METRIC VERSION

Measuring Length For Special Education

121 pages

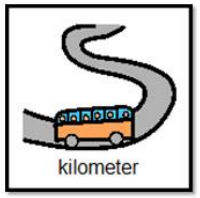
Preview

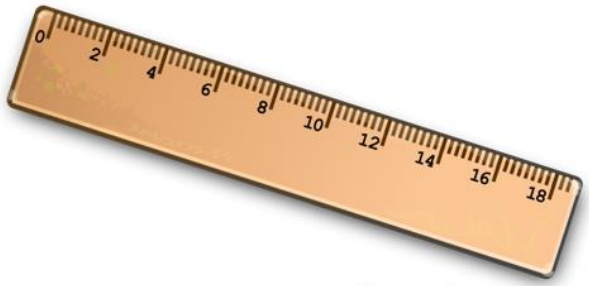
By Christa Joy, Special Needs for Special Kids

About How Long is It?

By
Christa Joy
Special Needs for Special Kids

If something is really long, like a road, we measure it in **kilometers**.



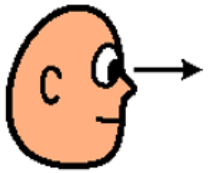


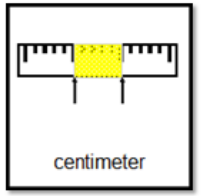
Using a Ruler

By
Christa Joy
Special Needs for Special Kids

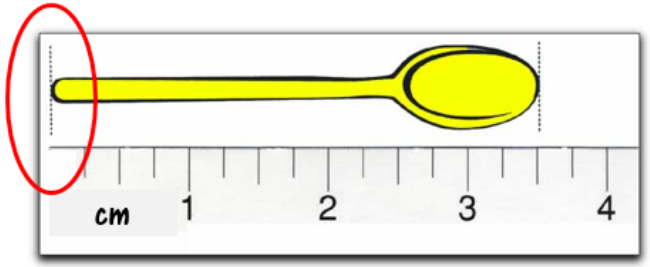
Some things are really short.

1. Look at the object.
2. If it could easily fit in two hands, use **centimeters**.





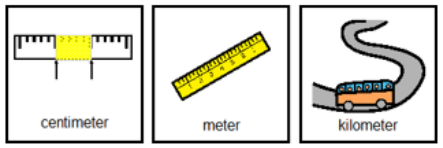
Make sure one end of the object is at the **very beginning** of the ruler.



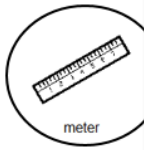
2 books

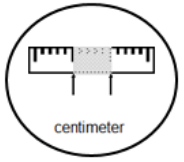
Circle Maps

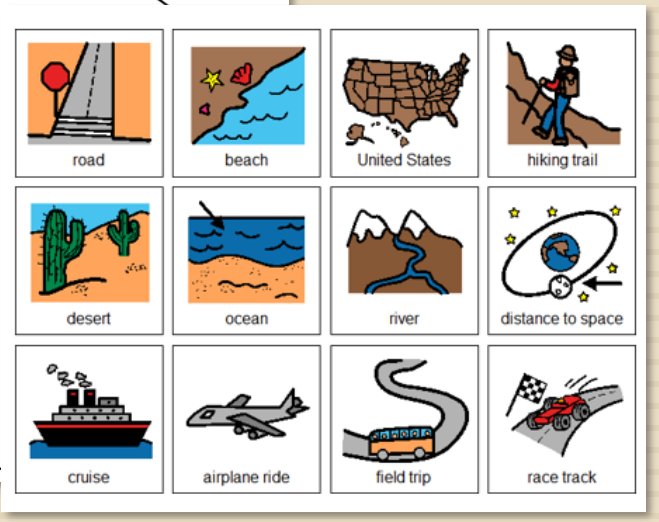
- Gives more practice of what unit of measure to use when determining length
  - Centimeters
  - Meters
  - Kilometers
- Option
  - Print onto cardstock and laminate
  - Use Velcro to make an independent and reusable task



Also in BW







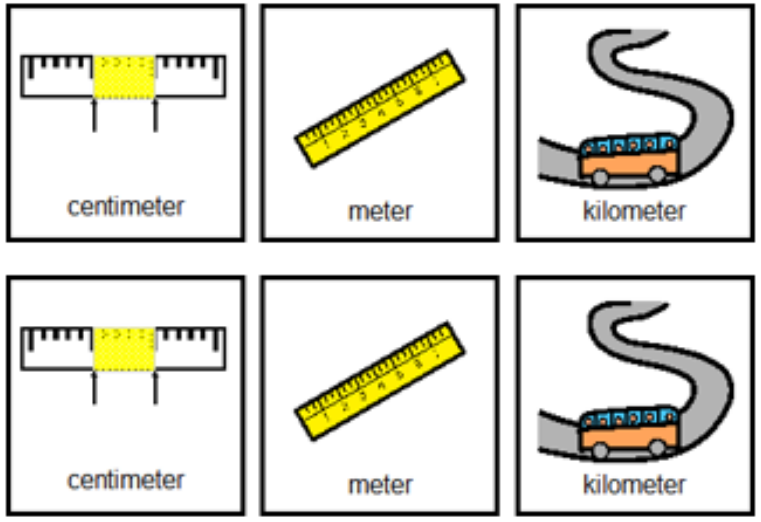
Group Activities

- Activity 1
  - Make a set of length flash cards for each student in the group
  - Show students a picture of an object and have them hold up the measurement card they would use
- Activity 2
  - Make as many copies of the recording sheet as you need
  - Every student should have a ruler
  - Have students choose various objects to measure
  - Mark yes in the column that asks "At the beginning" once student checks placement of the object

Also in BW

Metric versio

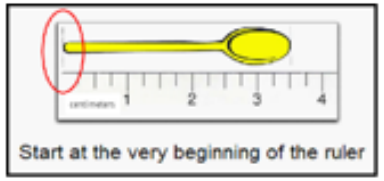
Flashcards: Print a set (either as a strip or cut apart) for each student on cardstock. Laminate for longer durability.

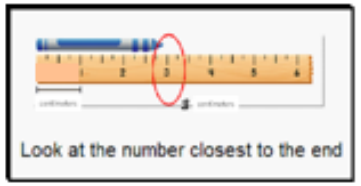


Metric versio

How many centimeters long is it?

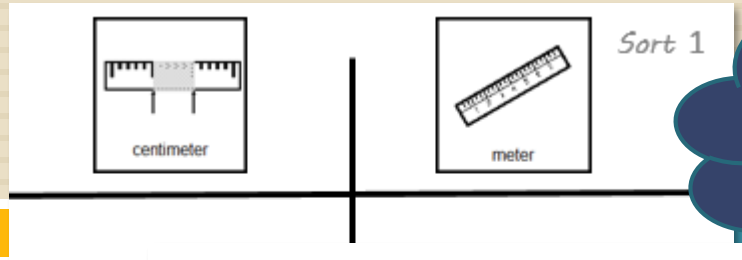
Remember:

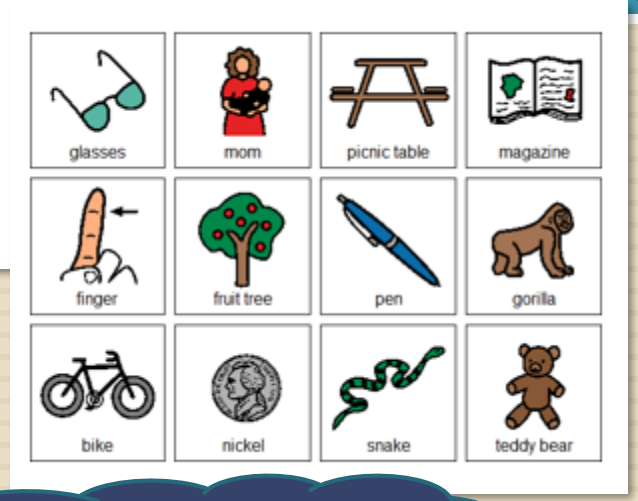




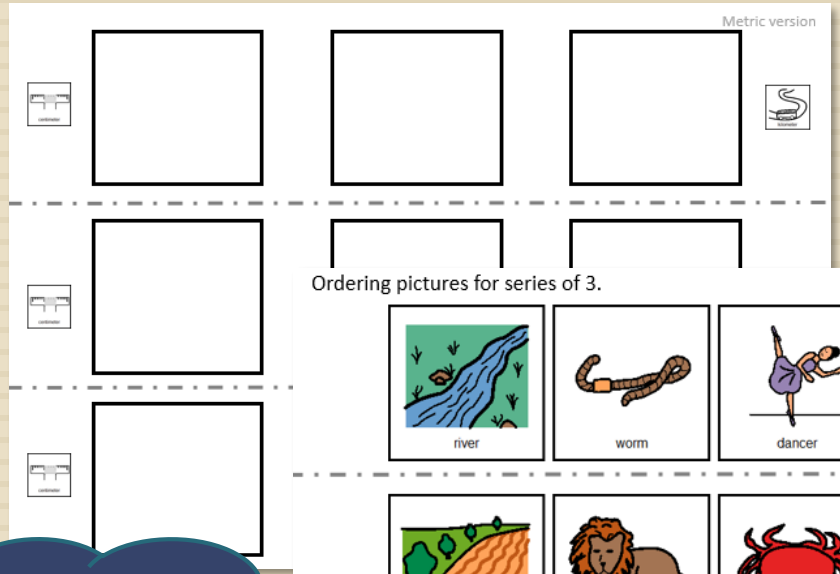
Item	At the beginning?	Centimeters long

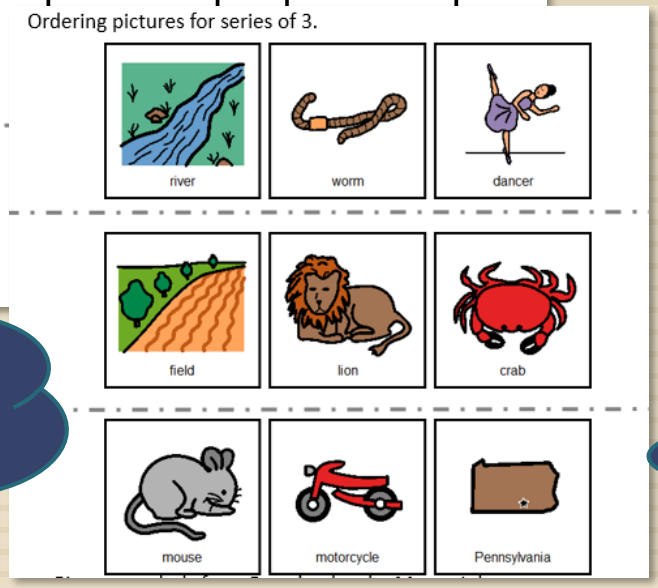
3 sorting activities



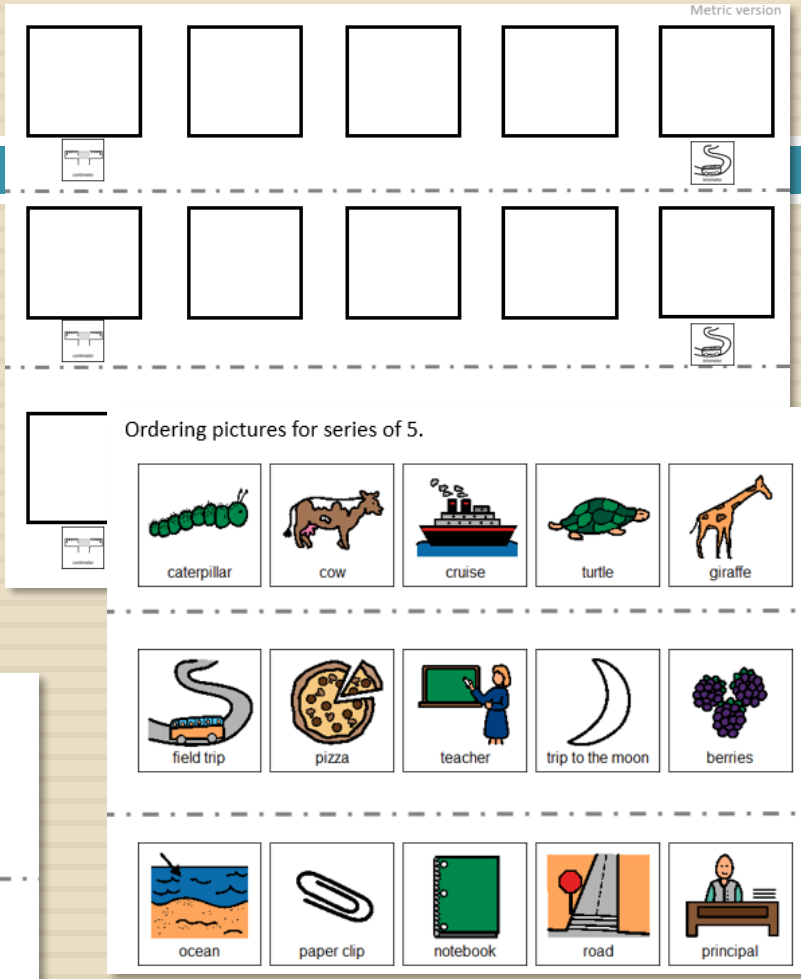


Also in BW





Order by length activities

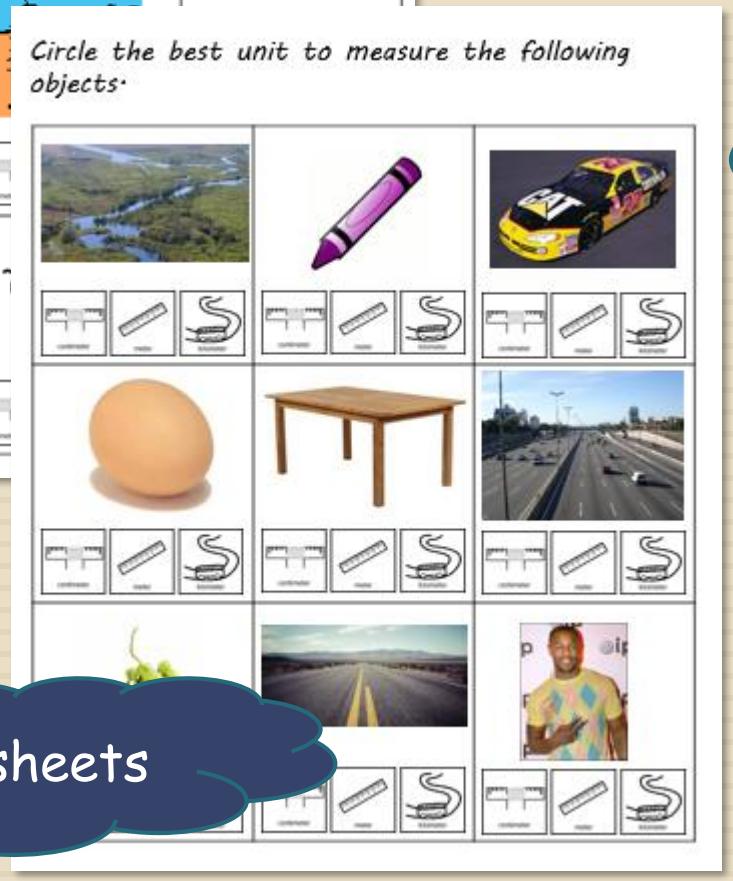


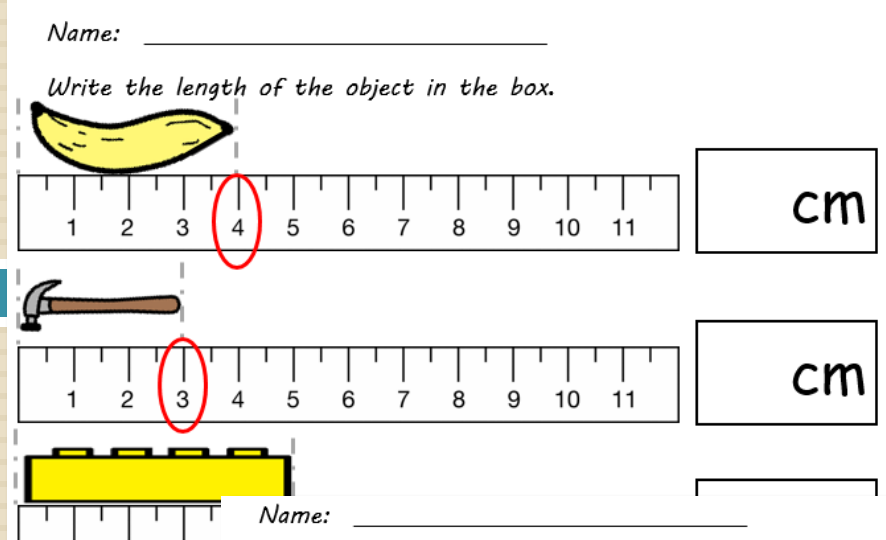
Also in BW

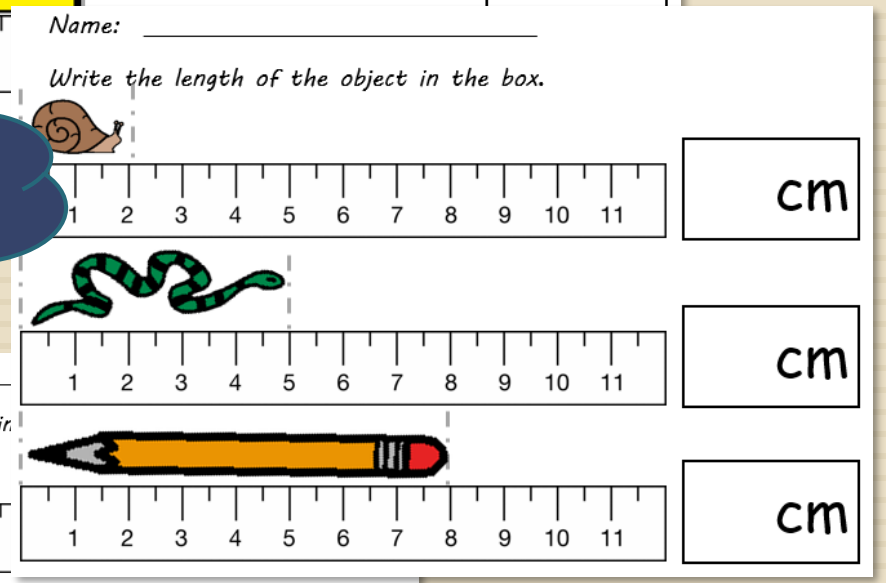
Also in BW

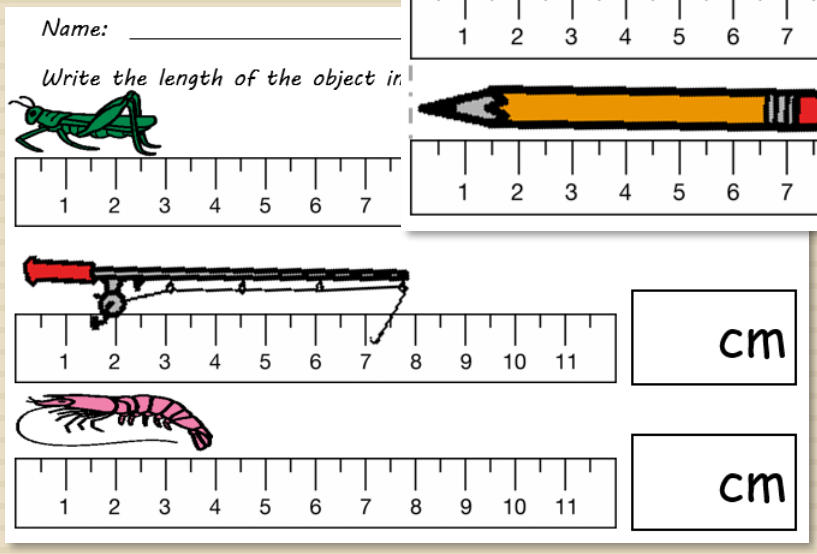
5 differentiated worksheets

5 worksheets







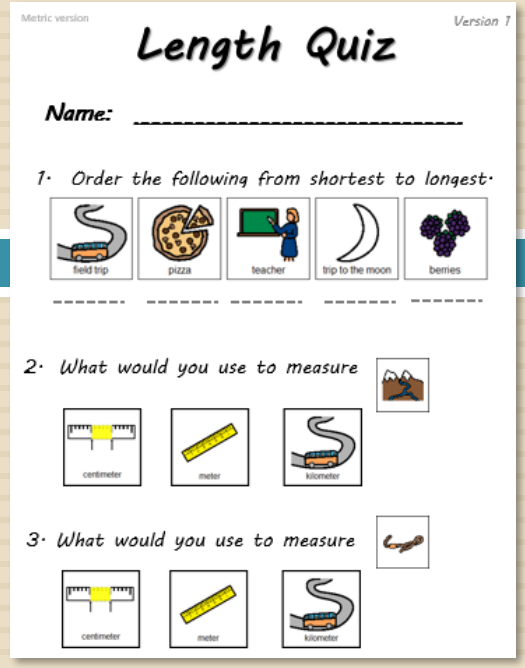


Length Assessment

- There are 2 versions of this assessment included in this unit to hopefully meet all the learning levels you may have in your classroom
- Consider giving as a **pre-assessment** as well as final assessment to measure growth

1. The first version is multiple choice with small picture symbol choices
2. The second version is meant to be administered in the following way:
   - Q1: Print and cut apart the images and have student physically arrange them in the correct order. Use the number of images appropriate for learning level of your student.
   - Q2-6, Q8: The teacher reads the question and then presents 3 length flash cards on 3 separate index cards for students to choose from using their communication mode of choice
   - Q7: Print out and cut apart rulers. Place an object along the ruler, Have students point to where they would find the length on the ruler.
   - This requires more teacher preparation, as you have to print out the picture choices and adhere them to index cards
   - A great method for students who use eye gaze
   - Decrease from 3 to 2 answer choices as needed

Also in BW


Metric version

Version 1

Length Quiz

Name: _____

1. Order the following from shortest to longest.

field trip | pizza | teacher | trip to the moon | berries

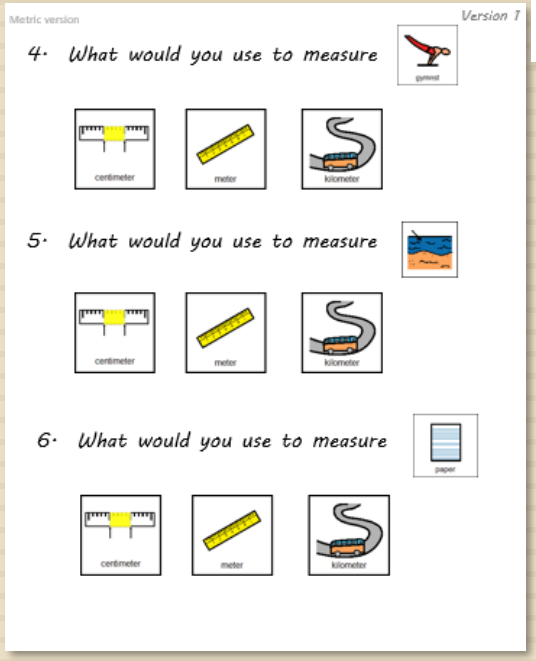
_____ _____ _____ _____ _____

2. What would you use to measure

centimeter | meter | kilometer

3. What would you use to measure

centimeter | meter | kilometer


Metric version

Version 1

4. What would you use to measure

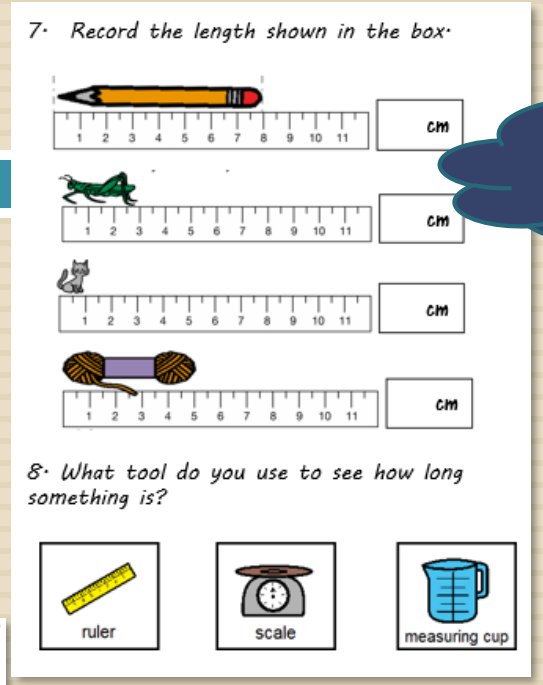
centimeter | meter | kilometer

5. What would you use to measure

centimeter | meter | kilometer

6. What would you use to measure

centimeter | meter | kilometer


7. Record the length shown in the box.

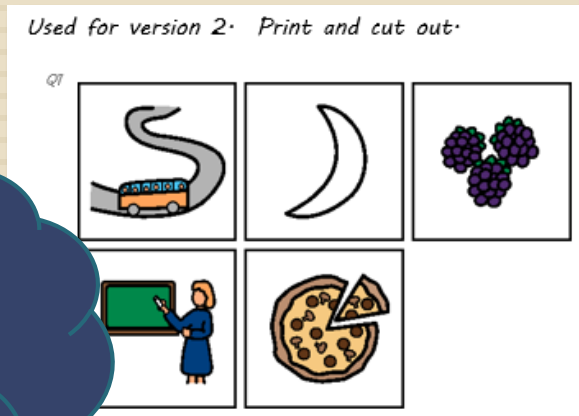
cm | cm | cm | cm

8. What tool do you use to see how long something is?

ruler | scale | measuring cup

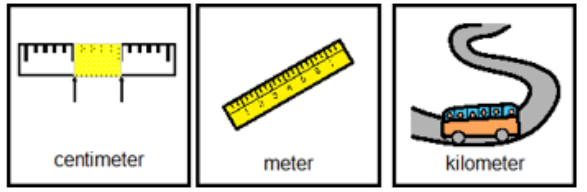
Version 1

Cards to use for version 2


Used for version 2. Print and cut out.

Q1

Flash cards


centimeter | meter | kilometer

Weight Unit for Special Education

Preview

METRIC VERSION

122 pages

By

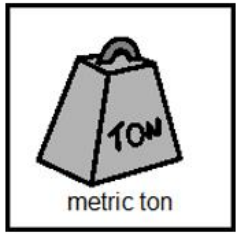
Christa Joy

Special Needs for Special Kids

2 Different Books

An elephant, a truck and a tree are examples of things that are really heavy.

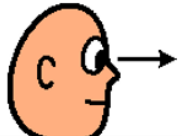
If something is really heavy, like an elephant, we measure it in **metric tons**.



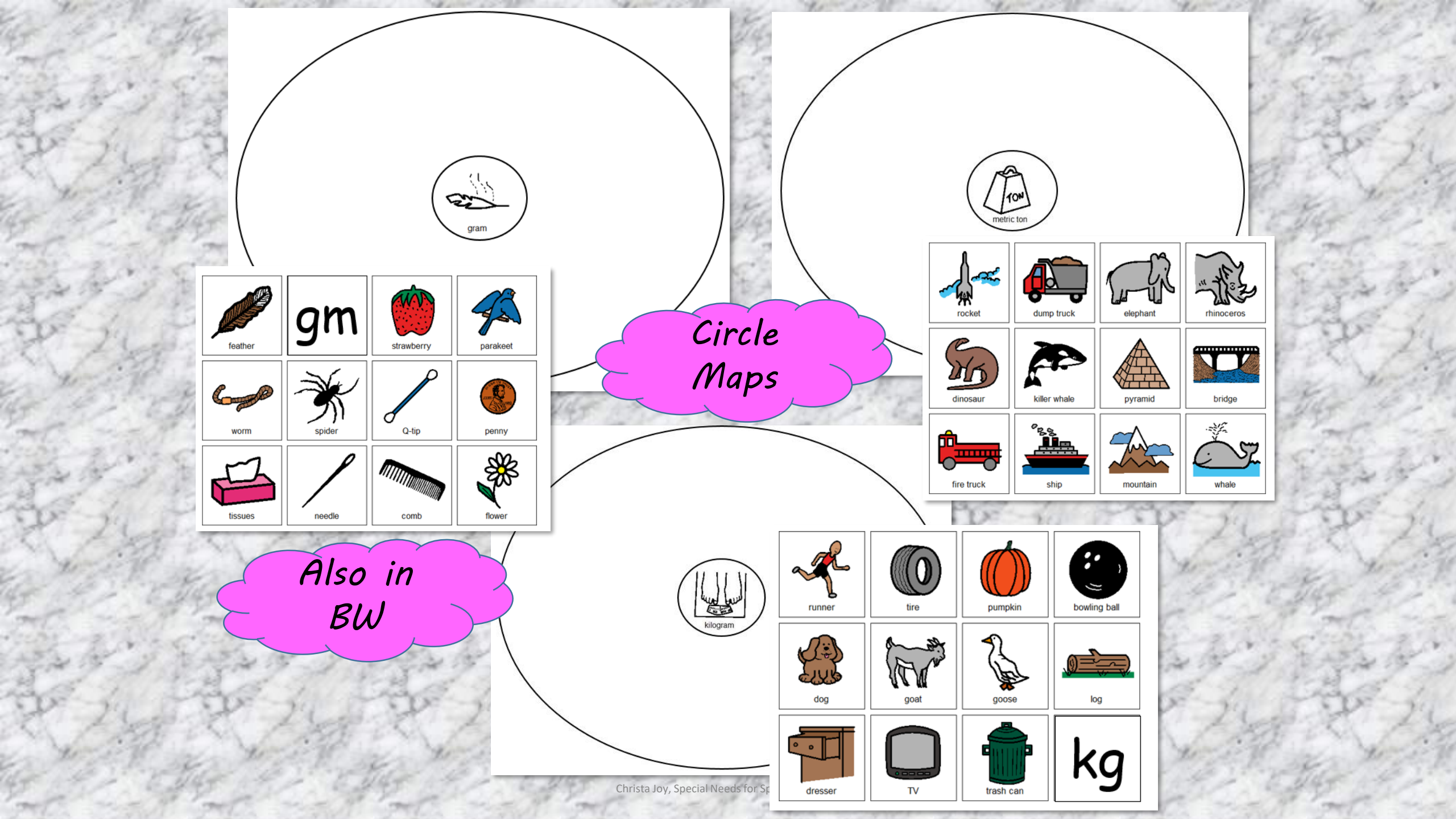
There are different types of scales.

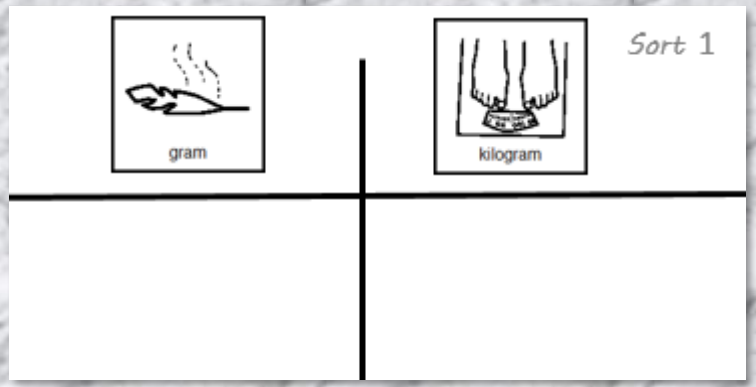
Bubble gum, a pencil, and M&M's are measured in **grams**.

1. Look at the object.
2. If you could easily throw it up in the air, use **grams**.

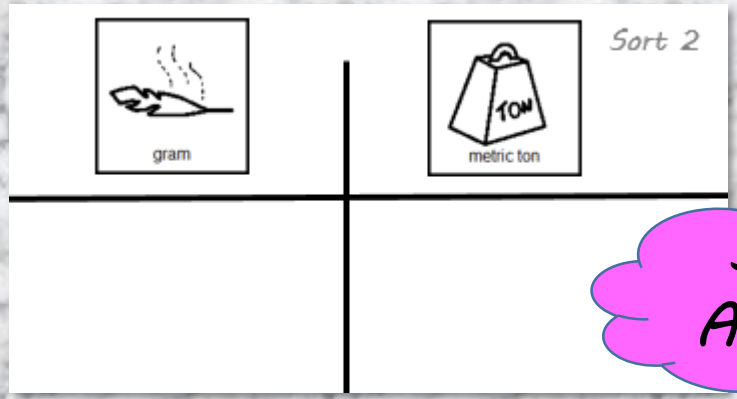


Read the number, or find the number the arrow is pointing to.

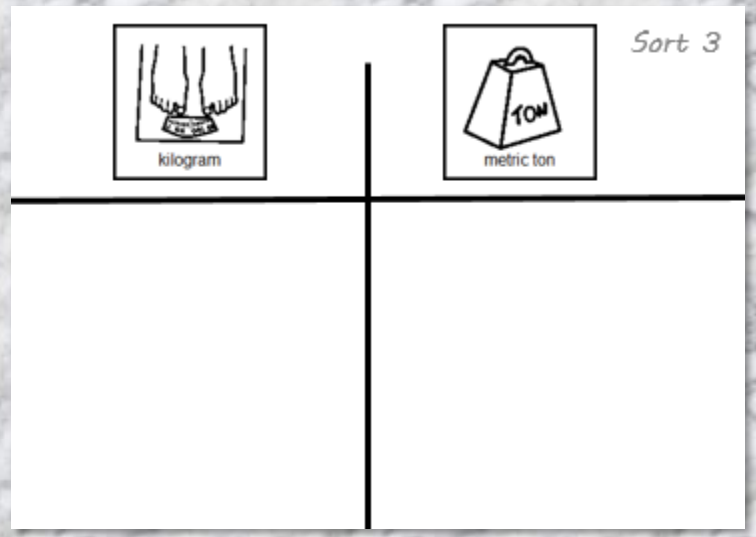

gram
feather
gm
strawberry
parakeet
worm
spider
Q-tip
penny
tissues
needle
comb
flower
Circle Maps
metric ton
rocket
dump truck
elephant
rhinoceros
dinosaur
killer whale
pyramid
bridge
fire truck
ship
mountain
whale
Also in BW
kilogram
runner
tire
pumpkin
bowling ball
dog
goat
goose
log
dresser
TV
trash can
kg

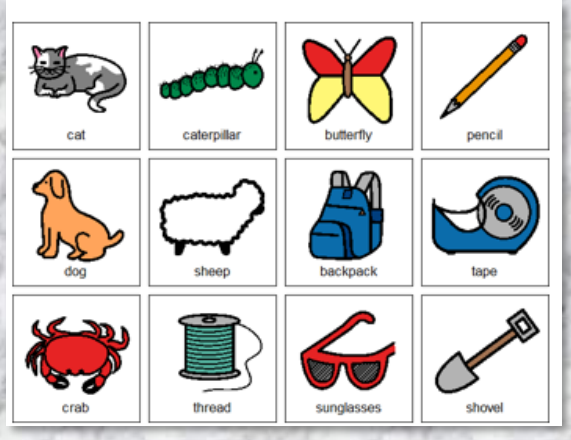


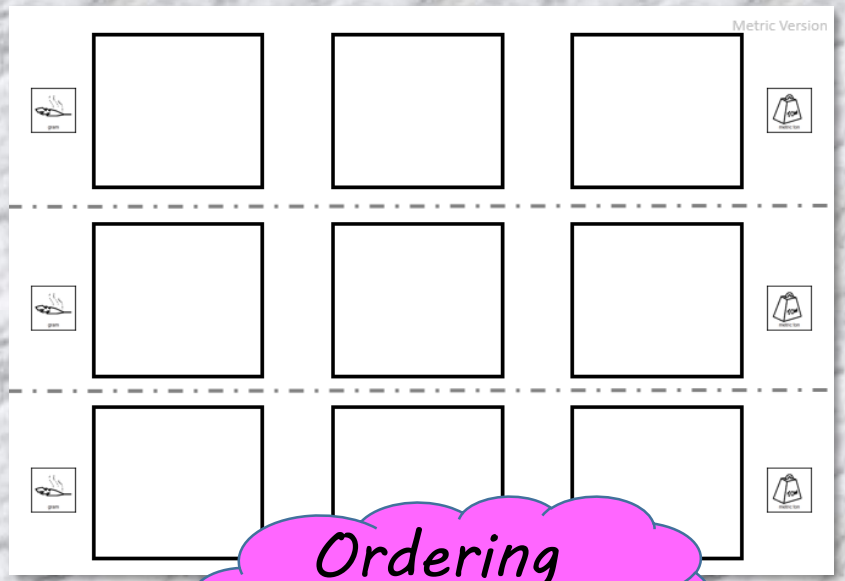
Also in BW



Sorting Activities

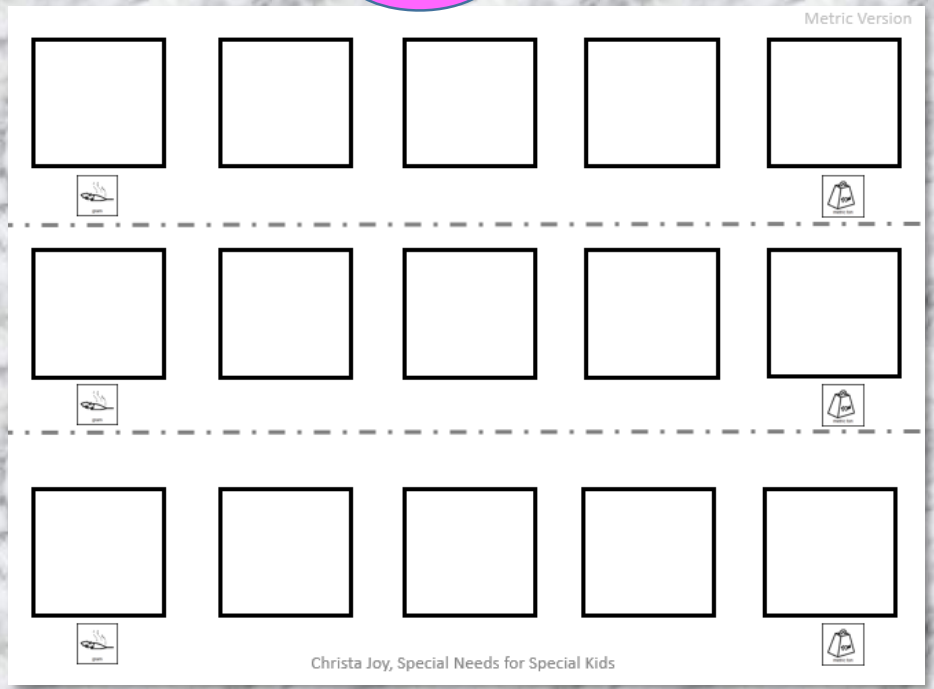






Ordering Activities

Also in BW



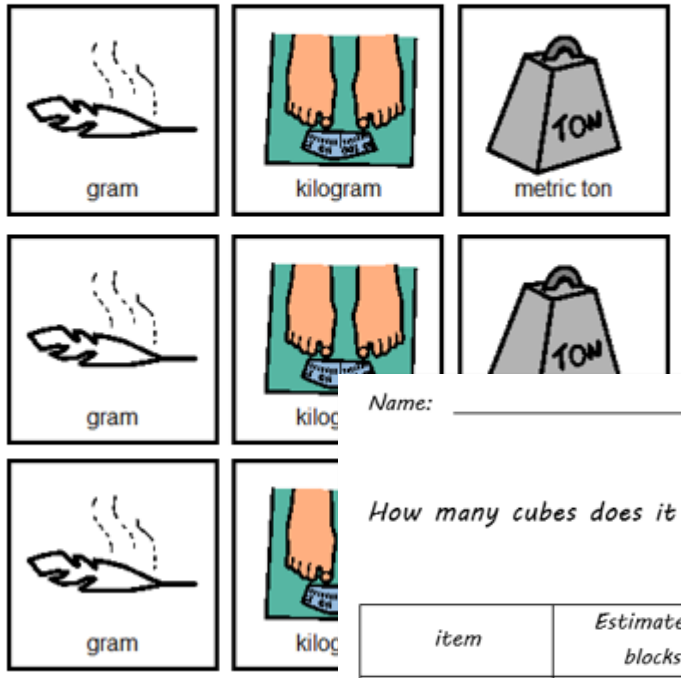
Group Activities

- Activity 1
  - Make a set of weight flash cards for each student in the group
  - Show students a picture of an object and have them hold up the measurement card they would use

- Activity 2
  - Make as many copies of the recording sheet as you need
  - You will need a class balance scale
  - Have students choose various objects to weigh
  - It is important for them to estimate the weight first to build a better conceptual understanding of how much things relatively weigh

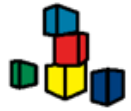
Flashcards: Print a set (either as a strip or cut apart) for each student on cardstock. Laminate for longer durability.

Metric Version



Name: _____

How many cubes does it weigh?



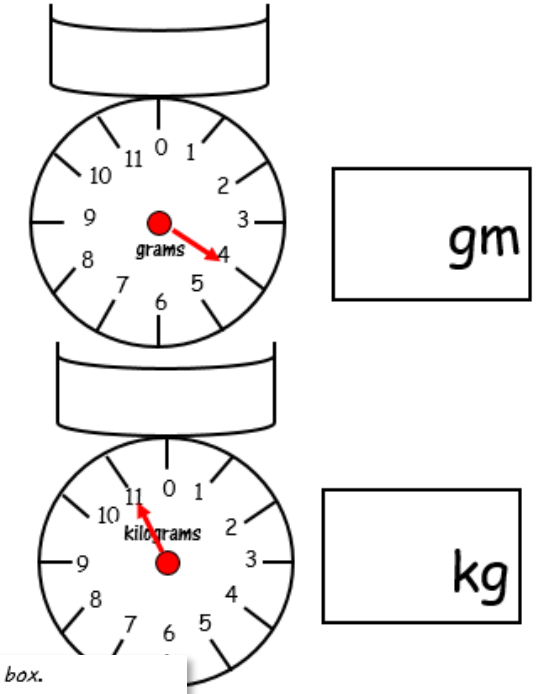
item	Estimate # blocks	Actual # blocks

Worksheet Set 1

15 different worksheets in all

Circle the best unit to measure the following objects.

Write the weight shown in the box.

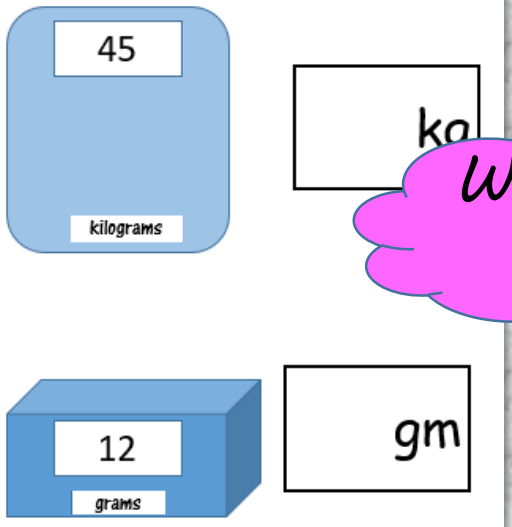


Name: _____ Metric version

Circle the best unit to measure the following objects.

Also in BW

Write the weight shown in the box.



Worksheet Set 2

Metric Version

Version 1

Weight Quiz

Name: _____

1. Order the following items lightest to heaviest.

_____ _____ _____ _____ _____

2. What would you use to measure

3. What would you use to measure

Metric Version

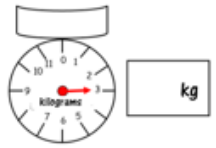
Version

4. What would you use to measure

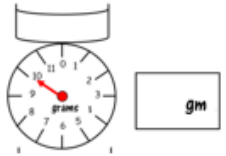
5. What would you use to measure

6. What would you use to measure

7. Record the weight shown in the box.



kg

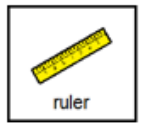


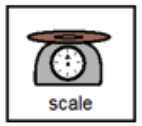
gm

kg

gm

8. What tool do you use to see how much something weighs?



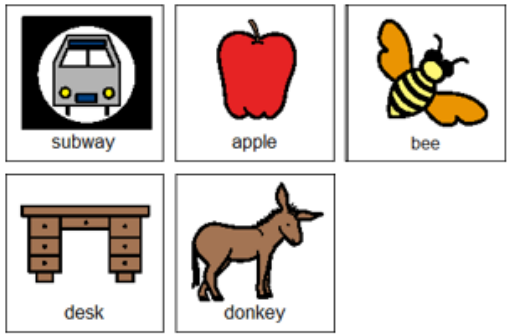


Assessment

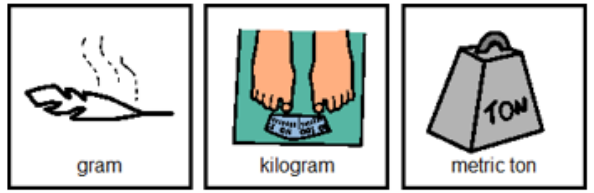
2 Versions

Used for version 2. Print and cut out.

Q1



Flash cards



Also in BW

METRIC

Preview

118 pages

VOLUME UNIT

by Christa Joy, Special Needs for Special Kids

Some containers can hold a lot of liquid.

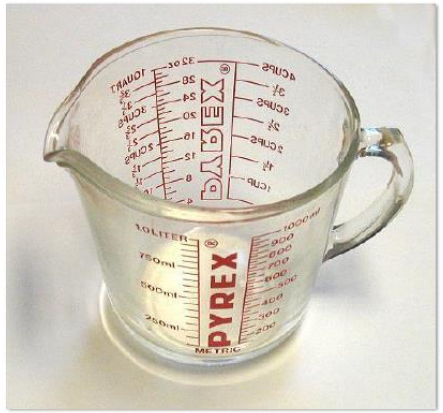
We use different units depending on about how much a container holds.

How many milliliters are in the container?

250 ml

43 page book introduces the different units to use

But, whether large or small, we can measure how much liquid there is in the container.



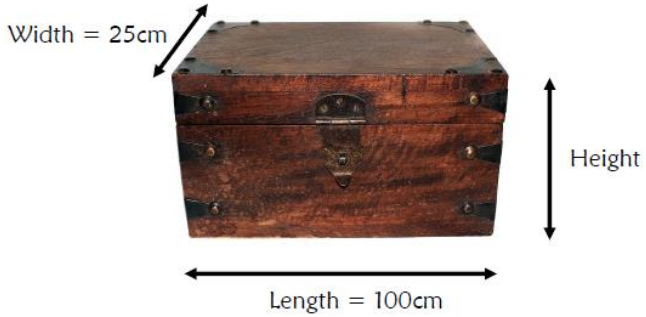
Pour in the liquid you want to measure. Read the number where the liquid stops.

There are 1000 milliliters in 1 liter.

1000 milliliters = 1 liter

But what if the container does not have measurements? What if the container is an odd shape?

Here is the first container:



Volume = 100cm x 25cm x

So, sometimes the numbers can get pretty big when you are calculating volume. That is okay, but there is an easier way to write your answer using the other unit of volume: liters

23 page book teaches how to calculate volume

There is a formula for figuring out the volume of any container.

Volume = length x width x height

V = l x w x h

That was not too hard, but what is that cm^3?

Group Activities

- Activity 1
  - Make a set of volume flash cards for each student in the group
  - Show students a picture of an object and have them hold up the measurement card they would use
- Activity 2
  - Make as many copies of the recording sheet as you need
  - You will need measuring cups with milliliters listed on the side
  - Have students choose various liquids to measure
  - It is important for them to estimate the volume first to build a better conceptual understanding of how much volume relative liquids take up
- Activity 3
  - Students will need measuring tapes or rulers and a calculator
  - Gather a variety of containers
  - Have students first estimate the volume
  - Measure the length, width, and height of the container
  - Use a calculator to figure out the volume
  - Check answer against the estimation (students should get better the more they do)

Flashcards: Print a set (either as a strip or cut apart) for each student on cardstock. Laminate for longer durability.

milliliter (ml)

liter (L)

Item	Estimate Volume (mL)	Actual Volume (mL)

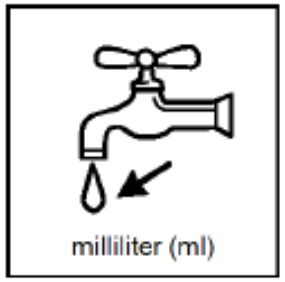
$V = l \times w \times h$

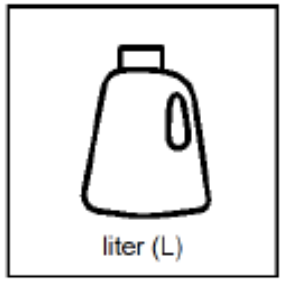
Item	Estimate Volume (mL)	length	width	height	Actual Volume (mL)

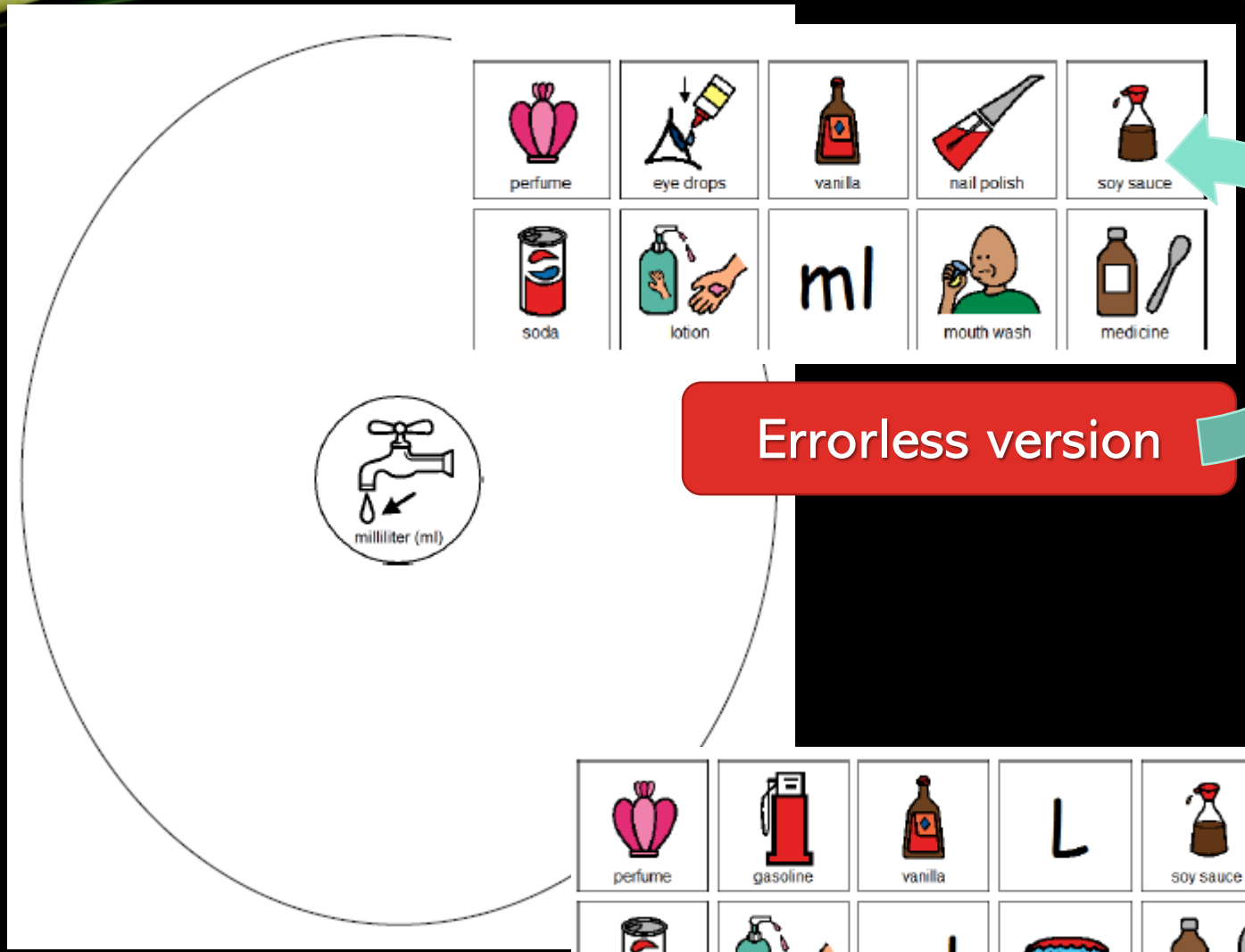
Circle Maps

- Gives more practice of which unit of volume makes the most sense to use
  - Milliliters
  - Liters
- Option
  - Print onto cardstock and laminate
  - Use Velcro to make an independent and reusable task

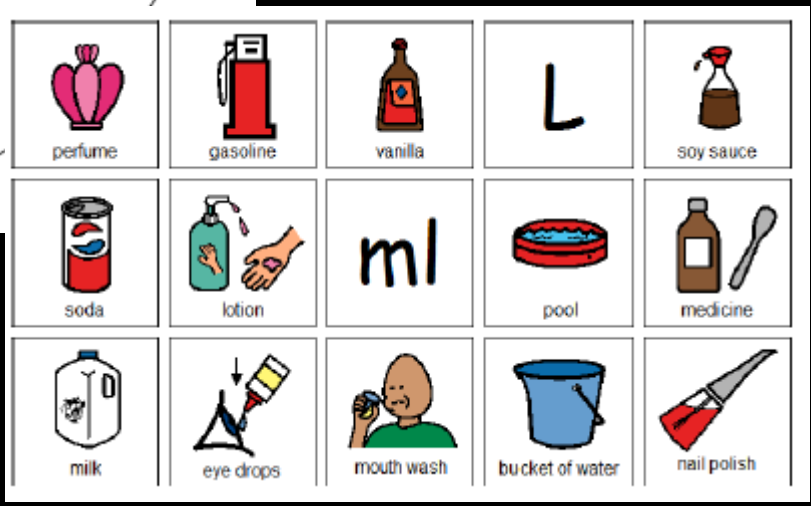
I have started adding an option to use when you want students to have to choose between correct and incorrect answers in some of the activities. I am still including an errorless version as well. Hopefully, this will address even more learning levels in your class!

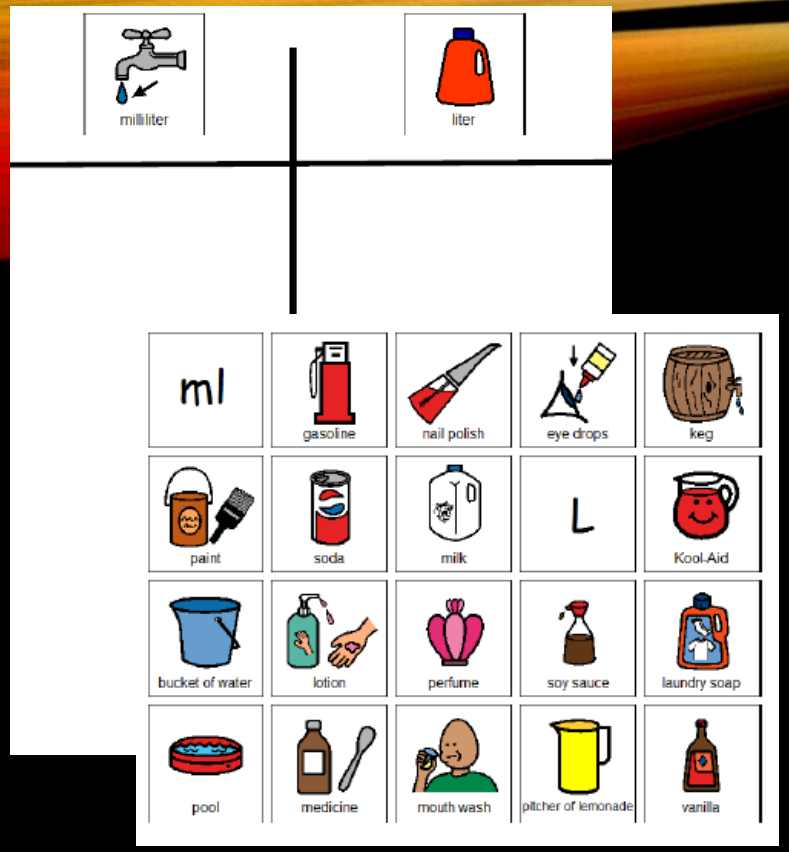




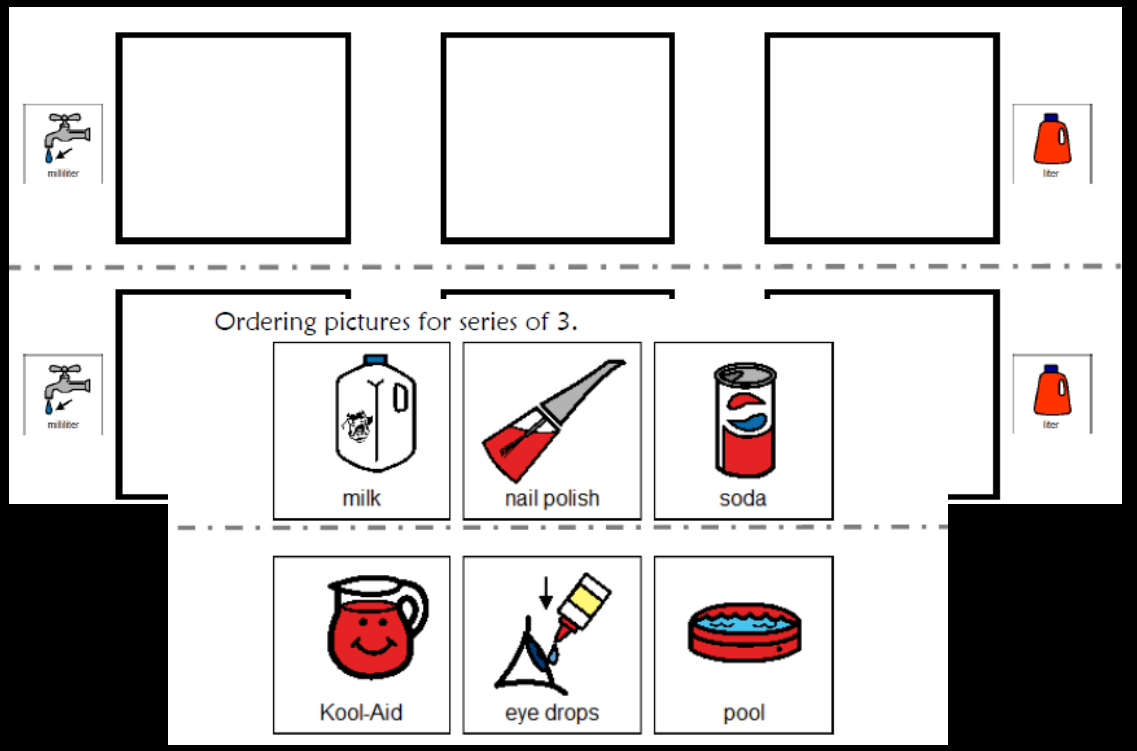


Errorless version

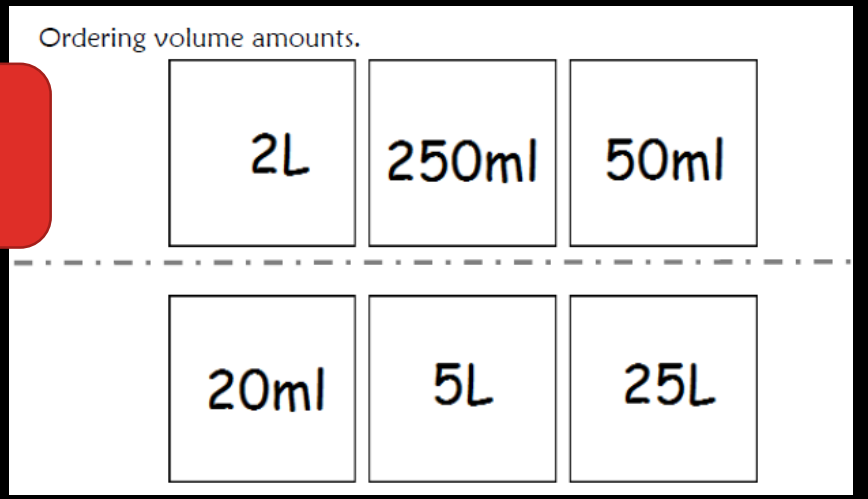




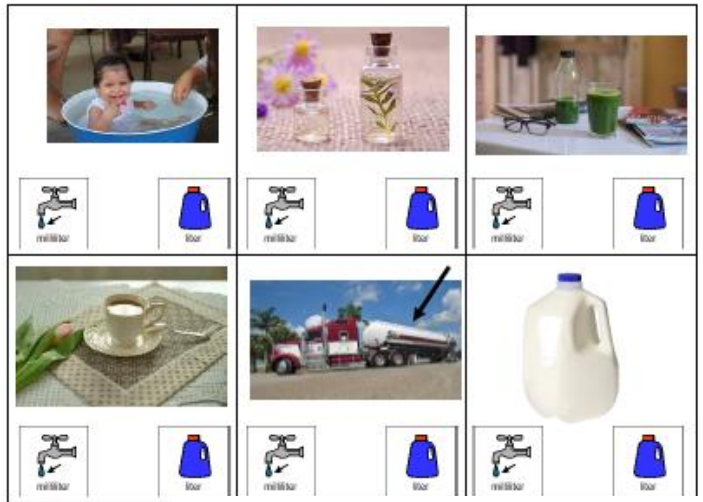
Sorting activities

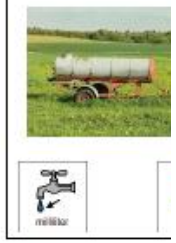


Also series of 5 to put in order



Circle the best unit to determine the volume following containers or objects.





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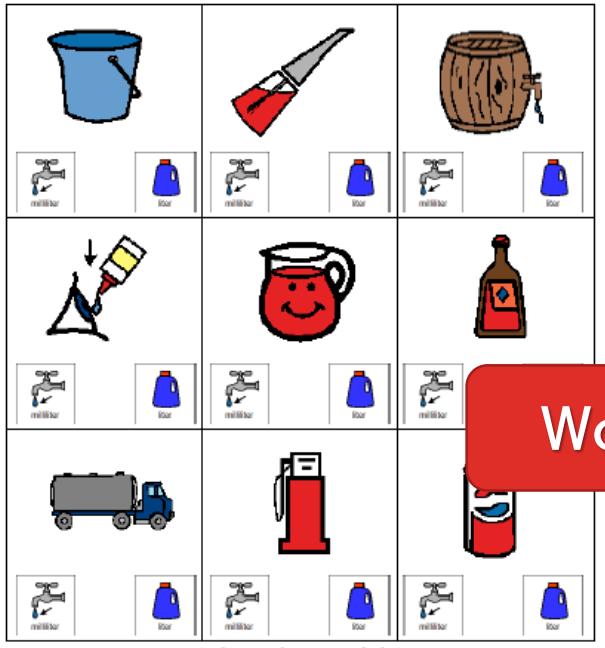


Worksheets set 1

Convert the following values into ml.

ml (cm^3)	L
	1
	42
	9
	14
	33
	200
	8

Worksheets set 2

Using a calculator, determine the volume for each of the containers below. Remember $1cm^3 = 1ml$

Length= 10cm
Width= 10cm
Height= 30cm

Volume =

Length= 15cm
Width= 10cm
Height= 40cm

Volume =

Length= 4cm
Width= 4cm
Height= 8cm

Volume =

Length= 10cm
Width=10cm
Height= 20cm

Volume =

1. Circle the all the measurements used for volume:

ml	g	cm^3	m	L

2. When measuring small amounts use:

ml	g	L

3. When measuring larger amounts use:

L	cm^3	ml

4. How many ml are in 1L?

50	10	1000

5. Volume is a way to measure the amount of:

weight

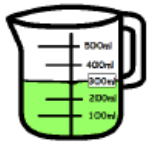
liquid

size

Assessment (also with no pictures)

6. How much liquid is in this container?

100ml	500L	300ml

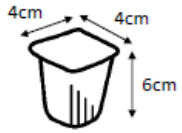


7. The formula for calculating volume is:

l×w×h	l×w	l+w+h

8. What is the volume in this container?

96ml	96L	960ml

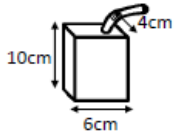


9. How many ml are in 1 cm^3?

1000	1	100000

10. What is the volume in this container?

20ml	24L	$240cm^3$



6. How much liquid is in this container?

100ml	500L	300ml

7. What would you use to measure the volume in this:

perfume

milliliter

liter

8. What is the volume in this container?

5L	50ml	500ml

9. What would you use to measure the volume in this:

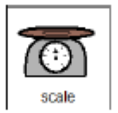
keg

milliliter

liter

10. What tool is used to measure volume?

measuring cup


scale

tape measure

Alternate assessment questions if not teaching calculation of volume