Khalifa City A School - Cycle 1

UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

مدرسة مدينة خليفة أ /حلقة أولى

SCIENCE
CHAPTER 6 -MATTER AND ITS CHANGES
LESSON 2– MEASUREMENT
PART -1

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HOW DO WE MEASURE MATTER?

❖ To measure, we use standard units.

❖ **STANDARD UNIT**-It is a measurement on which all people agree.

METRIC SYSTEM

To measure smaller or larger quantities, we use units derived from the metric units.

Length	Weight	Capacity
cm and m	g and kg	ml and l

Metric Units	Amount	Estimated Length
1 centimeter	$\frac{1}{100}$ of a meter	the width of your thumbnail
1 decimeter	10 cm $\frac{1}{10}$ of a meter	the length of a crayon
1 meter	10 dm 100 cm	the length of a baseball bat
1 kilometer	1,000 m 100,000 cm	the distance you walk in 10 to 15 minutes

Read a Table

How many centimeters are in a meter?

_____ cms

⬇

1 meter
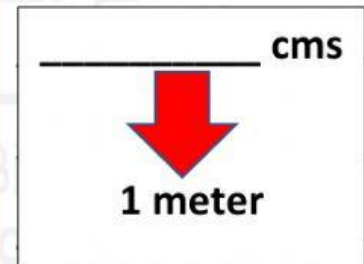
Length and Width

An object's length is the number of units that fit from one end to the other. *Width* is the number of units that fit across.
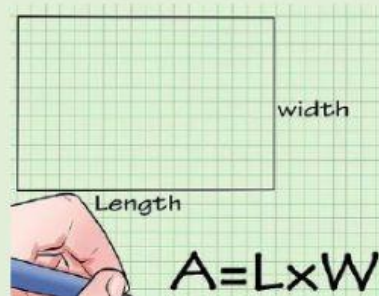
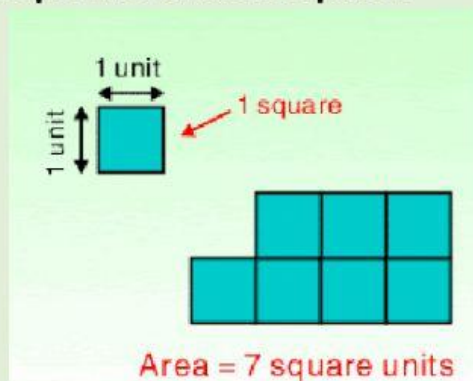Measure to the nearest inch!

in.

in.

in.

AREA

There are 2 ways to calculate area-

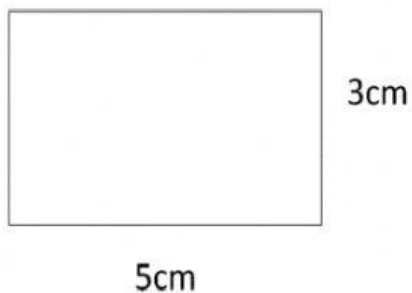1. Using formula – **Multiply length x width**

2. Counting unit squares- **Divide the shape into smaller square.**
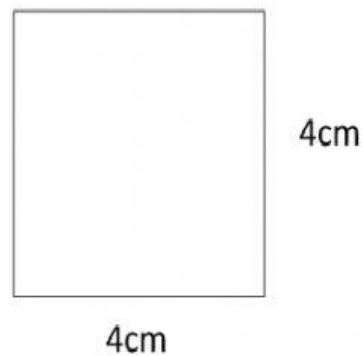   **Count the number of unit squares.**
   You might need to estimate some
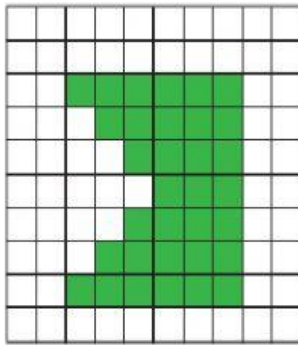   **parts of the shapes.**

Area = 7 square units

PRACTICE QUESTIONS:

3cm

5cm

4cm

4cm

Area = _____ square cm   Area = _____ square cm

Find the area of each shape.

$\square$ = 1 square unit

1)

2)

3)
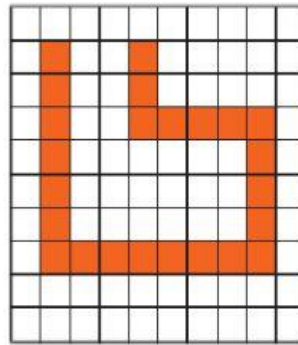
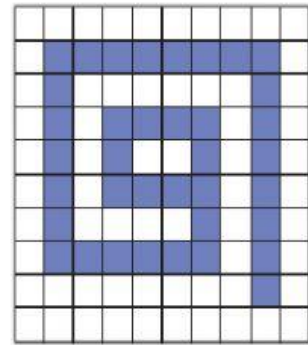Area = [   ] square units   Area = [   ] square units   Area = [   ] square units

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VOLUME

There are 3 ways to calculate volume-

1. **Using formula for rectangular shape–**

   Multiply length x width x height

   Volume of a box

   V_{box} = length × width × height

   V_{box} = l × w × h

2. **For liquids-**
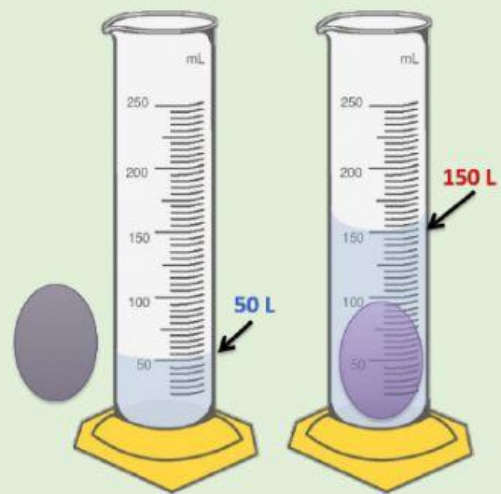   Use measuring cup, graduated cylinder, beaker
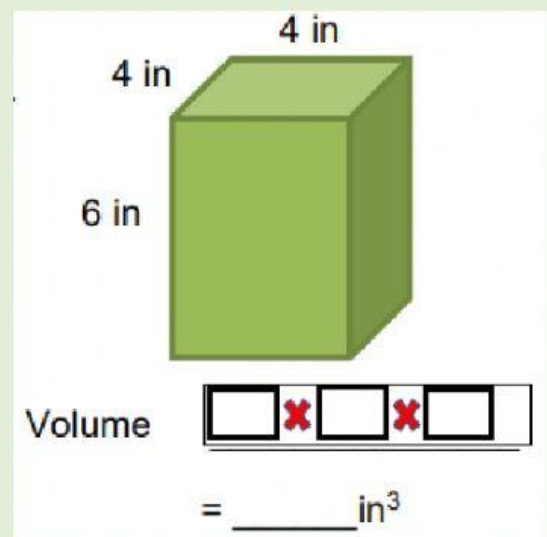
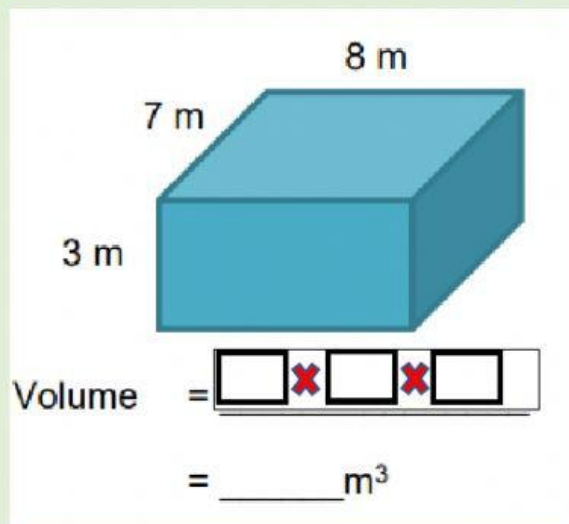## 3. For irregular shape-

First, measure the amount of water in a container. Then, submerge the entire object below the water. Subtract the original water level from the new water level. The result is the volume of the object.

Finding Volume:

150 L − 50 L = 100 L

50 L

150 L

PRACTICE QUESTIONS:

8 m

7 m

3 m

Volume = ▢ ✗ ▢ ✗ ▢

= _____ m³

4 in

4 in

6 in

Volume ▢ ✗ ▢ ✗ ▢

= _____ in³

mL		mL
50 —		50 —
40 —		40 —
30 —		30 —
20 —		20 —
10 —		10 —

_____ mL

_____ mL

25.5mL

26.5mL
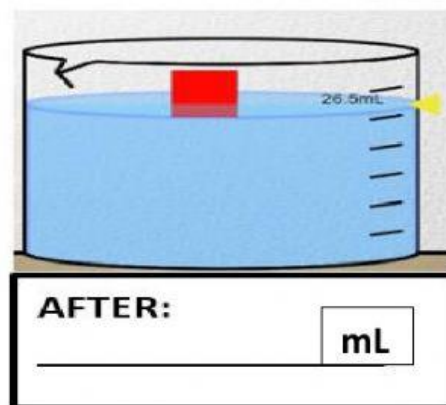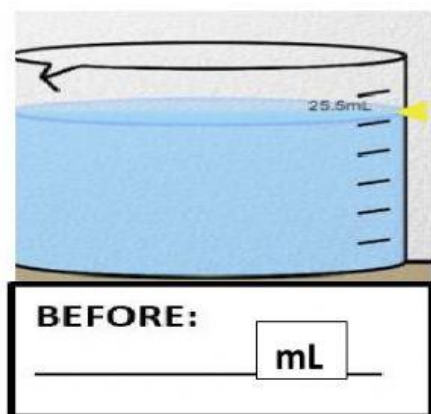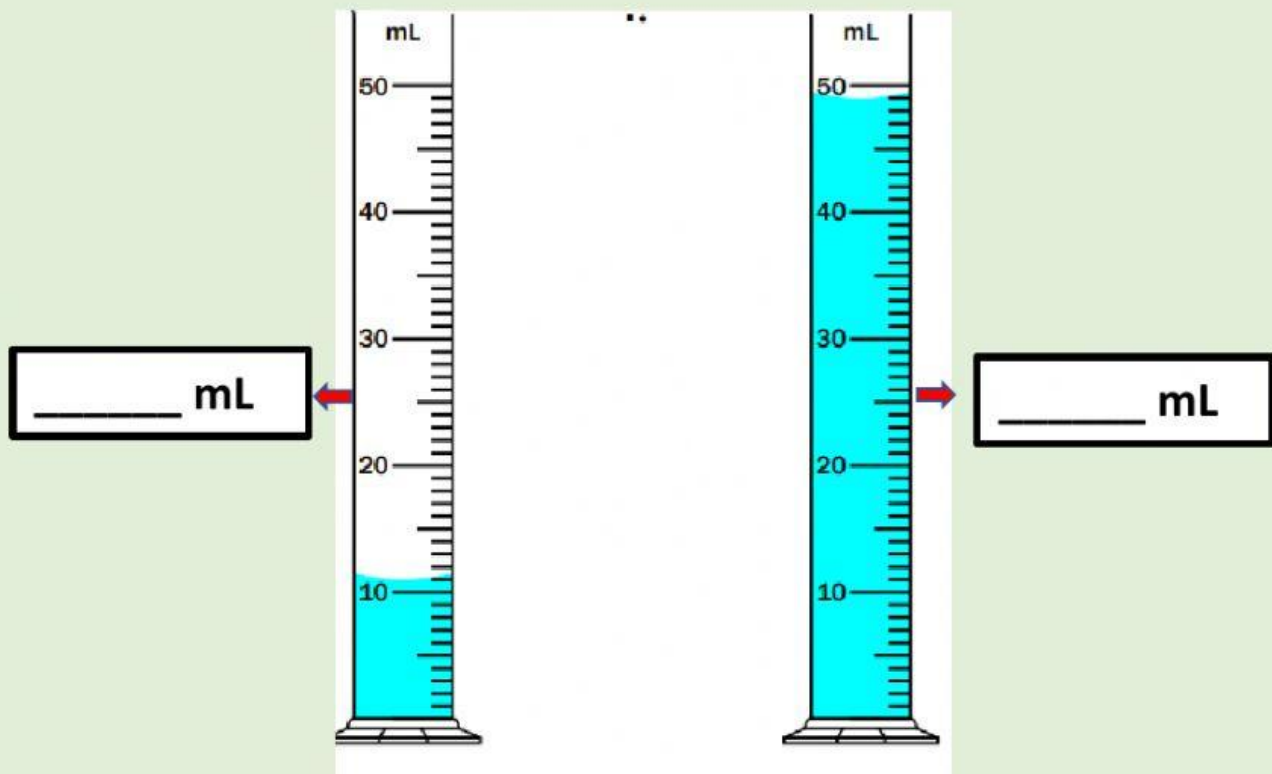
BEFORE:
_____ mL

AFTER:
_____ mL

VOLUME OF THE OBJECT:
_____ mL

BEFORE:

_____ | mL

AFTER:

_____ | mL
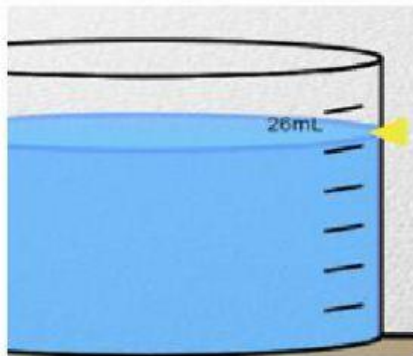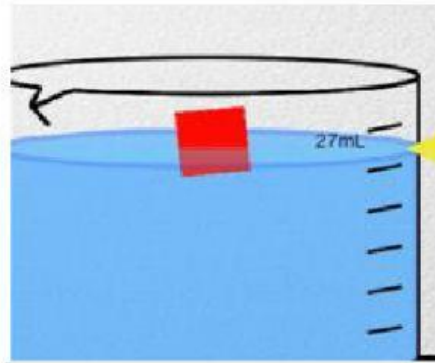
VOLUME OF THE OBJECT:

_____ | mL

QUESTIONS FROM BOOK

1. **Vocabulary.** The number of unit squares that cover a surface describes its

_____

2. Which unit would be used to measure the length of your desk?

A meters

B grams

C centimeters

D g/cm^3

3. How can you measure the volume of the gas inside this balloon?

A Submerge the balloon in water. Subtract the original water level from the new water level.

B Measure the length and width of the balloon. Multiply the two numbers.

C Empty the contents of the balloon into a beaker. Record the volume.

D The volume cannot be measured.

4

Which of the following is a metric unit of measurement?

A meter

B mass

C weight

D color