

1.2. Situation 1: Dinner guests - “add a place at the table”

You’re looking forward to a nice evening as you have invited some of your best friends for dinner. The table looks nice, the shopping is done – you’re about to put on your apron and start cutting, slicing, frying...

But suddenly the telephone rings: It could be your friend Sarah who can’t make it tonight as she has a terrible headache. It could also be your mate Ben who wants to bring along his new girlfriend.

Of course, you understand, and you adapt your planning and your recipes. But HOW?

Overview “Add a place at the table”



Main information

CENF level and description	X1, X2, Y1, Y2, Z1, Z2 to be defined
Context	Everyday life
Content	Proportions Multiplication and division Addition and subtraction Equivalences (weight, capacity...) Decimal numbers Natural numbers
Cognitive process	Processing information Analysis situations Managing situations
Dispositions	Self-confidence Affection Beliefs Collaborations Flexibility Math anxiety Math difficulties
Language resources	ENGL + ITA
Time distribution	16 lessons
Material and resources	see specifications from board
Working methods	Flipped classroom followed by peer to peer approach Frontal lesson + group exercise Teacher assisted group work Individual and group work; every group has different exercises and at the end of the work they share the problems, the strategy of solving and the results using a peer to peer approach Pair work on specific situation: some have to adapt recipes to an increase of guest's others to a decrease
Group size	about 12 students
Problem statement	Coping with unexpected events in the kitchen determined by larger or smaller number of diners
Work questions	How ingredients vary as the number of guests changes
Output(s)	Correlation tables Tables of weight equivalence, capacity...
Reference to National Qualification Frame	EQF3/4

Working plan

Time (lessons)	Description of content/activities	Material	Methodical and didactic information
2	Review of basic operations (addition, subtraction, multiplication, and division) with natural and decimal numbers	Topic related sheets and exercise to solve	Flipped classroom followed by peer-to-peer approach
4	Notion of proportionality (direct and inverse); how to solve proportions	Teaching cards: problems and situations related to real life already prepared (solved with proportions)	Frontal lesson + group exercise
2	Units of measurement and equivalence.	Diagrams; video and exercise	Teacher assisted group work
4	Exercises comprising the above topics focused on the problem at hand, i.e., adapting recipes and use of ingredients as guests present change	Exercises	Individual and group work; every group has different exercises and at the end of the work they share the problems, the strategy of solving and the results using a peer-to-peer approach
4	Practical activity in kitchen laboratory	Kitchen and everything necessary to prepare some meal; recipes	Pair work on specific situation: some must adapt recipes to an increase of guests, others to a decrease

Teacher's guide

This activity is related to the learners' career path and necessarily involves the use of mathematics. The strategy is to make them aware of the importance of calculation and logical reasoning in an activity that might seem totally disconnected from the school subject: creating practical examples and having the students work right in the kitchen turns out to be crucial.

A good approach might be not to focus too much on calculation by not putting pressure on the students from this point of view, but more to stimulate them to reason about the expected results and the strategy they think is most appropriate to deal with a problem that arises in professional life but also in common life.

Among the suggested methods is the flipped classroom, a brief though comprehensive explanation of which can be found at the following link: <https://www.cambridge.org/elt/blog/2020/07/01/how-to-get-your-flipped-classroom-started/>.

Once the students are known from a didactic point of view and from the point of view of internal class dynamics, one can proceed with the organization of working groups. In order for the method to be successful and for each student to benefit from the experience, attention must be paid to certain aspects in particular to the predisposition of some to assume a leader's attitude, a fundamental figure in carrying out the work. It is also advisable to assign other roles to the students to create a climate that fosters collaboration while avoiding the exclusion of some. The work performed independently by the students is constantly supervised by the teacher who, observing the progress and group dynamics, can make considerations on the effectiveness of the choices made and possibly decide how to adapt the experience in the future within the same class group. The objectives must be clear from the beginning precisely to allow the students to organize the work in an orderly and effective manner.

Appendix






A) UNITS OF MEASUREMENT AND EQUIVALENCE:

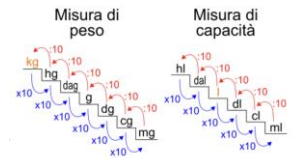
<https://www.youtube.com/watch?v=oAtDAoqdExw>

<https://www.youtube.com/watch?v=ZNX-a-5jGeM>

<https://www.metric-conversions.org/it/>

Multipli del l		Unità	Sottomultipli del l		
Etolitro	decalitro	litro	decilitro	centilitro	millilitro
100	10	1	0,1	0,01	0,001
					
hl	dal	l	dl	cl	ml

Multipli		Unità fondamentale	Sottomultipli		
Mg		kg	hg	dag	g
megagrammo	centinaia di kg	chilogrammo	ettogrammo	decagrammo	grammo
					
1 000 kg	100 kg	1 kg	0,1 kg	0,01 kg	0,001 kg



B) PROPORTIONALITY

Completa la tabella

Coppie di grandezze	Direttamente proporzionali	Inversamente proporzionali
Numero di uova necessarie per confezionare una torta. Peso della torta. (numero di uova per 1 kg di torta 4)		
Peso della farina. Peso del pane ottenuto. (per 1 kg di pane occorrono 800 g di farina)		
Numero di giornalini acquistati. Spesa relativa. (costo di un giornalino: € 1,40)		
Chilometri percorsi da un'automobile. Tempo impiegato per percorrerli. (velocità media costante: 90 km/h)		
Numero di spettatori paganti ad uno spettacolo. Incasso del botteghino. (costo del biglietto: € 11,50)		
Numero di gradini di una scala. Altezza di ciascun gradino. (lunghezza della scala: 3 m)		
Velocità media di un pullman. Tempo impiegato per coprire la distanza fra due città. (distanza tra le due città: 600 km)		
Ore di sosta in un parcheggio. Pedaggio da pagare. (per ogni ora si pagano € 1,25)		

C) RECIPE EXAMPLES

https://www-alberghiera-it.translate.google.com/translate/MostraRicetta.asp?id_ricetta=1687& x_tr_sl=it& x_tr_tl=en& x_tr_hl=it

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