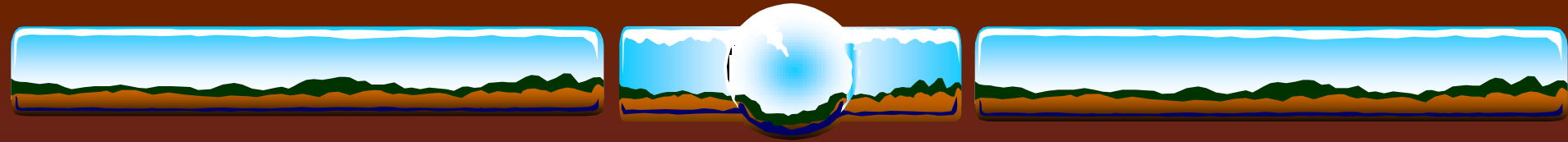# Earth Science

I. What is earth science

A. Science - is a process of studying things in our world and collecting knowledge

B. Earth Science - study of the earth and space

1. Geology – study of earth

2. Meteorology - study of weather

3. Astronomy - study of objects in space

4. Oceanography - study of earth's oceans

C.Applied Science

   1.   Technology - the use of scienctific discoveries

D.True Science - is a problem solving process

   1.   Problem Solving

    a.   Critical thinking - is a process that uses certain skills to solve problems

    1) The first step is to clearly identify the problem or event

    2) Come up with a solution to the problem or possibilities that caused the event

    3) Check to see if your solution to the problems is correct

2.   Scientific method

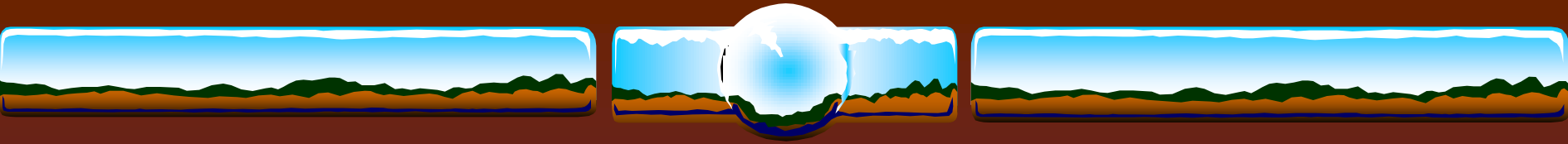　　a. Problem

　　b. Hypothesis

　　c.   Experiment

　　　1) Variable

　　　2) Control

　　d. Conclusion
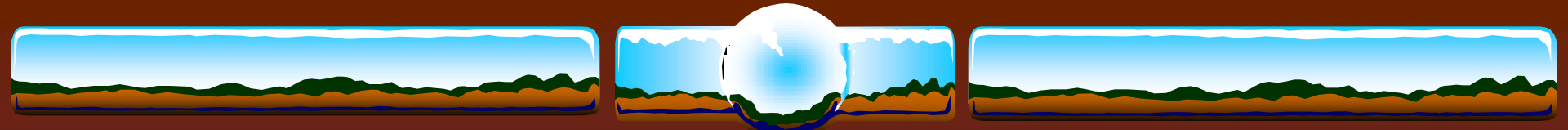
　　e.   Reporting results

3.   Theories & Laws

a.   Theory - an explanation based on repeated tests or experiments

b.   Law - a well – tested description of some behavior in nature

II. The SI System is based mainly on the metric system.

  A.Reasons to use the metric system

   1.   Based on 10 and multiples of 10

   2.   The Old English system is not based on any certain number or pattern

   3.   The metric system has basic terms that are used for each measurement

       a.   All length use the meter

       b.   All masses use the gram

       c.   Volume uses the Liter, or cubed length

4. **The metric system has six prefixes to these units that describe how much of or how many of the unit there is.**

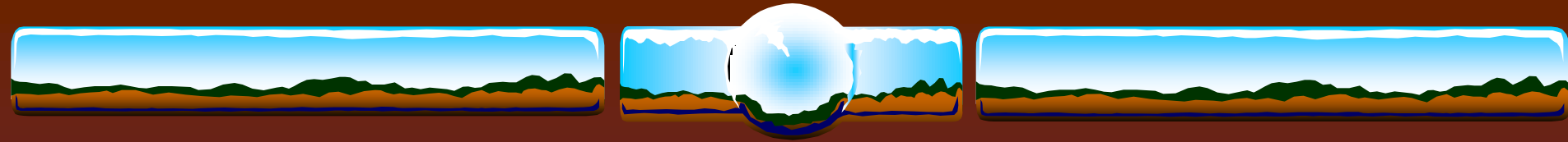   a.   milli – 1/1000 or 0.001

    b.   centi – 1/100 or 0.01

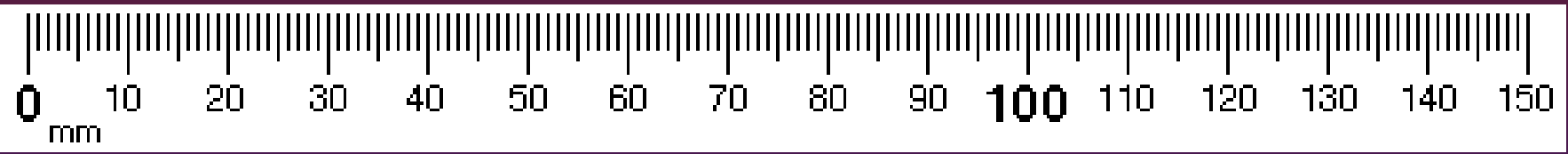   c.   deci – 1/10 or 0.1

    d.   deka – 10

    e.   hecto – 100

    f.   kilo – 1000

B. To do metric conversions all you do is multiply or divide by 10, or move the decimal point.
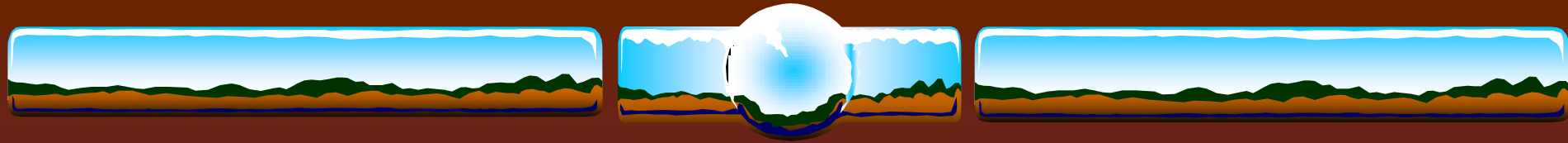
Metric Conversion Table

kilo	hecto	deka	unit	deci	centi	milli
1000	100	10	1	0.1	0.01	0.001

Move the decimal point the same direction as you count across the line. The unit is the gram, meter, or liter.

Abbreviations

Meter – m, *Liter* – L, *Gram* – g, *Kilo* – k, *Hecto* – h, *Deka* – da, *Deci* – d, *Centi* – c, *Milli* – m

C. Weight uses the Newton
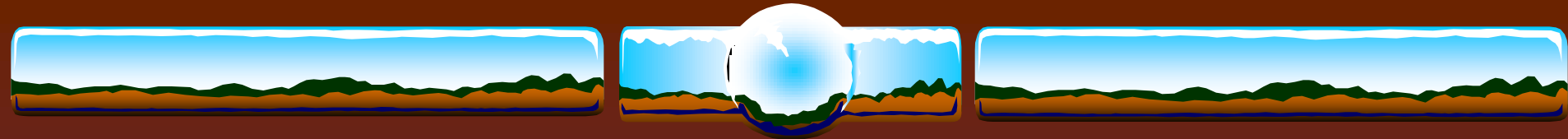
D. Area is in m^2

E. Volume is in m^3

F. Density is Mass/volume

G. Temperature is in Kelvin

     1. $0\ ^oC\ = 273\ K$

III.   Safety rules

A. Know symbols

B. Wear safety clothing required

C. Be careful around open flames

D. Never eat or drink in the lab

E. Know where emergency equipment is

F. Report all accidents to the teacher

G. Follow teachers instructions