## UNIT 1        SCIENTIFIC WORK. QUANTITIES AND UNITS.

### ACTIVITIES

**1**.- What happens if you mix water with oil? Formulate a hypothesis and test it with an experiment.

**2.-** Complete the table. Listen and check.

| ADJECTIVE | NOUN |
|-----------|------|
| Long | |
| Wide | |
| | Depth |
| | Height |

**3.-** What units are used to measure the following?

a) The time it takes the Earth to orbit the Sun once?
b) The distance between the Earth and Mars.
c) The distance from your house to your school.
d) The amount of water in a glass.
e) The length of a swimming pool.

**4.-** Listen, repeat and underline the stressed syllable.

a. second    b. coulomb    c. kelvin    d. metre    e. kilogram

**5.-** Complete the paragraph with the missing words from the box. Listen and check.

| International    fractions    quantities |
|:---:|
| scientific    multiples |

A system of units is a _____ method to express the values of _____. In 1960 all the countries in the world decided to adopt the _____ System of Units. Sometimes the SI units are too big or too small, so instead, _____ and _____ are used.

**6.-** Calculate the following unit conversions.

a) 150 mg to kg
b) 0.35 dag to mg
c) 360 000 cm to km
d) 4 836 000 dm to hm
e) 0.07 kg to g

f) 150 000 g to kg
g) 360 min to h
h) 0.02 mg to g
i) 48 to s
j) 103 $m^2$ to $dam^2$

**7.-** Measure the area of a page from your book in $cm^2$, and then express the value in the following units:

a. $mm^2$          b. $dm^2$          c. $m^2$

**8.-** Listen and say which unit of measurement corresponds to the quantity you hear. Then choose the correct symbol.

a) n / N
b) c / C
c) s / S

d) m / M
e) kg / KG
f) k / K

**9.-** Listen, repeat and underline the stressed syllable.

a) hectometre
b) decigram
c) square millimitre
d) square decametre

**10.-** Imagine we have a recipient with water on a heater. We measure the water temperature at different times, obtaining the table below. Draw a graph with these data.

| Temperature (ºC) | 20 | 24 | 28 | 32 | 36 | 40 | 44 |
|---|---|---|---|---|---|---|---|
| Time (min) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

**11.-** Work in pairs. With a stopwatch, determine the time you need to pass, one by one, all the pages from the two first units of your textbook (20 pages). Take the time every 5 pages. Now, your partner will repeat the process.

a) Show the results in two tables: time (s) and pages. One table for each person.
b) Draw a graph according with the two tables.