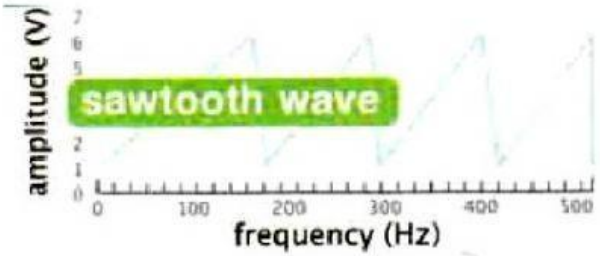
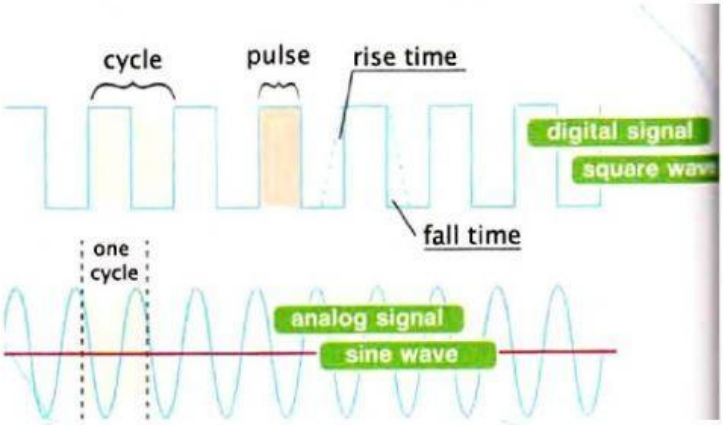
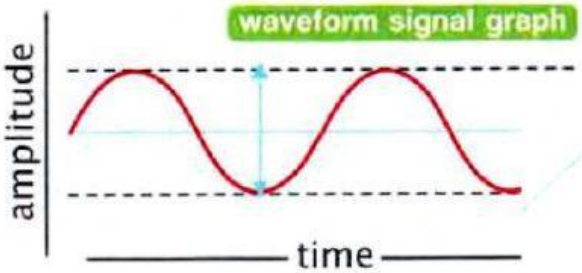
UNIT 5: SIGNALS

LESSON 1

ACTIVITY 1: Look at these pictures and read the text. Mark the sentences TRUE or FALSE.







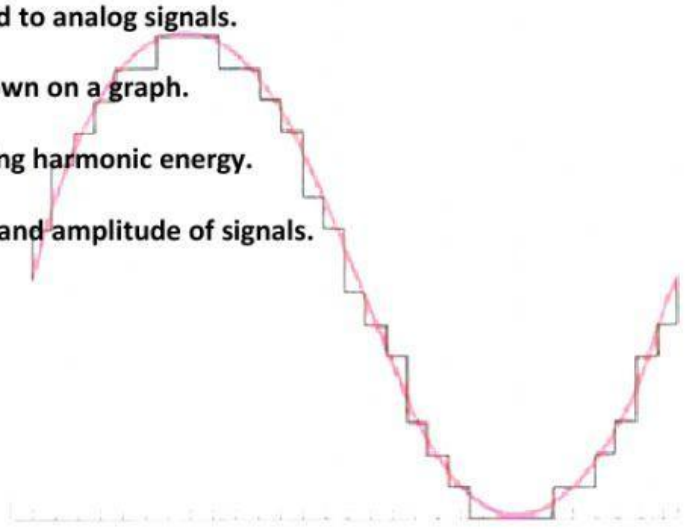
An electronic **signal** is a signal that carries information between two pieces of electronic equipment. Signals can be **analog** or **digital**. Analog signals alter the voltage to create a pattern that is similar to the data being sent. Digital signals are based on binary code. Digital signals are popular because they are easy to track and to store. Consequently, analog signals are sometimes turned into digital ones. Electronic circuits use an **analog-to-digital** converter to achieve this. A **waveform** is a signal, as represented on a graph. Graphs are often used in electronics. They can show information like the **amplitude**, **frequency** or **phase relationship** of a wave, and **cycles**. There are several different types of waves: **square waves**, **sine waves**, and **sawtooth waves**. These waves generate **harmonic energy** and other electromagnetic radiation. Each wave forms a different shape on a graph.

Time is another variable that is often recorded. Time is used to calculate **duty cycles**, **fall times** and **rise times**.

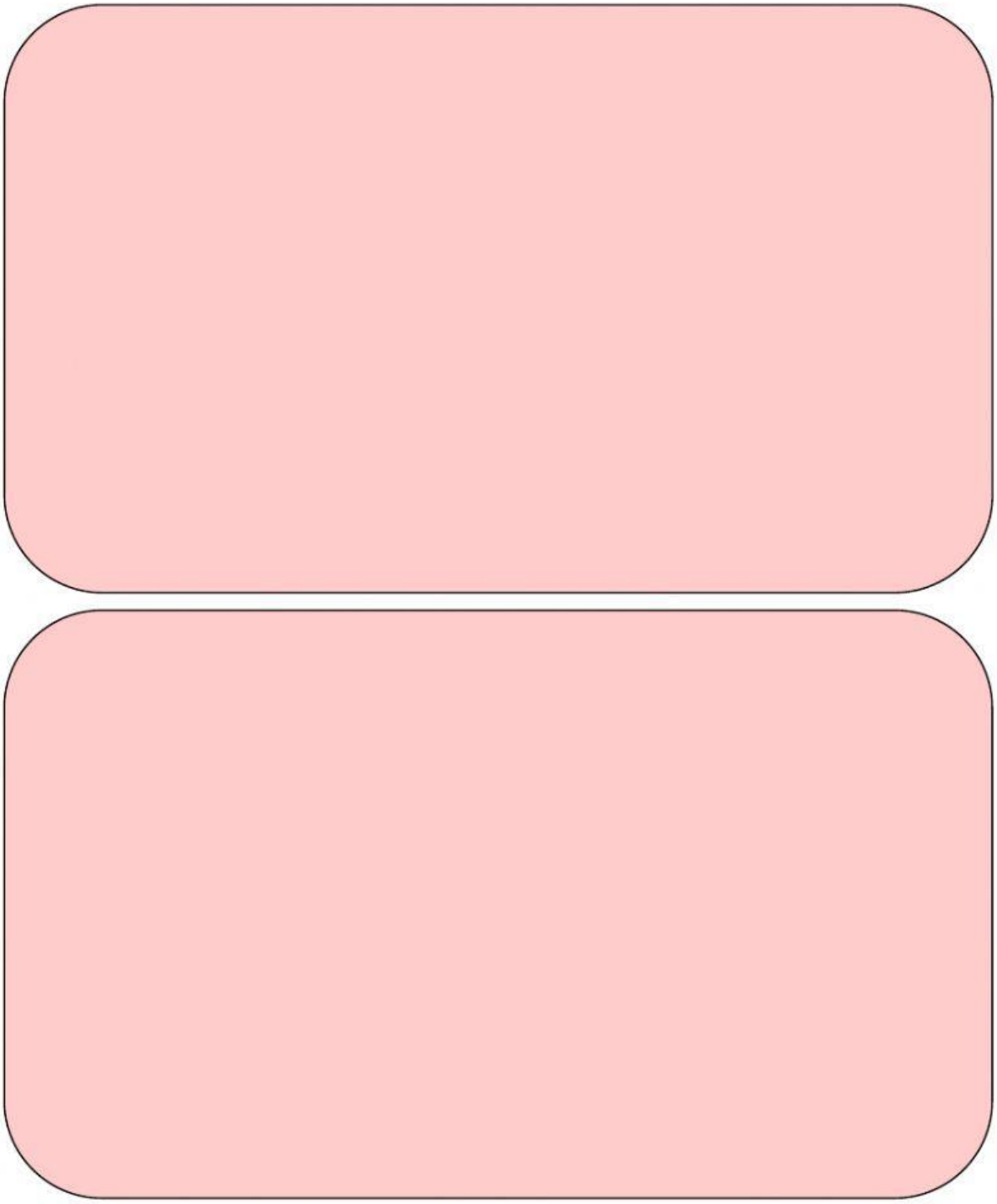
Verbs that appear in the text *(verbos que aparecen en el texto):*

Carry: llevar, cargar.
Alter: alterar, cambiar.
Track: seguir
Store: almacenar
Turn into: convertirse en, transformarse en.
Achieve: lograr
Form: formar
Calculate : calcular
Generate: generar
Show: mostrar

1. _____ **Digital signals are often converted to analog signals.**
2. _____ **A waveform is a signal that is shown on a graph.**
3. _____ **Time is important when calculating harmonic energy.**
4. _____ **Graphs only show the frequency and amplitude of signals.**
5. _____ **Time is another variable.**



ACTIVITY 2: Watch the videos.



ACTIVITY 3: Read the sentence and choose the correct word.

1. A(n) **analog / digital** signal is based on binary code.
2. The student learned that the **sawtooth wave / frequency** is the number of cycles that take place during once second.
3. A **cycle / fall time** is one repetition of a waveform.
4. The **sawtooth wave / amplitude** gets its name from its distinctive shape.
5. The technician measured the **signal / fall time** from ninety to ten percent.
6. A(n) **analog / digital** signal alters the voltage to create a pattern.
7. **Amplitude / Cycle** is used to measure the strength of an electrical wave.
8. A **frequency / signal** transfers data between electrical equipment.