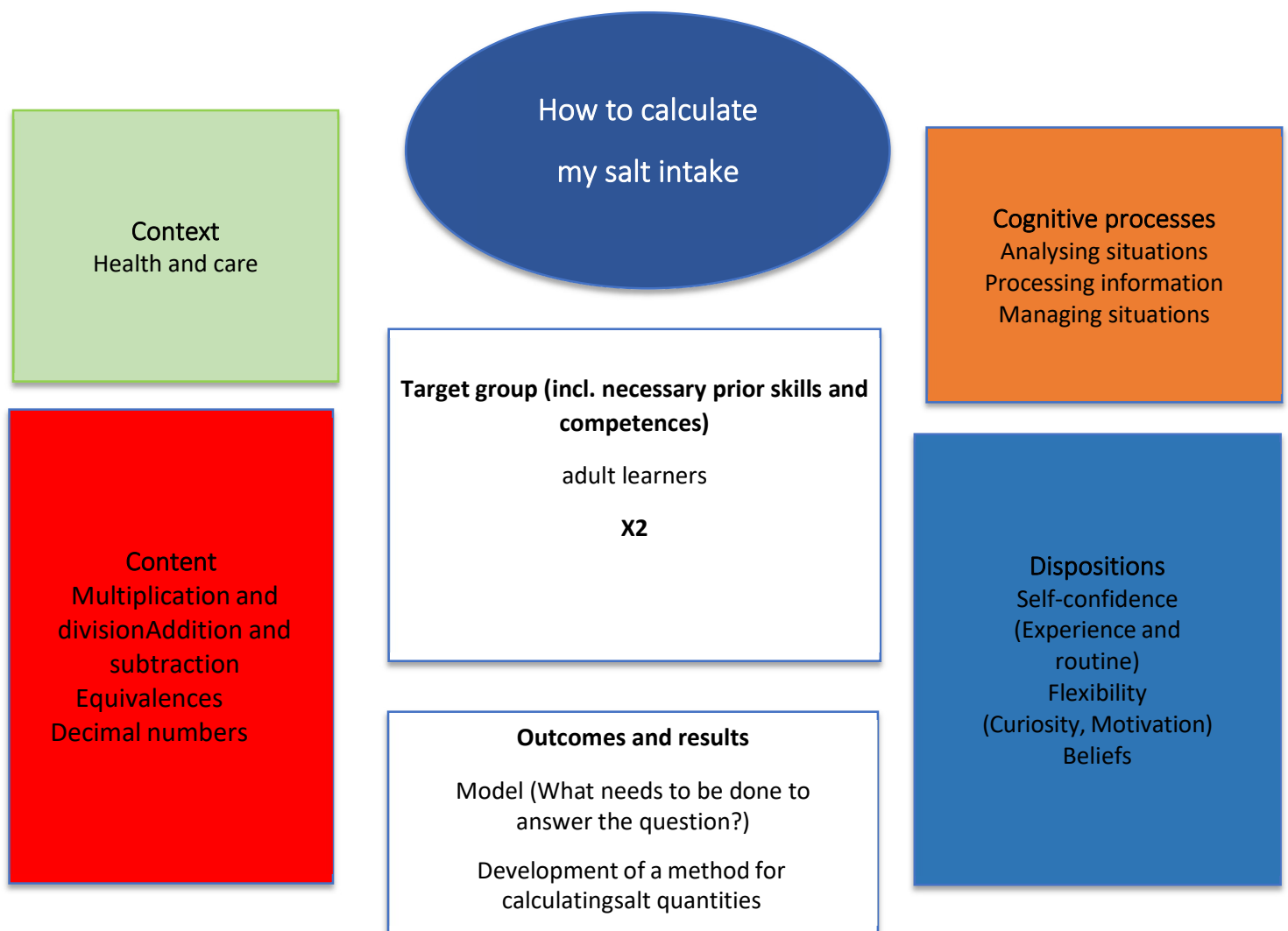


WATCH OUT FOR SALT!

Maximum quantities of salt for a healthy diet

Salt is one of the most common ingredients in the foods we eat. Sometimes we know and feel it, other times we are surprised to discover its presence, for example in desserts. The result is that we eat a lot of salt every day, probably more than is recommended by the guidelines. But what is the maximum amount? And how can we calculate our consumption and comply with the guidelines? Surely packaged food labels can help, the important thing is to know how to interpret them and add a pinch...of math!

Overview "Watch out for salt!"



Main information

Content	Natural numbers Decimal numbers Units of measurement, quantities (weight: submultiples) Multiplication, division, addition and subtraction
Target group	Adults and young adults Learners <ul style="list-style-type: none"> ▪ recognize and understand simple, common quantitative representations and use the information to make decisions ▪ cope with one-step, simple operations such as counting, performing basic arithmetic operations to cope with everyday situations ▪ are curious and sensitive to health issues
Learning intention	Calculating for personal and private purposes
Duration	3 UE +
Material and resources	Picture cards (nutrition tables)
Group size	from 5 to 10 learners / small group work: 2 to 3 learners
Problem statement	WHO guidelines recommend consuming no more than 5 grams of salt per day, yet globally most of the adult population consumes between 8 and 15 grams of salt per day. Most salt is consumed "unknowingly" as it is often present in large quantities in packaged foods. Learning how to interpret nutrition tables and derive the amount of salt present could help us avoid exceeding the recommended threshold. But how do you do it?
Working questions	How to make students identify the mathematical component in something that is apparently far from it? How can learners be supported in planning and carrying out a problem-solving process?
Learning outcomes and results	Students understand the concept of quantity and become familiar with the submultiples of the gram. Learners also practice estimating the amount of salt in the food intake and do not just read the number on the chart. Working with subtraction and addition they come to choose the best combinations of meals/foods in order to stay under the given threshold.



Working plan

Time (lessons)	Description of content/activities	Material	Methodical and didactic information ¹
40' +	<p>1. Discover: Reading the indication of the maximum amount of salt intake per day according to the World Health Organization. Discussion related to the perception of how much is 5 grams.</p>	<p>information on salt intake by WHO (see appendix 1) Scale Salt</p>	<p>information HITS Questioning</p>
30' to 40' followed by presentation	<p>2. Quantity analysis Observe some cards representing the nutrition tables of some packaged foods and start thinking about the amounts of salt contained by paying attention to the information present (amount per 100g or per serving? how much is a serving worth?). In most cases it will be expressed as decimal numbers or with units less than gram: learners are assisted in this part of the analysis. Through simple multiplications and division calculate the amount of salt taken in the case reported by the card by a single person for a meal, thus obtaining new cards with the amounts related to a person's consumption.</p>	<p>Cards (see appendix 2)</p>	<p>hands on learning Working in small groups HITS Questioning, Explicit teaching, Collaborative learning Metacognitive strategies</p>
60	<p>3. Calculate the quantity Using the cards obtained from the previous activity, learners take part in a game in which they combine various foods/ ingredients to think of at least 3 meals to eat while trying to stay within the recommended threshold. The groups share the chosen combinations and a discussion time takes place afterwards.</p>	<p>Rearranged cards with nutritional chart (see appendix 2)</p>	<p>Working in small groups HITS Questioning, Collaborative learning Feedback</p>

¹ for description and explanation of kinds of tasks, HITS and other background information please consult the teacher's/user's guide



60'	<u>4. Discussion of work done and information gained.</u> The discussion is guided by also asking learners when mathematical tools were used during their investigation and asking them to do a confidence analysis with which these methods were used.		HITS Feedback
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Appendix

Appendix 1:

Information on salt intake by the WHO

The infographic features a dark blue background. At the top left is the WHO logo and 'World Health Organization REGIONAL OFFICE FOR Europe'. At the top right is an icon of a salt shaker. The main text states: 'In the European Region, the average person consumes 8g to 19g of salt per day, much more than the recommended maximum of 5g.' Below this, two spoons of salt are shown. The top spoon is overflowing with salt, labeled 'Average daily intake 9g per day' with a large red 'X' to its right. The bottom spoon has a small amount of salt, labeled 'Maximum daily intake 5g per day' with a large green checkmark to its right.

Source: <https://euagenda.eu/news/811122> [14.06.2023]



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Appendix 2:

Picture cards with nutritional information of some packaged foods

(Sources, if not indicated differently, are own photos.)

Tomato sauce

10 g of sauce is enough to season one serving of pasta

100% SICILIAN DATTERINO TOMATO

Informazioni nutrizionali medie per 100 g. di prodotto

Valore energetico	kJ 167
Valore energetico	kcal 40
Sostanze grasse totali	1.55
Grassi saturi	0.25
Carboidrati totali	5.06
Zuccheri	0.97
Proteine	0.88
Fibra	0.63
Sale	0.63

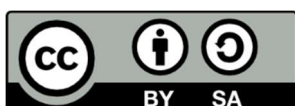
www.adelfionline.com

Canned tuna

50 g is one serving of canned tuna

VALORI NUTRIZIONALI MEDI PER 100g DELL'INTERO PRODOTTO (TONNO+OLIO)

ENERGIA	403 kcal 1666,5 kJ
GRASSI	37 g
DI CUI ACIDI GRASSI SATURI	6 g
CARBOIDRATI	0 g
DI CUI ZUCCHERI	0 g
PROTEINE	17,5 g
SALE	1,1 g
VITAMINA B12	1,5 µg (60% RDA)
FOSFORO	150 mg (21% RDA)



Arrabbiata sauce

10 g of sauce is enough to season one serving of pasta



Yogur

one portion of yogurt corresponds to 125 g



Two different brands of pasta

everyone has their own idea of how much a portion of pasta is worth

	Spaghetti N°3 Rummo Lenta Lavorazione - 500g Cottura 9 min	Spaghetti N°5 Conad 500g Cottura 8 min
		
Valori nutrizionali per 100g di prodotto		
Valore energetico	356 Kcal - 1510 Kj	362 Kcal - 1534 Kj
Proteine	14,5g	12,5g
Carboidrati	69,5g	73,1g
Di cui zuccheri	3,1g	2,9g
Grassi	1,6g	1,5g
Di cui saturi	0,3g	0,3g
Fibre alimentari	2,9g	2,9g
Sale	0,005g	0,01g

Source: <https://ilfattoalimentare.it/pasta-rummo-conad.html> [14.06.2023]

Diet bacon

35 g of bacon is enough for one portion

Valori medi per:	100g	1 vaschetta (75g)	%AR
Energia	1435 kJ 347 kcal	1076 kJ 260 kcal	13%
Grassi	31 g	23 g	33%
di cui acidi grassi saturi	13 g	9,8 g	49%
Carboidrati	<0,5 g	<0,5 g	<1%
di cui zuccheri	0 g	0 g	0%
Proteine	18 g	13 g	26%
Sale	3,3 g	2,5 g	41%

Biscuits

this table gives the salt content per 100 g and at the same time also indicates the amount per cookie

INFORMAZIONI NUTRIZIONALI: ABBRACCI			
VALORI MEDI	per 100g	per biscotto (11g)	%AR* per biscotto
ENERGIA	2056 kJ 491 kcal	226 kJ 54 kcal	3% 3%
GRASSI di cui: acidi grassi saturi	23,5 g 10,5 g	2,6 g 1,2 g	4% 6%
CARBOIDRATI di cui: zuccheri	60,9 g 24 g	6,7 g 2,6 g	3% 3%
FIBRE**	4,0 g	0,4 g	-
PROTEINE	7,0 g	0,8 g	2%
SALE	0,625 g	0,069 g	1%

*AR = assunzione di riferimento di un adulto medio (8400 kJ / 2000kcal).
** Determinate con metodo AOAC 2009.01.

Prosciutto

VALORI NUTRIZIONALI MEDI PER 100 GRAMMI DI PROSCIUTTO SAN DANIELE PROLONGO	
Energia	275 kcal (1145 kJ)
Grassi di cui Acidi grassi saturi	19 g 6,5 g
Carboidrati di cui Zuccheri	0 g 0 g
Proteine	26 g
Sale	4,4 g

Source: <https://prolongo.it/de/prodotti/valori-nutrizionali/> [14.06.2023]

Bread

attention to unit of measurement

Pane di segale
valori nutrizionali per 100g di prodotto

MINERALI		Pane di segale
Sodio (mg)		580
Potassio (mg)		190
Calcio (mg)		80
Fosforo (mg)		160
Ferro (mg)		2.5
VITAMINE		Pane di segale
Tiamina (mg)		0.29
Riboflavina (mg)		0.05
Niacina (mg)		2.3
Vitamina C (mg)		0
Vitamina A retinolo equivalente (µg)		0


Melarossa

Source: www.melarossa.it/nutrizione/alimenti/segale/ [14.06.2023]

Brioche

INFORMAZIONI NUTRIZIONALI

Valori medi	per 100 g	per pezzo (50 g)	% AR* (50 g)
Energia	1699 kJ 406 kcal	850 kJ 203 kcal	10%
Grassi	20 g	10 g	14%
di cui acidi grassi saturi	9,9 g	5,0 g	25%
Carboidrati	49 g	24 g	9%
di cui zuccheri	21 g	11 g	12%
Fibre	1,7 g	0,8 g	-
Proteine	6,3 g	3,1 g	6%
Sale	0,45 g	0,23 g	4%

*Assunzioni di Riferimento di un adulto medio
(8400 kJ/2000 kcal)

Frozen pizza

DICHIARAZIONE NUTRIZIONALE			
VALORI MEDI	Per 100 g	Per 1 pizza (300g)	%*
Energia	956 kJ 227 kcal	2869 kJ 682 kcal	34%
Grassi	6,6 g	20 g	29%
di cui acidi grassi saturi	2,8 g	8,4 g	42%
Carboidrati	31 g	93 g	36%
di cui zuccheri	2,5 g	7,5 g	8%
Fibre	2,1 g	6,3 g	
Proteine	9,9 g	30 g	60%
Sale	1,3 g	3,9 g	65%

Chickpeas

150 g is one serving

VALORI NUTRIZIONALI MEDI per 100g e per porzione (100g)		
PER PRODOTTO SGOCCIOLATO		
ENERGIA	567	kJ
	135	kcal
GRASSI	2,9	g
di cui ACIDI GRASSI SATURI	0,4	g
CARBOIDRATI	19	g
di cui ZUCCHERI	0	g
FIBRE	3,1	g
PROTEINE	6,4	g
SALE	0,90	g

La confezione contiene circa 7,5 porzioni

Potato gnocchi

Valori medi	per 100g di prodotto
Valore energetico	622kJ/147kcal
Grassi di cui Acidi grassi saturi	<0,4g 0,1g
Carboidrati di cui Zuccheri	32g <0,2g
Fibre	1,5g
Proteine	3,0g
Sale	0,9g

DA CONSUMARE ENTRO

Ice cream

La confezione contiene 6 gelati.

VALORI NUTRIZIONALI MEDI	per 100 g	per gelato (45g)
ENERGIA	1266 kJ 304 kcal	570 kJ 137 kcal
GRASSI	20 g	9,0 g
di cui ACIDI GRASSI SATURI	16 g	7,0 g
CARBOIDRATI	26 g	12 g
di cui ZUCCHERI	24 g	11 g
FIBRE	1,7 g	0,8 g
PROTEINE	3,7 g	1,7 g
SALE	0,12 g	0,05 g

Fruit juice

INFORMAZIONI NUTRIZIONALI - Valori medi per 100 ml	
Energia	128 kJ / 30 kcal
Grassi	0,1 g
di cui acidi grassi saturi	0,0 g
Carboidrati	7,1 g
di cui zuccheri	6,3 g
Fibre	0,8 g
Proteine	0,2 g
Sale	0,0 g

Veggie burger

This chart gives also the salt content for a portion

	Valori nutrizionali medi		
	ø/100 g	ø/Porzione 80 g (1 pezzo)	%RI*
Energia	796 kJ/190 kcal	633 kJ/151 kcal	8 %
Grassi	7,0 g	5,6 g	8 %
di cui acidi grassi saturi	0,8 g	0,6 g	3 %
Carboidrati	14,0 g	11,0 g	4 %
di cui zuccheri	3,6 g	2,9 g	3 %
Proteine	15,0 g	12,0 g	24 %
Sale	1,40 g	1,10 g	18 %

*RI (reference intake) = Assunzioni di riferimento di un adulto medio (8400 kJ/2000 kcal) (AR)

Crackers

INFORMAZIONI NUTRIZIONALI			
VALORI MEDI	Per 100 g	Per porzione (25 g)	%AR* per porzione
ENERGIA	1845 kJ 439 kcal	461 kJ 110 kcal	6% 6%
GRASSI di cui acidi grassi saturi	13 g 1,6 g	3,3 g 0,4 g	5% 2%
CARBOIDRATI di cui zuccheri	68 g 2,5 g	17 g 0,6 g	7% 1%
FIBRE**	4,8 g	1,2 g	-
PROTEINE	10 g	2,5 g	5%
SALE	2,250 g	0,563 g	9%

Salt free crackers

DICHIARAZIONE NUTRIZIONALE	per 100 g	per porzione (6 g) (2 crackers)
Energia	1841 kJ 440 kcal	111 kJ 26 kcal
Grassi di cui acidi grassi saturi	12,0 g 9,0 g	0,7 g 0,5 g
Carboidrati di cui zuccheri	72,0 g 8,0 g	4,3 g 0,5 g
Fibre	2,0 g	0,1 g
Proteine	10,0 g	0,6 g
Sale	0,04 g	0 g
Vitamina B1 (Tiamina)	0,6 mg (120%)*	0,04 mg (7%)*

* Valori Nutritivi di riferimento per lattanti e bambini nella prima infanzia
La confezione contiene 16 porzioni

Roast turkey

50 g of roast turkey is considered one serving



Mozzarella

