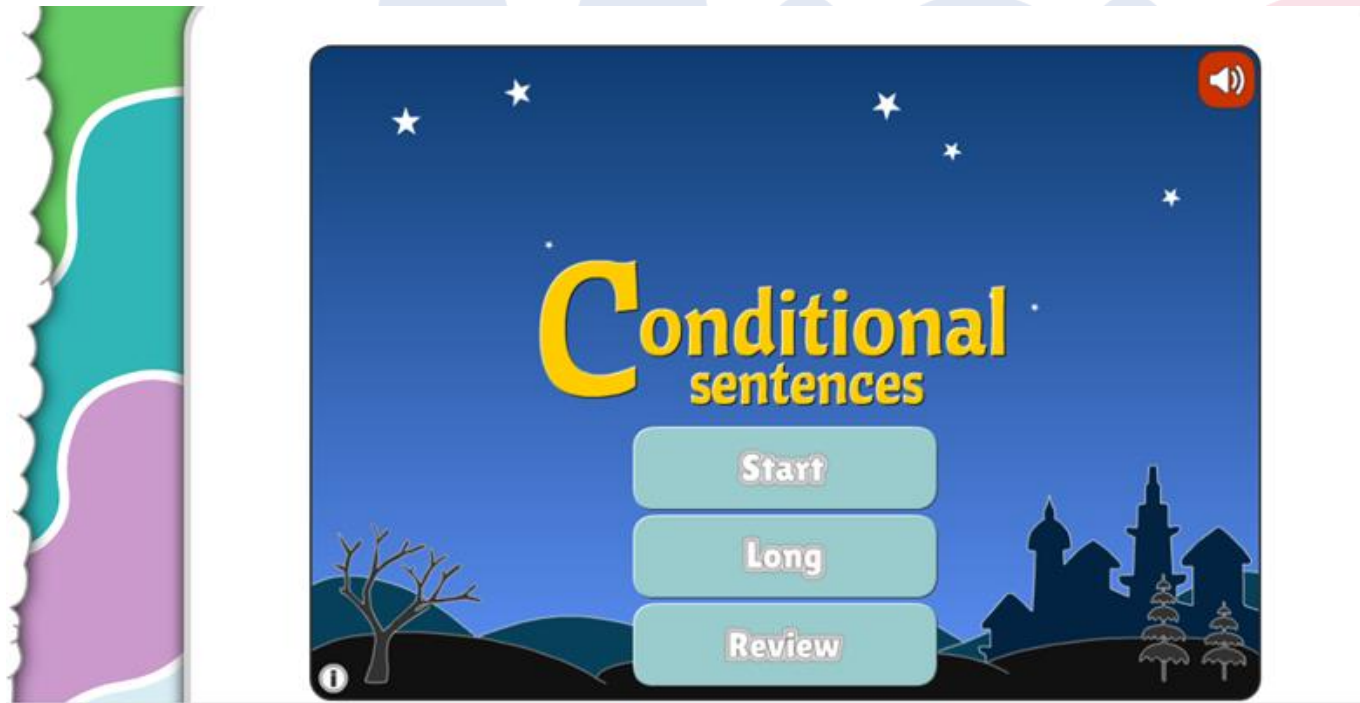


WARM-UP

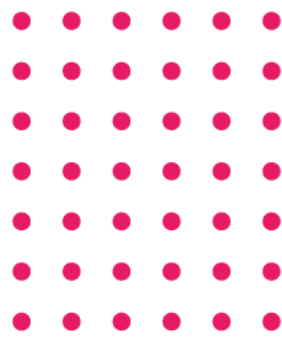


Play the following game

<https://www.gamestolearnenglish.com/conditional-sentences/>



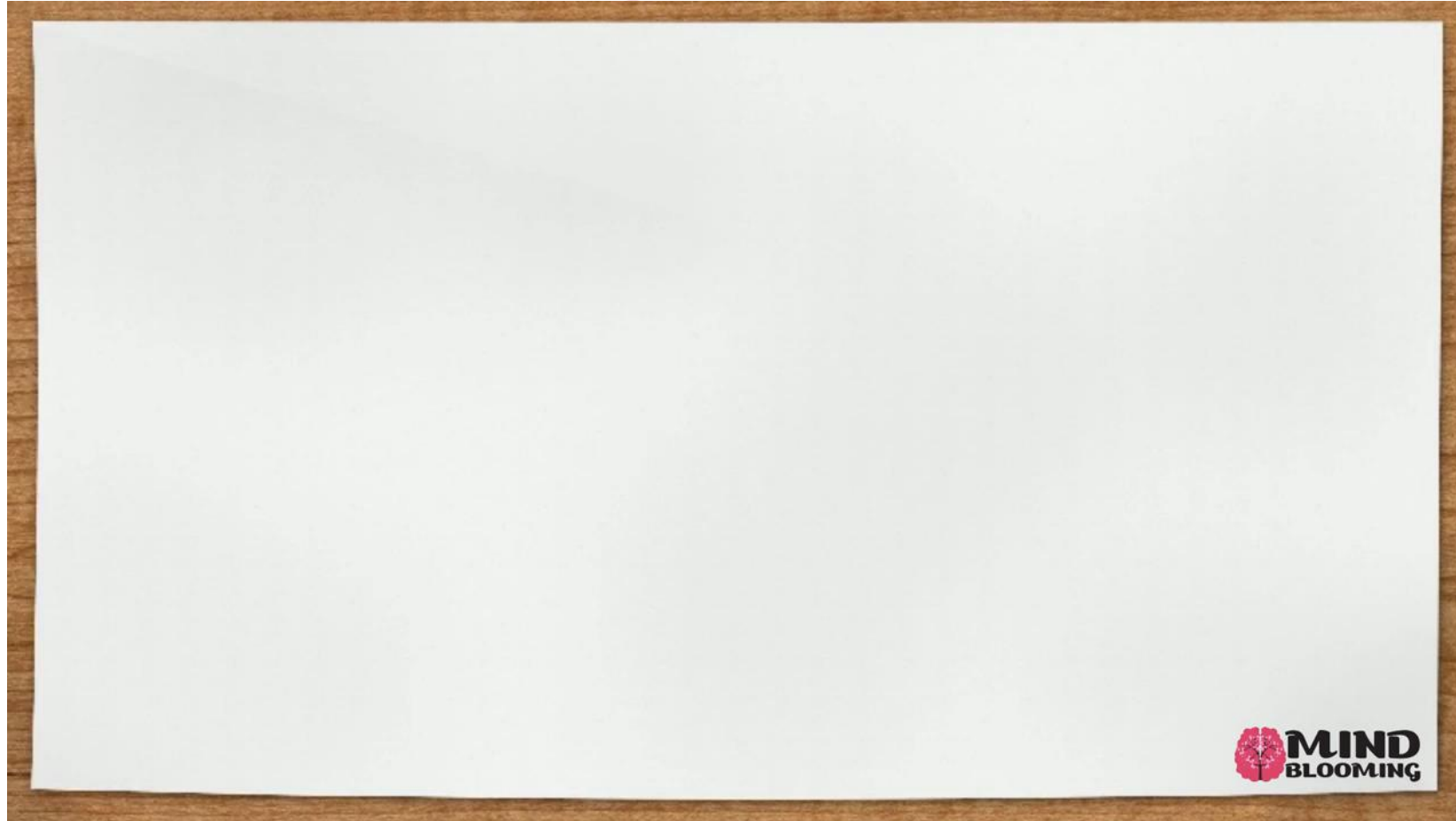
Video Reading Strategy



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<https://www.youtube.com/watch?v=eHCpJ86XDY4>



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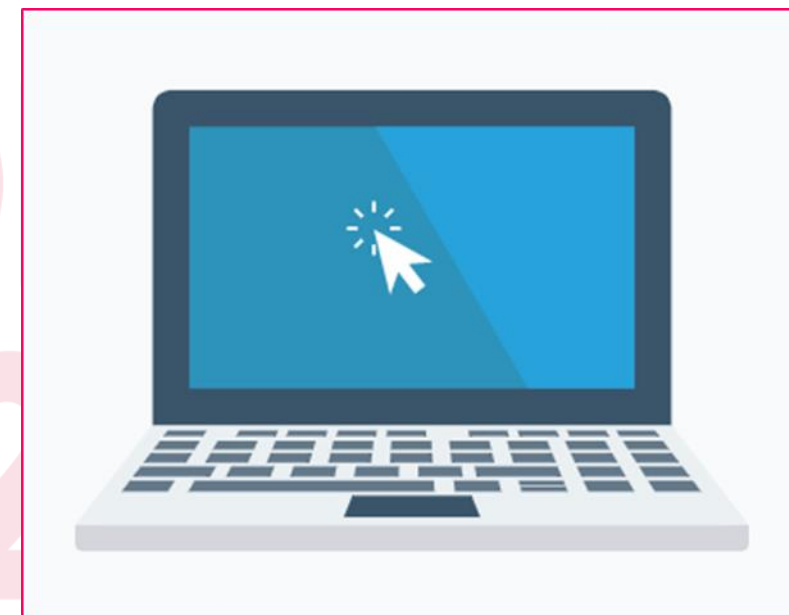


Read the Paragraph



*Boolean algebra is a division of mathematics that **deals with** operations on logical values and incorporates binary variables. Boolean algebra **traces** its origins to an 1854 book by mathematician George Boole.*

*The **distinguishing** factor of Boolean algebra is that it **deals only with** the study of binary variables. Most commonly Boolean variables are presented with the possible values of 1 ("true") or 0 ("false"). Variables can also have more complex interpretations. Boolean algebra is also **known** as binary algebra.*



Text Boolean Algebra



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Boolean Algebra

Boolean Algebra is fundamental to the operation of software and hardware. If you are in IT, then Boolean Algebra is very important for you. Boolean Algebra is a form to formally specify, or describe, a particular situation or procedure. We use variables to represent elements of our situation or procedure. Variables can take one of only two values: **True** and **False**. So for example, we have a variable **X** that represents “if it is raining outside or not”. The value of **X** is:

True if it is raining outside.

False if it is not raining outside.

It is possible to substitute True and False with other values. When working with computers, True and False is often replaced with **1** and **0**.



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Basic Operations

There are three basic operations. The result of an operation can only be **True** or **False**.

1. AND

The first operation is **AND**. So for example, I can say, "If it's hot outside **AND** I finished my work, then I will play soccer." To represent this in Boolean Algebra, I can say that:

x represents *if it is hot outside or not*.

y represents *if I finished my work or not*.

z represents *if I play soccer or not*.

$$x \text{ AND } y = z$$

Let's look at the representation of this operation using a Truth table. A truth table is a list of all the possible combinations of inputs and outputs.



X	Y	Result
False	False	False
True	False	False
False	True	False
True	True	True

2. OR

OR means that if one of the two variables is **True** then the result is **True**. So for example, I can say that "I will get home early if I finish work early **OR** the traffic is good". To represent this in Boolean Algebra, I can say that:

x represents *if finish work early*.

y represents *if the traffic is good*.

z represents *if I get home early*.

$$x \text{ OR } y = z$$



Here is the representation in a truth table:

x	y	Result
False	False	False
True	False	True
False	True	True
True	True	True

1. Not

Not has the effect of changing the value of a variable to the opposite. For example, I can say: “If I am not full, I will eat a cake.” To represent this in Boolean algebra, I will write:

- **d** represents *if I am full*
- **e** represents *if I eat a cake*
- the variable **d** currently has a value of **True** then
- the expression **not d** has a result of **False**

Text Boolean Algebra



And as a truth table

X	Result
True	False
False	True

WRAP-UP



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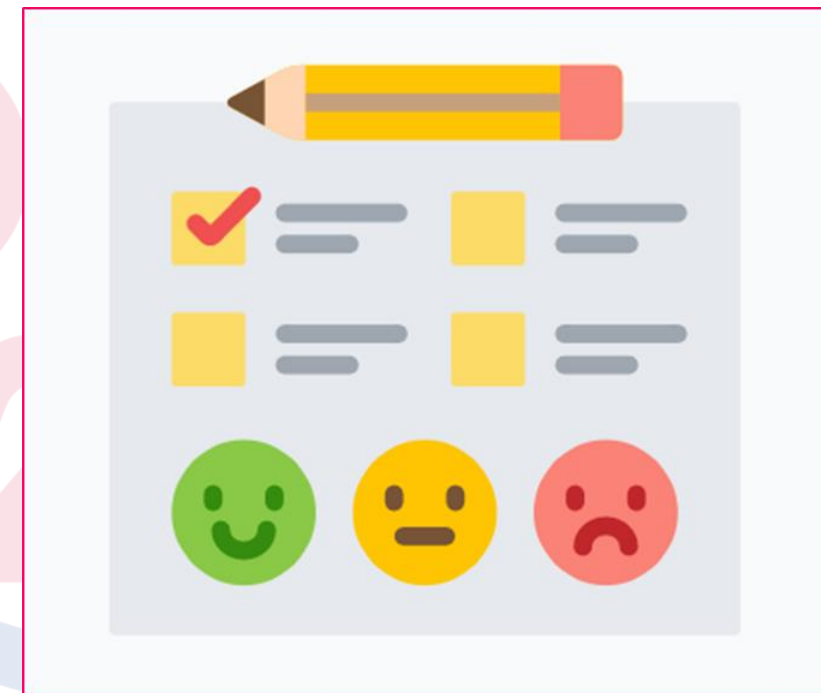
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Work in groups of three, then give three examples of the three basic operations: **one for AND, one for OR, one for NOT.**

Think of real-life situations and apply Boolean Algebra – similar to the text.

Use a collaborative tool, such as:

- padlet.com
- Jamboard (available with your gmail account)
- Any other tool that allows students to write on the same webpage at the same time.



SELF-EVALUATION



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Fill out the following self-evaluation

1. Entiendo cómo puedo tratar de entender el significado de las nuevas palabras sin consultar el diccionario.
Si 😊 No ☹️ Tal vez :|
2. La estrategia de “inferring” me ayuda a entender el texto que leo mejor.
Si 😊 No ☹️ Tal vez :|
3. Pude entender qué es Boolean Algebra.
Si 😊 No ☹️ Tal vez :|

