



G2-G3
Basic

G4-G5
Advanced

Helping With Math

GRADES

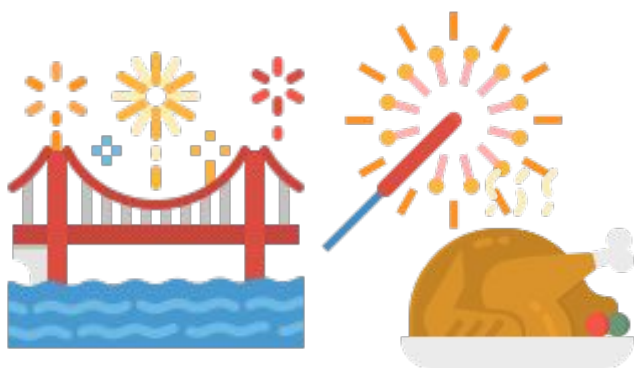
Measuring Skill: US Weights and Measures

Suitable for students
aged 6-10



This pack is suitable for learners aged 6 to 10 years old or 2nd to 5th grades. The content covers fact files and relevant basic and advanced activities of US weights and measures topics that aim to develop and strengthen the learners' measuring skill.

Wishing you a prosperous New Year!



New Year's Day is considered as one of the Federal holidays in the United States observed on January 1st, the first day of the New Year, following both the Gregorian and the Julian calendar.

- The New Year holiday is commonly celebrated by fireworks, family reunions, parades, and last year's reflections while looking ahead to future opportunities.
- Many people celebrate the New Year holiday with their family and loved ones, involving different traditions to bring luck and success in the upcoming year.
- Across the globe, different nations celebrate this happy day in their unique way. For many, celebrating New Year is their opportunity to learn from the prior year and make positive changes in their life.



MEASUREMENT

Measurement describes and compares concrete and mathematical objects by associating numbers and units of measurement. In other words, it shows the size or amount of something.

Measurement helps us identify how large or small a physical quantity is compared to the unit of measure in mathematics.

What are some properties of measurement?

- Length
- Mass
- Weight
- Time
- Money
- Temperature
- Perimeter
- Area
- Surface Area
- Volume

LEARNING MEASUREMENT...

- It strengthens your understanding of numbers.
- It helps you compare, approximate, and count accurately.
- It helps you sort objects by size, how big or small it is.
- It allows you to know the exact size of a thing.



- There are five primary disciplines of mathematics, namely: number sense, algebra, geometry, data analysis and probability, and measurement.
- These aforementioned disciplines must be transferred effectively to the students through a holistic approach in teaching.



MEASURING SKILL

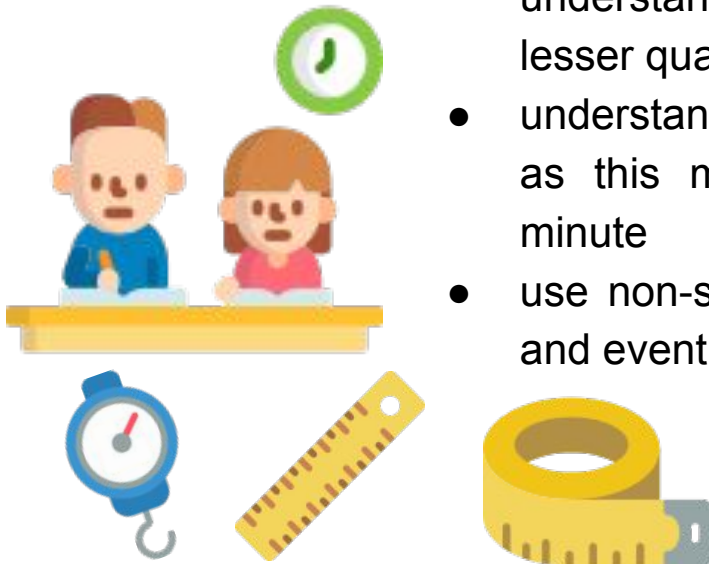
As mentioned, measurement is one of the vital disciplines. Thus, measuring skills play an important role in the development of a child's learning.

Measuring skills...

- cover the skills needed for a learner to effectively do the measuring.
- are the processes of how to measure physical attributes of objects appropriately and accurately using measurement tools and techniques.

During their early education, children developed these measuring skills. They learn to...

- compare objects by size (big, bigger, biggest)
- compare objects by length, height, and weight
- compare groups of objects and understand that a lesser number is also a lesser quantity
- understand basic concepts of time, such as this morning or yesterday, or in a minute
- use non-standard forms of measurement and eventually the standard forms.



US Weights and Measures



The customary system of measurement, also called the U.S. Customary System, is based on the English measurement system. This is the system of measurement commonly used in the United States and other countries.

Customary Unit	Customary Equivalent
1 inch	----
1 foot	12 inches
1 yard	3 feet
1 mile	1760 yards

Table of Conversion 1.1: US Customary measures for Length and Distance

Length measures how long an object is or the distance between two points. It is used for identifying the size of an object or distance from one point to another.

The word length comes from middle English 'lengthe' and from old English 'lengðu' which means — property of being long or extended in one direction.

The colonists from England brought the US Customary System to the US. This system is based on English units, used in England before the Imperial system. US Customary and Imperial systems actually share many units of measurement, though their values may differ in definition.



US Weights and Measures

Although the US has not adopted The International System of Units (SI) as a country, SI units are still used in areas such as science, medicine, industry, the government, and the military. US customary units are used mainly in everyday life and commercial activities.

Customary Unit	Customary Equivalent
1 ounce	16 drams
1 pound	16 ounces
1 ton	2000 pounds

Table of Conversion 1.2: US Customary measures for Weight

Weight is the amount or quantity of heaviness or mass.

Customary Unit	Customary Equivalent
1 fluid ounce	2 tablespoons
1 cup	8 fluid ounces
1 pint	2 cups
1 quart	2 pints
1 gallon	4 quarts

Table of Conversion 1.3: US Customary measures for Volume/Capacity

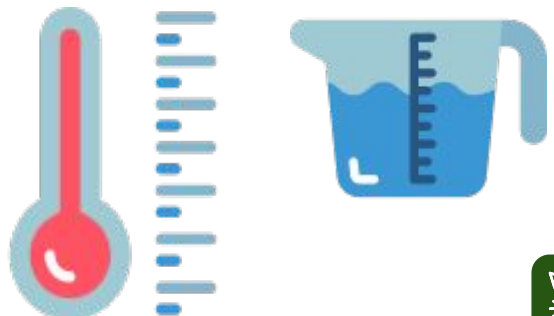
Capacity/volume means measuring how much fluid fits inside a container.

Temperature is the measure of hotness or coldness expressed in terms of several scales, including Fahrenheit and Celsius.

The **U.S customary temperature measurement** unit is degree Fahrenheit.

Celsius to Fahrenheit = $1.8C + 32$

Fahrenheit to Celsius = $(F - 32) \times 0.5556$



SAMPLE/APPLICATION

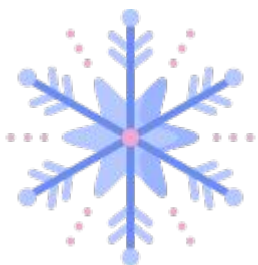
The following are commonly seen objects during the celebration of New Year's Day. Answer the questions that follow.



The height of this firework can reach up to 300 ft. How many yards is that?

$$300 \div 3 = 100 \text{ yd}$$

Thus, 300 ft = 100 yards



The temperature during the last New Year's Day is 4 °C. What is the equivalent of that in Fahrenheit?

$$\text{Celsius to Fahrenheit} = 1.8C + 32$$

So, $(1.8 \times 4) + 32 = 7.2 + 32 = 39.2 \text{ F}$



Look for a bottle of champagne. How many fl. oz does it contain?



Find a disco ball at your house and get its weight. How many pound does it weigh?



TABLE OF ACTIVITIES

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1	The New Year's Day Dinner
2	The Fireworks' Height
3	Celebrating New Year's Day in Asia
4	A New Year Package
5	A New Year Task
Ages 8-10 (Advanced) <u>G4 - G5</u>	
6	Preparing for January 1st
7	George's Family New Year's Resolution
8	January 1st in Japan
9	The Rose Bowl Game
10	Finders Keepers: New Year's Edition



THE NEW YEAR'S DAY DINNER

G2-G3
Basic

George's family is preparing for the New Year's dinner. They need to buy new table cloth, placemat, and a new set of utensils. Help George to select the appropriate unit of length to use and do the additional task. Encircle your choice.

1. The length of the table cloth



Miles

Yards

Additional Task: Find a table cloth at your house then measure its length in terms of your chosen unit.

Measurement: _____



2. The length of the utensils

inches

Yards

Additional Task: Find a pair of spoon and fork at your house then measure its length in terms of your chosen unit.

Measurement: _____



3. The length of the placemat

inches

Feet



Additional Task: Find a placemat at your house then measure its length in terms of your chosen unit.

Measurement: _____



THE FIREWORKS' HEIGHT

G2-G3
Basic

Can you measure the height of this fireworks that are drawn below? Grab a ruler and measure their height in inches. Estimate it using whole numbers.



CELEBRATING NEW YEAR'S DAY IN ASIA

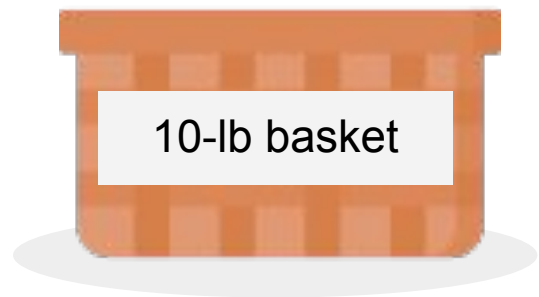
G2-G3
Basic

Asians have their own traditional way of celebrating New Year's Day. They believe that round fruits attract prosperity, success, and good luck. The fruit basket can handle a total of 10 lbs of fruits. Cut and paste the fruits (with their indicated weight) to create a 10-lb fruit basket.



Kiwi - $\frac{1}{2}$ lb
Peach - $\frac{1}{2}$ lb
Watermelon - 2 lb
Tangerine - $\frac{1}{2}$ lb

Apple - 1 lb
Pear - 1 $\frac{1}{2}$ lb
Passion fruit - 1 lb



A NEW YEAR PACKAGE

G2-G3
Basic

George received a package this New Year's Day. The package contains different measuring tools. Help George to label the type of measurement that each tool is intended to use for.



1. _____



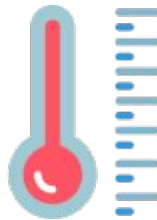
2. _____



3. _____



4. _____



5. _____



6. _____



7. _____



8. _____



9. _____

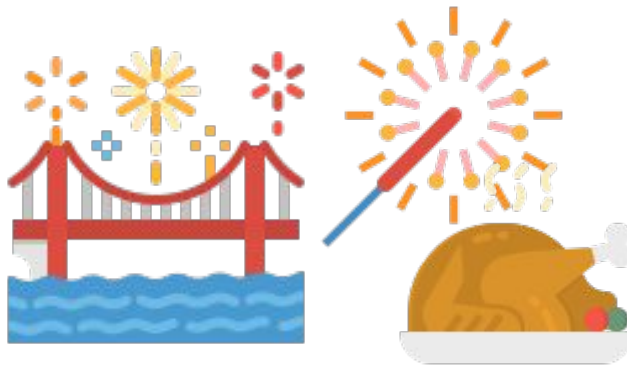


A NEW YEAR TASK

G2-G3
Basic

Today is January 1 and you are tasked to relate measurement to the celebration of this holiday. Look around your house. Find five measuring tools that you or your family used for New Year. Make sure to complete the details of the table below.

Name of Measuring Tool	Purpose of the Measuring Tool	This New Year, the measuring tool was used for...
1.		
2.		
3.		
4.		
5.		



PREPARING FOR JANUARY 1ST

G4-G5
Advanced

HWM Home Decoration is having its year-end sale! George's family would like to purchase some home decor and appliances. Help his family to convert some US weights and measures units.



1. The height of the floor lamp is 64 inches. What is the equivalent of that in feet?



2. The flower vase has a maximum capacity of 4.5 cups of water. How many fluid oz. is that?



3. This plant pot can hold $1 \frac{1}{2}$ lbs of loam soil. How many grams is that?



4. A regular laundry machine can be loaded up to 12 to 16 lbs of laundry. What is its equivalent in oz?



GEORGE'S FAMILY NEW YEARS RESOLUTION

G4-G5
Advanced

New Year also mean new start. George's family members have their own new year's resolution. Read them all below and answer the questions that follow.

New Year's Resolution
#1:
More leisure travel



Destination	Distance (in miles)	Convert to nautical miles 1 m = 0.869 NM
1. USA to UK		
2. USA to Italy		
3. USA to Dubai		

Morning Walk
and Jog

Distance (in ft)

Convert to yd

4. March

5. April

6. May



New Year's Resolution
#2:
Be fit and healthy



JANUARY 1 IN JAPAN

G4-G5
Advanced

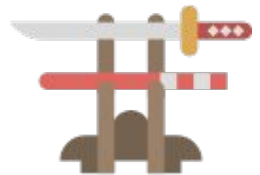
George's family went on a trip to celebrate the New Year. They went to Japan and enjoy the rich culture of the country. Below are some of their experiences during the trip. Use your knowledge about measurement to solve the problems.



The family visits the the country's tallest peak, the Mount Fuji. It stands 12, 389 ft. The weather is nice and temperature that day is 10°C .

1. What is the height of Mount Fuji in miles?
2. What is the equivalent temperature that day in Fahrenheit?

3. One of the things on their bucket list is to try eating Wagyu A5 beef. The cost of this expensive meat is \$500 per kilogram. If the family would like to order 4.5 lbs of it, how much should they pay?



THE ROSE BOWL GAME

G4-G5
Advanced

The Rose Bowl game is known as the oldest American postseason college gridiron football contest that is usually played either in New Year's Eve or New Year's Day. Below are some of the common scenes that you see before and during the game.



What is the standard size of an American football field?

1. Express your answer in different US Customary units of length (inch, foot, yard, miles)

2. The Rose Parade is one of the most famous annual parades. It is consist of 60 floats that march a 5.5-mile procession. How long is that in feet?



FINDERS KEEPERS: NEW YEAR'S EDITION

G4-G5
Advanced

It's time to get busier this New Year's Day. Look around your own room or house and grab ten objects. After that, bring out the available measuring tools at home and measure them.

Object	Measurement Property	Actual Measurement	Converted measurement



ANSWER GUIDE

Activity 1

1. Yards
2. Inches
3. Inches

Activity 2

1. Accurate: 3.25 in Estimate: 3 in
2. Accurate: 4.7 in Estimate: 5 in
3. Accurate: 5.47 in Estimate: 6 in
4. Accurate: 3.55 in Estimate: 4 in

Activity 3

Possible answer:

2 watermelon (4 lbs) + 2 apples (2 lbs) + 2 pears (3 lbs) + 2 peaches (2 lbs)

Activity 4

- | | | |
|----------------|----------------|-------------|
| 1. Length | 2. Capacity | 3. Weight |
| 4. Weight | 5. Temperature | 6. Length |
| 7. Temperature | 8. Weight | 9. Capacity |

Activity 5

Answers may vary.



ANSWER GUIDE

Activity 6

1. 5.33 ft
2. 36 fl.oz
3. 384 drams
4. 192 oz to 256 oz

Activity 7

Destination	Distance (in miles)	Convert to nautical miles 1 m = 0.869 NM
1. USA to UK	5342	4642.071
2. USA to Italy	5352	4650.761
3. USA to Dubai	7732	6718.924

Activity 8

1. 2.35 miles
2. 50 degrees Fahrenheit
3. $2.04 \text{ kg} \times 500 = \1020

Activity 9

1. Standard size: 360 ft x 160 ft
In inches = 4320 in x 1920 in In yard = 120 yd x 53.33 yd
In miles = 0.068 mi x 0.03 mi
2. 29040 ft

Activity 10

Answers may vary.



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