## Level 2

Measure Up
STUDENT WORKSHEETS
, - - Sample!
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## Measuring Temperature

1. Look at a thermometer.

## TEACHER NOTES

2. Read:

A thermometer measures temperature. Most thermometers are closed glass tubes containing liquids such as alcohol or mercury. When air around the tube heats the liquid, the liquid expands and moves up the tube. A scale then shows what the actual temperature is.
3. Read the thermometers and write the temperatures.

$\square$
5. Make a thermometer. MATERIALS:

## TEACHER NOTES

\& clear, plastic bottle ( $250 \mathrm{ml}+$ )
\& water
\& rubbing alcohol
\& clear plastic drinking straw
\& modelling clay
\& food colouring

## PROCESS:

A. Fill about $1 / 4$ of the bottle with equal parts of water and rubbing alcohol.
B. Add a few drops of food colouring.
C. Place the straw in the bottle, but don't let it touch the bottom.
D. Use the modelling clay to seal the neck of the bottle, so the straw stays in place. (Be careful that the straw doesn't touch the bottom of the bottle.)
E. Hold your hands on the bottom of the bottle (to warm it) and watch the mixture move up through the straw.

## EXPLANATION:



Why does this happen? Just like any thermometer, the mixture expands when it is warm. This makes the mixture no longer fit in the bottom of the bottle. As the alcohol expands, the coloured mixture moves up through the straw. If the bottle gets extremely hot, the mixture will come up through the top of the straw.
8. What are the temperatures?


10. Look at the thermometers, showing body temperatures.

c) Complete the sentence: If your temperature is $35^{\circ} \mathrm{C}$, your temperature is too $\qquad$ .
d) If your temperature is 36 to $37^{\circ} \mathrm{C}$, do you have a fever? Explain.
*If you have a thermometer at home, check your temperature!

4. Look at the conversion table below. Write the degrees Celsius for each instruction. (as close as possible)

| Celsius | Fahrenheit |
| ---: | ---: |
| $50^{\circ} \mathrm{C}$ | $122.0^{\circ} \mathrm{F}$ |
| $60^{\circ} \mathrm{C}$ | $140.0^{\circ} \mathrm{F}$ |
| $70^{\circ} \mathrm{C}$ | $158.0^{\circ} \mathrm{F}$ |
| $80^{\circ} \mathrm{C}$ | $176.0^{\circ} \mathrm{F}$ |
| $90^{\circ} \mathrm{C}$ | $194.0^{\circ} \mathrm{F}$ |
| $100^{\circ} \mathrm{C}$ | $212.0^{\circ} \mathrm{F}$ |
| $200^{\circ} \mathrm{C}$ | $392.0^{\circ} \mathrm{F}$ |


b) Put the homemade pizza base in an oven preheated to $400^{\circ} \mathrm{F}$.
c) Bake the casserole at $200^{\circ} \mathrm{F}$.
d) The summer temperatures in Egypt reached $122^{\circ} \mathrm{F}$.
5. Comment on the temperatures.

10. Arrange the temperatures in order, from coldest to hottest.
a) $25^{\circ} \mathrm{C},-10^{\circ} \mathrm{C}, 20^{\circ} \mathrm{C},-20^{\circ} \mathrm{C}, 40^{\circ} \mathrm{C}, 8^{\circ} \mathrm{C}$
$\qquad$
$\qquad$
b) $-35^{\circ} \mathrm{C}, 16^{\circ} \mathrm{C},-17^{\circ} \mathrm{C},-30^{\circ} \mathrm{C}, 43^{\circ} \mathrm{C},-28^{\circ} \mathrm{C}$
$\qquad$
$\qquad$
c) $16^{\circ} \mathrm{C}, 29^{\circ} \mathrm{C},-34^{\circ} \mathrm{C},-18^{\circ} \mathrm{C}, 27^{\circ} \mathrm{C},-48^{\circ} \mathrm{C}$
d) $2^{\circ} \mathrm{C},-8^{\circ} \mathrm{C},-1^{\circ} \mathrm{C},-6{ }^{\circ} \mathrm{C},-4^{\circ} \mathrm{C}$
e) $6^{\circ} \mathrm{C}, 10^{\circ} \mathrm{C},-15^{\circ} \mathrm{C},-11^{\circ} \mathrm{C}, 14^{\circ} \mathrm{C}$

f) $16^{\circ} \mathrm{C}, 18^{\circ} \mathrm{C},-23^{\circ} \mathrm{C},-25^{\circ} \mathrm{C},-13^{\circ} \mathrm{C}, 12^{\circ} \mathrm{C}, 20^{\circ} \mathrm{C}$

## D. Weather Temperatures

1. Look at the information below.


## TIME ZONE

- IST (Irish Standard Time), UTC/GMT +1 hour


## AIRPORTS

- Dublin Airport, DUB, About 9 km N of Dublin
- Weston Airport, WST, About 15 km W of Dublin


2. Below, write about the temperature and weather.
3. What temperatures are expected in the next week? Use Google on your phone or computer.

| Day | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Date |  |  |  |  |  |  |  |
| Temp |  |  |  |  |  |  |  |

4. Which of these temperatures is lowest? Underline the correct answer.
a) $-4^{\circ} \mathrm{C}$ or $-2^{\circ} \mathrm{C}$
b) $-8^{\circ} \mathrm{C}$ or $8^{\circ} \mathrm{C}$
C) $-16^{\circ} \mathrm{C}$ or $-17^{\circ} \mathrm{C}$
d) $-5^{\circ} \mathrm{C}$ or $-6^{\circ} \mathrm{C}$

5. Answer the questions.
a) The temperature rises by 12 degrees from $-4^{\circ} \mathrm{C}$. What is the new temperature?
b) The temperature falls from $11^{\circ} \mathrm{C}$ to $-2^{\circ} \mathrm{C}$. How many degrees does the temperature fall?
c) The temperature is $5^{\circ} \mathrm{C}$. It falls by 8 degrees. What is the temperature now?
d) The temperature is $-5^{\circ} \mathrm{C}$. How much must it rise to reach $5^{\circ} \mathrm{C}$ ?
e) What is the difference in temperature between $4^{\circ} \mathrm{C}$ and $14^{\circ} \mathrm{C}$ ?

## Assessment Brief 2

Course:
Assessment:
Title:
Weighting:

L2LP Numeracy: Measurement
Collection of Work
Weight
Collection of Work 100\%

## Guidelines:

You will be expected to develop an awareness of weight, to include:

1. Use appropriate vocabulary to describe the units of weight
2. Identify the marks for the units of weight.
3. List some examples of weight from daily life.
4. Use weighing scales to work out the weight of powders and solids, e.g. weighing the ingredients for a cake

## Assessment criteria:

- Exercises and tasks must be complete and correct.
- Write number sentences and units and show working out for all calculations.
- Use words related to weight, e.g. kilograms, grams.
- Use a scale, weigh everyday items and read the units of weight.
- Work out problems related to weight in everyday life, e.g. weight of food products, weight conversions, reading different scales, estimating weight and measuring ingredients for baking.
- Discussions may be recorded.
- Photographic and/or video evidence may be required.

Submission date:


I confirm that this is my own original work.

Signed: $\square$ Date: $\square$
3. Which unit would you use to measure the weight? Circle that unit of measure.
grams
5. Look at the weights. Complete the sentences, using these weights:

a) $5 \mathrm{~g}+$ $\qquad$ $=10 \mathrm{~g}$
b) $500 \mathrm{~g}+$ $\qquad$ $=1 \mathrm{~kg}$
c) $\qquad$ $+50 \mathrm{~g} \mathrm{=} 100 \mathrm{~g}$
d) $250 \mathrm{~g}+25 \mathrm{~g}=$ $\qquad$
e) $250 \mathrm{~g}+250 \mathrm{~g}+500 \mathrm{~g}=$
6. In pairs: Find three items in the classroom that you think have quite different weights. Estimate the weight of each and then measure its weight using a scale.

| Item | Estimate | Weight |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |

7. Write the items above from lightest to heaviest.
$\qquad$
$\qquad$
8. If something was placed on this scale that was $6 \frac{1}{2} \mathrm{~kg}$, draw where the pointer would be.

9. Which of the following would weigh about 1 kg ? Tick them.
$\square$ One litre of water
$\square$ An ant
$\square$ A car
$\square$ A tennis ball
$\square$ A bee
$\square$ Two tubs of butter
$\square$ A student
$\square$ A muffin
$\square$ Bag of sugar
$\square$ A lemon

10. Do some research. How much do the following food products usually weigh?
a) Packet of grated cheese
b) Tin of baked beans $\qquad$
c) Packet of cornflakes $\qquad$

d) Loaf of wholegrain bread $\qquad$
e) Bottle of honey $\qquad$

g) Bottle of turmeric $\qquad$
h) Large slab of dark chocolate
i) Packet of bananas $\qquad$
j) Packet of brown rice $\qquad$

## 8. How many millilitres?

*Remember, 1,000 millilitres $=1$ litre
a) $\qquad$ = 16 litres
b) $\qquad$ = 10 litres
c) $\qquad$ = 30 litres
d) $\qquad$ = 23 litres
e) $\qquad$ = 22 litres
f) $\qquad$ $=2$ litres
g) $\qquad$ = 28 litres
h) $\qquad$ = 19 litres
i) $\qquad$ $=3$ litres
j) $\qquad$ $=4$ litres
k) $\qquad$ = 14,000 millilitres
I) $\qquad$ = 27,000 millilitres
m) $\qquad$ = 12,000 millilitres
n) $\qquad$ = 20,000 millilitres
o) $\qquad$ = 7,000 millilitres
p) $\qquad$ = 8,000 millilitres
q) $\qquad$ = 29,000 millilitres
r) $\qquad$ = 13,000 millilitres
s) $\qquad$ = 9,000 millilitres

## B. Measuring Capacity

1. Shade in the jugs to show the amounts.


## C. Capacity in Everyday Life

1. About how much does the container hold? Circle the more reasonable estimate.
About 2 litres About 200 ml About 2 litres About 2 ml
a) I have 1 litre of orange juice. I give 300 ml to Pat, 200ml to Paul and 250ml to Emma. How much orange juice do I have left?
b) I need 2 litres of lemonade to make a punch. I only have 250-milliltre containers. How many will I need to make 2 litres?
c) I have 500 ml of glue. I need half of it for a craft project. How many millilitres of glue do I need?
$\qquad$

d) Tom has 300 ml of tea. He drinks a mouthful of tea every minute. If a mouthful is 50 ml how long does his tea last?
2. Which units are you more likely to use when measuring these?

## centimetres, metres, kilometres

a) height of a building
b) length of a notebook $\qquad$
c) length of key $\qquad$
d) distance from Krakow to Frankfurt $\qquad$
e) height of a giraffe $\qquad$
f) length of an aeroplane $\qquad$
g) length of a teaspoon $\qquad$
h) height of a mature oak tree $\qquad$
i) distance between the airport and the city
j) length of your toothbrush $\qquad$
k) distance of the London Marathon $\qquad$
I) height of a light switch $\qquad$
m ) distance around a football field $\qquad$
n) height of a coffee mug $\qquad$
o) length of a motorway $\qquad$


## C. Estimating Length and Distance

1. Choose the best answers.
a) What is the height of an A4 piece of paper?
$\square 30$ metres
30 millimetres
$\square 30$ centimetres
$\square 30$ kilometres
b) What is the height of a car?
$\square 2$ centimetres
$\square 2$ millimetres
$\square 2$ metres
$\square 2$ kilometres

c) What might the length of a river be?
$\square 24$ kilometres
$\square 24$ millimetres
$\square 24$ centimetres
$\square 24$ metres
d) What might the depth of a swimming pool be?
$\square 3$ millimetres
$\square 3$ metres
$\square 3$ kilometres
$\square 3$ centimetres
e) What is the height of a refrigerator?
$\square 2$ kilometres
$\square 2$ metres
$\square 2$ millimetres
$\square 2$ centimetres

2. Solve the problems. Write the number sentences and answers.
a) There are two playgrounds in the town. One is 25 m long and the other is 15 m long. How much shorter than the big playground is the smaller one?

b) Your three bean plants have grown. You measure them and find that they are $12 \mathrm{~cm}, 8 \mathrm{~cm}$ and 7 cm . If you laid all three end-to-end, how long would they be?
$\qquad$
$\qquad$

c) In a swimming
competition, the swimmers swim 100 m each. What length do the swimmers swim altogether?
3. Write in the months in the correct order in the calendar below.

| July January May February December September <br> March April October November June August |  |  |
| :--- | :--- | :--- |
| 1 2 3 <br> 4 8 6 <br> 7 11 9 <br> 10 5 12 |  |  |

3. Write the months that come before and after.

| Before |  | Fhis Month |
| :---: | :---: | :---: |
|  | February |  |
|  | October |  |
|  | January |  |
|  | November |  |
|  | August |  |
|  | April |  |

9. Write the shortened dates. See the example.
a) Twenty-second of November $\qquad$ 22/11
b) First of January $\qquad$
c) Twelfth of June $\qquad$
d) Fifth of September $\qquad$

10. Write the shortened dates. See the example.
a) 21 st December, 1966
b) 30th March, 1953
c) 23 rd October, 1933
d) 10th January, 1980
e) 25 th April, 1976
f) 5th August, 1990
g) 31st May, 1995
h) 7th October, 2002
i) 2nd February, 1986
j) 22nd July, 2001
k) 19th November, 1999

1st September, 1975

## $\qquad$ <br> 21/12/66

$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## A. Time Vocabulary

## LEARN THS

(2) 60 seconds $=1$ minute
(1) 60 minutes $=1$ hour

30 minutes $=1 / 2$ hour
(1) 15 minutes $=1 / 4$ hour
(1) 24 hours = 1 day


1. Complete the phrases:
a) 60 minutes $=1$ $\qquad$
b) $\qquad$ minutes $=1 / 2$ hour
c) 1 minute $=$ $\qquad$ seconds
d) 60 minutes $=$ $\qquad$ hour
e) 24 hours $=1$ $\qquad$
f) 60 $\qquad$ = 1 minute
g) 30 $\qquad$ $=1 / 2$ hour
h) 60 $\qquad$ = 1 hour
i) 30 minutes $=1 / 2$ $\qquad$

j) $\qquad$ minutes $=1 / 4$ hour
k) 24 hours = $\qquad$ day

15 minutes = 1 $\qquad$
11. Draw the hands and numbers in the right place on these clocks.

Half past 10


Half past 9


Half past 9


Half past 8


Half past 3


Half past 3


Half past 12


Half past 5


Half past 5


## K. Elapsed Time

1. Answer the questions.
a) How many months, weeks, and days are there between May 2nd, 2019 and September 20th, 2019?
b) Chris was born on December 12th, 1965. How old will he be on his birthday in 2019?

c) If you arrive at the Hilton Hotel on June 5th, and you stay three nights, on which date will you check out of the hotel?
d) Conor's appointment with the doctor was on August 10th. He must go back to the doctor in 6 months' time for a check-up. In which month should Conor make an appointment?

2. You get home from work at 5:15 pm. You are leaving home at 8:30 pm to go to a friend's party.

You must do the following:
(1) Feed your pets (5 min)
(2) Fold the washing and put it away ( 30 min )
(2) Gather and take out the garbage ( 10 min )
(2) Make sandwiches for the party ( 60 min )
(1) Have a light dinner ( 15 min )
(1) Clean the kitchen ( 20 min )
(1) Shower ( 10 min )
(7) Iron clothes (10min)
(1) Get dressed (10 min)


Do you have enough time to do all of this? Explain. (Show your working out)
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Mapping of Learning Outcomes

Developing an awareness of temperature

1. Use appropriate words to describe temperature, e.g. hot and cold Pages 8 to 14 (temperature vocabulary), Page 26 (temperature vocabulary), Pages 37 to 39 (describing weather and temperatures), Page 40 (weather words, weather log)
2. Identify instruments used for indicating and adjusting temperature, e.g. thermometer, marked oven dials Page 15 (looking at a thermometer), Page 16 (examples of temperature in everyday life), Page 17 (making a thermometer), Page 33 (cooker dials)
3. Relate temperatures to everyday situations, e.g. heating in a classroom Page 16 (examples of temperature in everyday life), Page 18 (freezer experiment), Pages 19 to 24 (locating temperatures in everyday situations), Pages 25 to 34 (temperatures in everyday life, ordering temperatures from coldest to hottest)
4. Locate appropriate temperatures on a cooker dial, e.g. gas mark 4, 200 degrees Celsius Pages 19 to 24 (locating temperatures on different thermometers and everyday items), Page 27 (conversion of temperature ${ }^{\circ} \mathrm{F}$ and ${ }^{\circ} \mathrm{C}$, reading temperature on a screen), Page 33 (cooker dials)
5. Compare temperatures for the different times of the year, e.g. hot in summer and cold in winter, keep a simple weather log Pages 35 to 39 (weather and temperatures), Page 40 (weather log template)

## Developing an awareness of weight

1. Use appropriate vocabulary to describe the units of weight, e.g. kilograms, grams Pages 43 to 50 (weight vocabulary, difference between mass and weight, addition of basic weights, weight conversions), Page 51 (types of scales), Page 59 (weight vocabulary, e.g. heavy, light, ton)
2. Identify the marks for the units of weight, e.g. using a weighing scale Pages 51 to 57 (estimating weight and reading scales, measuring ingredients for baking or cooking)
3. List some examples of weight from daily life, e.g. knowing own weight Pages 48 and 50 (weight conversions), Page 52 (looking at different scales), Pages 53 and 55 (estimating weight of everyday items and using scales to check actual measurement), Page 57 (weighing ingredients for cooking / baking), Pages 58 to (weight in everyday life)
4. Use weighing scales to work out the weight of powders and solids, e.g. weighing the ingredients for a cake Pages 53 and 55 (estimating weight and using scales to check actual measurement)

Developing an awareness of capacity

1. Use appropriate vocabulary to describe the units of capacity, e.g. litres, 500ml Pages 65 to 68 (capacity vocabulary, capacity conversions), Pages 69 to 71
(capacity vocabulary, e.g. measuring capacity, graduated jug), Page 74 (common measurements)
2. Identify the marks for the units of capacity, e.g. using a measuring jug Pages 69 to 75 (measuring capacity, using everyday items to measure capacity, checking addition of capacities using graduated jugs, using graduated jugs and measuring spoons), Page 75 (using graduated jugs/vessels/measuring spoons to check the capacity of everyday items)
3. List some examples of capacity from daily life, e.g. a litre of milk Pages 67 and 68 (capacity conversions), Page 73 (making a litre), Page 74 (common measurements), Page 75 (using graduated jugs/vessels/measuring spoons to check the capacity of everyday items), Pages 76 to 82 (capacity in everyday life)
4. Use a graduated vessel to work out the capacity of liquids, e.g. using a jug to measure litre of milk Page 71 (estimating and measuring capacities), Page 73 (checking addition of capacities using graduated jugs), Page 75 (using graduated jugs/vessels/measuring spoons to check the capacity of everyday items)

Developing an awareness of length and distance

1. Use appropriate vocabulary to describe the units in length and distance, e.g. kilometres, metres, centimetres Pages 85 to 93 (length and distance vocabulary, length and distance conversions), Pages 94 and 95 (measuring
instruments), Pages 108 to 110 (length and distance in everyday life)
2. Identify the units of length and distance on a ruler, metre stick and measuring tape Page 89 (questions about a ruler), Pages 94 to 100 (measuring instruments, measuring length and distance), Page 95 (measuring with a ruler, metre stick and measuring tape), Pages 99 and 100 (reading rulers), Pages 103 to 105 (estimating and measuring length/height/width/distance), Page 106 (measuring common places)
3. Use a ruler to draw and measure different lengths of lines Page 95 (measuring with a ruler, metre stick and measuring tape), Pages 96 to 98 (measuring with a ruler, drawing lines), Pages 103 to 105 (estimating and measuring length/height/width/distance)
4. Estimate the length of common objects, e.g. the length of a book Page 91 (estimating units of measurement), Pages 101 to 105 (estimating length), Pages 103 to 105 (estimating and measuring length/height/width/distance), Page 107 (estimating units or measurement)
5. Measure the length of common places, e.g. bedroom, kitchen, classroom using a measuring tape Page 106 (measuring common places)

Developing an awareness of time

1. Tell the time from an analogue clock for the hour, half hour and quarter hour Pages 140 to 150 (telling the time)
2. Tell the time from a digital clock for the hour, half hour and quarter hour Pages 151 to 157 (digital time)
3. Identify key times during the day, on the hour, half hour and quarter hour, e.g. lunch breaks, use of visual schedule Page 115 (time vocabulary), Pages 133 to 137 (time vocabulary, estimation and units), Pages 138 to 139 (time instruments), Pages 171 to 174 (key times)
4. Solve problems to work out the passage of time, e.g. use the start and finish time to calculate duration of journey or programme, calculate the duration of a specific programme Pages 158 to 161 (elapsed time), Pages 162 to 170 (time in everyday life)
5. Find a specified day or date on a calendar or timetable, e.g. my birthday Pages 116 to 119 (days of the week), Pages 120 to 122 (months of the year), Pages 123 to 128 (time and dates), Pages 131 to 132 (calendar, weekly schedule)
6. Match months or activities with their seasons, e.g. matching pictures Pages 129 to 130 (seasons)
