

**Numeracy in practice** teaching and learning examples

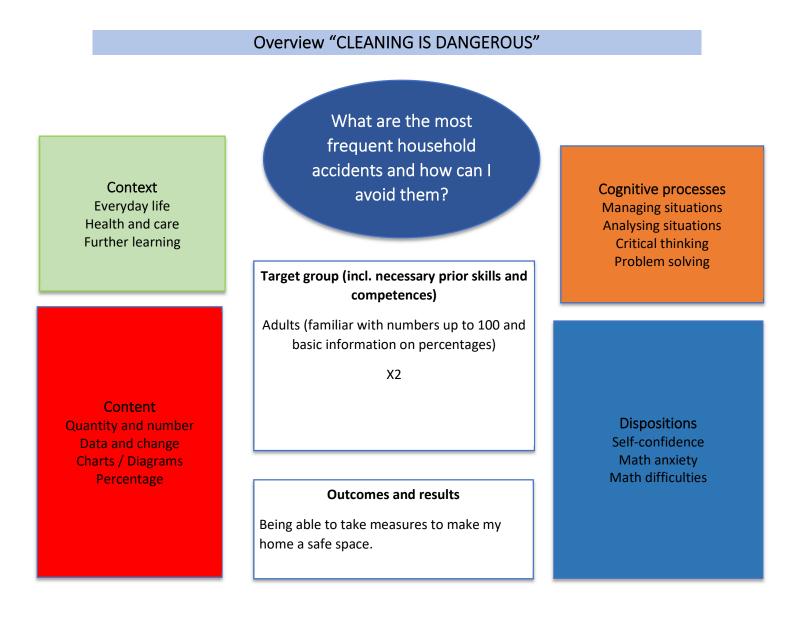


## **CLEANING IS DANGEROUS!**

## Be aware of household accidents

Homes are among the most dangerous places to be. Statistically, it is more likely to get injured at home than at work. Most accidents happen in our kitchens and in our living rooms while cooking or cleaning. We easily cut ourselves while preparing the meal or burn ourselves while handling with hot oil. And it happens also frequently that people are falling from a ladder while they are cleaning.

Just a small moment of inattention or distraction, and the accident happens. Understanding statistics and diagrams on household accidents can help to become aware of the risks.





Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Main information				
Content	Statistics Charts / Diagrams			
Target group	<ul> <li>Adults and young adults, learners who</li> <li>Cope with one-step, simple operations such as counting, performing basic arithmetic operations to cope with everyday situations;</li> <li>Recognize and understand simple, common quantitative representations and use the information to make decisions</li> </ul>			
Learning intention	<ul> <li>Numeracy for personal and private purposes</li> <li>Numeracy to understand society</li> <li>Calculating and minimizing risks in everyday life</li> </ul>			
Duration	3,5 hours			
Material and resources	Videos, diagrams			
Group size	Range from 5 to 10 learners			
Problem statement	Many accidents occur at home. The most frequent accidents occur due to falls, cuts, burns, poisoning, electrocutions, and fire. Understanding statistics and diagrams on household accidents helps to become aware of the dangers and to minimize the risks in the learner's behavior.			
Working questions	How to learn and identify risks at home and minimize them How to estimate risks at home and compare them with official statistics. How to work with statistics and diagrams and how to analyze and interpret them on different levels.			
Learning outcomes and results	The students are able to gather information from diagrams. They will become more familiar with percentages. They are able to compare and to rank the risks which can occur while doing housework. They reflect their own situation at home and finally, they avoid risky behavior in the future.			





Working plan						
Time (lessons)	Description of content/activities	Material	Methodical and didactic information <sup>1</sup>			
30'	<b>1. Activation</b> Presentation of the topic in a short video, followed by a discussion with the students about their own experiences.	Video (appendix 1)	Information HIT Cognitive activation Questioning			
30'	<ul> <li><b>2. Estimation</b>         Learners estimate which are the most frequent household accidents.         Based to the learner's estimation, a first statistic is compiled.     </li> <li>Working with percentages</li> </ul>	Cards (appendix 2) Board If necessary: Montessori material (Flemo)	Teacher assisted group work Hands on learning HITS Differentiated			
	working with percentages	Worksheet (appendix 3)	learning			
60'	<b>3. Learning</b> different types of diagrams and analysis	Worksheets	HITS Explicite teaching Worked examples			
60'+	<ul> <li>Analysis and presentation</li> <li>Learners discuss in groups of two persons a diagram and present the result in plenary.</li> <li>They analyse, compare and rank the risks using diagrams and statistics.</li> </ul>	Diagrams (appendix 4- 6)	HITS Collaborative learning Differentiated teaching			
30'	<ul> <li><b>5. Transfer</b>         Reflection and discussion         What are the reasons for household accidents (carelessness, haste, inattention, disorder,)?         How can I minimize the risks?         What are the most important emergency numbers?     </li> </ul>	Table of emergency numbers (appendix 9)	HITS Questioning Feedback			

<sup>&</sup>lt;sup>1</sup> for description and explanation of kinds of tasks, HITS and other background information please consult the teacher's/user's guide



### Suggestions for the teacher/user

The example presented here should be considered as exemplary and inspirational material presenting a guideline with a high range of possibilities of adapting those suggestions to a specific group of learners or an individual learner with his or her very personal requirements.

In concrete terms, the example "Cleaning is dangerous" could be adapted these ways:

- Duration: Depending on the learners' individual prior knowledges the duration of this example can vary. It is also possible to lengthen the phase of activation, depending on the interest of the group.
- Individualization: Especially the work with different charts and graphs can easily meet learners with different levels of numeracy competences. It is important to choose authentic material that meets the learners' competences, prior skills and interest.
- Further or additional material: As mentioned in the working plan, learners can be supported by additional material just like flemo material or Montessori material. It is up to each and every teacher to choose the appropriate material for his/her group.

Our educational activities aim at numeracy skills being not only memorized, but first of all being practiced and functionally used by the learners in daily life or/and vocational situations. It is therefore recommended to implement the idea of HITS<sup>2</sup> (higher impacts of teaching skills) as far and often as possible: ...

- ... work with concrete and authentic material that learners will recognize from everyday life situations.
- ... ask the learners questions and let them raise questions themselves. It can be crucial to discuss numeracy themes, contexts and numbers.
- ... think of possible ways of transfer: in this example the learners recognize that graphs and diagrams make information easily and quickly accessible in many aeras of life. On the other hand, the learners can reflect their own behavior and how to minimize the risks for household accidents. They become aware of who to call in the case of emergency.
- ... offer differentiated learning. Depending on the prior knowledges of the learners it is important to offer diagrams in different levels of difficulty. Learners should never be discouraged with too difficult tasks.
- … encourage collaborative learning. The analysis of diagrams is a good example for collaborative learning. Working together in small groups, learners can gather even more information from a diagram.

<sup>&</sup>lt;sup>2</sup> for description and explanation of kinds of tasks, HITS and other background information please consult the teacher's/user's guide





# Appendix

Appendix 1:

#### Zeitungsartikel

[01.06.2023]



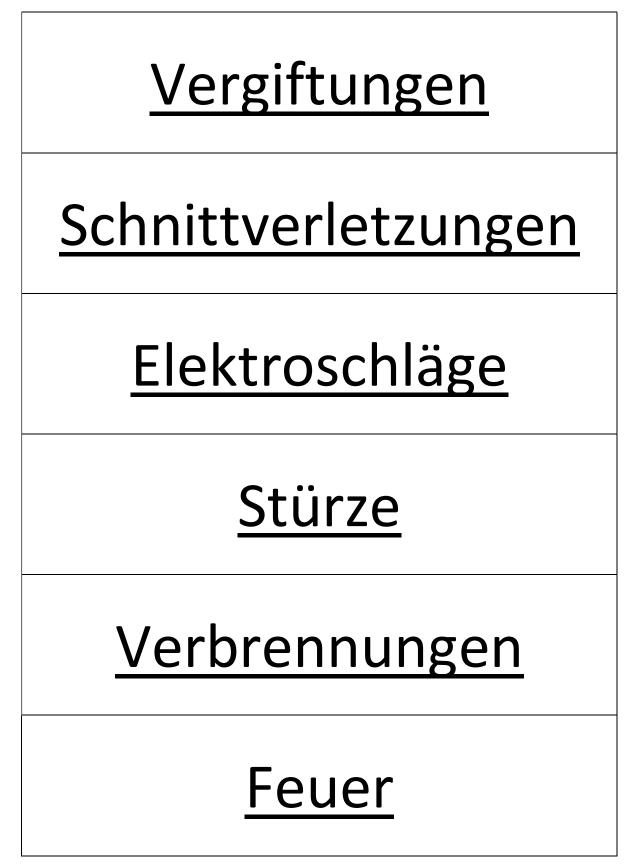
#### Video

www.youtube.com/watch?v=mQuNBILafh4&t=9s [01.06.2023]





Appendix 2: Reihen Sie Haushaltsunfälle nach ihrer Häufigkeit.

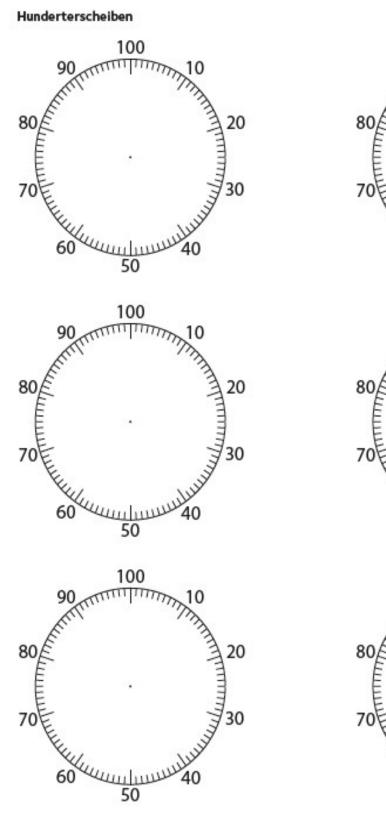


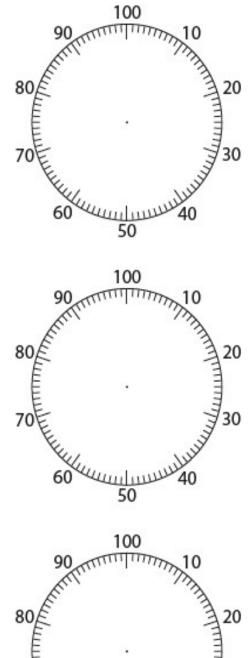




Appendix3:

Prozentrechnung | Grafische Darstellung von Prozenten





60

30

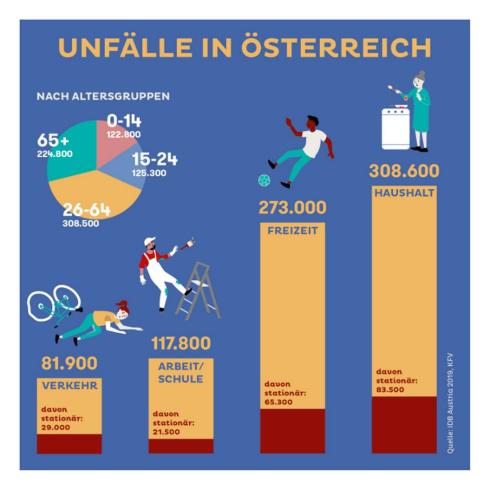
40

50





Appendix 4



www.mein-leben.at/mein-zuhause/gefahrenzone-haushalt-unfaelle-oesterreich.html [01.06.2023]

#### Beantworten Sie die Fragen. Kreuzen Sie an.

Wie viele Unfälle passieren jedes Jahr im Haushalt?					
$\bigcirc$	117.800	$\bigcirc$	273.000	$\bigcirc$	308.600
Wo passieren am wenigsten Unfälle?					
$\bigcirc$	in der Freizeit	$\bigcirc$	im Verkehr	$\bigcirc$	im Haushalt
In welcher Altersgruppe passieren die meisten Unfälle?					
$\bigcirc$	15 – 24 Jahre	$\bigcirc$	über 65 Jahre	$\bigcirc$	26 – 64 Jahre
Im Verkehr passieren mehr Unfälle als im Haushalt?					
$\bigcirc$	richtig	$\bigcirc$	falsch		





Appendix 5:

Mehr tödliche Freizeit- und Haushaltsunfälle - oesterreich.ORF.at [14.06.2023]

Grafik: APA/ORF.at; Quelle: VVO/Statistik Austria



Appendix 6:

Haushaltsunfälle - So gefährlich sind die eigenen vier Wände | KFV - Kuratorium für Verkehrssicherheit [14.06.2023]







Appendix 7:

<u>Die häufigsten Unfälle im Haushalt - Planet Wissen - Sendungen A-Z - Video - Mediathek - WDR -</u> <u>Planet Wissen - Sendungen A-Z - Video - Mediathek - WDR [14.06.2023]</u>



Appendix 8

Broschüre:

sicherheit-zu-hause-tipps-gegen-unfaelle.pdf (fsw.at) [14.06.2023]







Appendix 9:

Notrufnummern in Österreich

Feuerwehr	122
Polizei	133
Rettung	144
Euronotruf	112
Gasgebrechen	128
Vergiftungen	01/ 406 43 43

