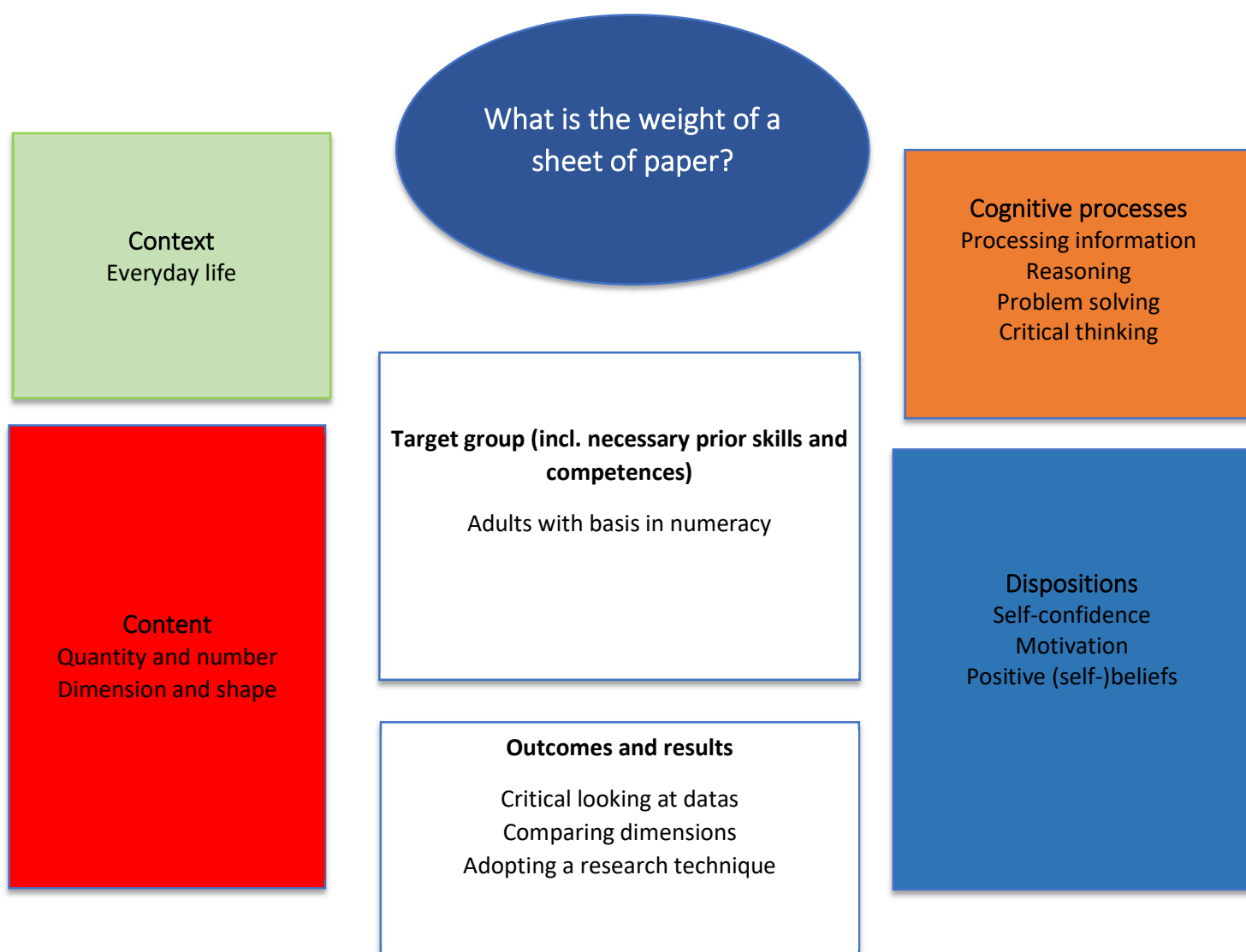


## MORE THAN NOTHING...

### What is the weight of a sheet of paper?

Even though electronic mail has developed considerably, it is still sometimes necessary to communicate by post. This raises the question of postage, in relation to the weight of the mail. If I don't have a weighing scale, how can I know the weight of an A4 sheet of paper so that I know how much I can fit into an envelope with normal postage?

#### Overview “What is the weight of a sheet of paper?”



Main information	
Content	Quantity and number Dimension and shape
Target group	All learners who know the basics of numeracy
Learning intention	Numeracy for personal issues
Duration	1 lesson
Material and resources	If possible, reams of paper of different brands and types If not, photos of ream packaging (see Appendix 2)
Group size	5 to 12 learners
Problem statement	The postage rate for a letter depends on its weight. I need to know how much a sheet of paper weighs, to know how much at most I can send for the normal tariff, but I don't have a scale... fortunately, the packaging on the ream of paper gives me some clues!
Working questions	<ul style="list-style-type: none"> <li>- How much does a sheet weigh?</li> <li>- What information appears on the packaging?</li> <li>- How should I interpret it?</li> <li>- How many sheets can I send?</li> </ul>
Learning outcomes and results	<ul style="list-style-type: none"> <li>- Identify data</li> <li>- Adopt a research posture: establish hypotheses, take clues, look for a problem-solving technique</li> </ul>
Reference to National Qualification Frame	Optional (country's decision)



Working plan

Time (lessons)	Description of content/activities	Material	Methodical and didactic information <sup>1</sup>
15'	<p><b>Introduction</b></p> <p>The teacher projects the image in Appendix 1, and asks the learners:</p> <ul style="list-style-type: none"> <li>- What's it all about?</li> <li>- Have you ever used this type of table?</li> <li>- What data are shown and how do they relate to each other? <i>(poids/tariff national)</i></li> </ul> <p>We're going to look at the first line of this table, which covers letters weighing up to 20 grams.</p> <p>The question we're going to ask ourselves is: I have to send an application to a company. How many A4 sheets can I send to this tariff?</p>	Appendix 1	Questioning Discussing
15'	<p><b>Formulating hypotheses</b></p> <p>Individually, each person estimates the weight of a sheet, based on their own experience or on comparisons.</p> <p>The hypothesis is noted, along with the arguments.</p> <p>Then each person presents their hypothesis to the rest of the group, the teacher notes them on the board and leads the discussion on the arguments, taking care not to provide any answers.</p> <p>With no scales available, it will be necessary to find one or more solutions to get everyone to agree!</p>		Individual Self-reflexing

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



15'	<p><b>Taking clues</b></p> <p>The trainer sets up sub-groups of 3 to 4 participants.</p> <p>The first task is to find all the numerical data indicated on the packaging, and to determine which data will be useful in solving the problem.</p> <p>The work is then presented to the other sub-groups, so that the analyses can be compared.</p> <p>If the sub-group can also formulate a hypothesis about the weight of a sheet, it is invited to do so.</p> <p>One question will be particularly important: what does the "80 G" indicated on the packaging mean? Did all the sub-groups also identify the "/m<sup>2</sup>"? How should it be interpreted?</p> <p>Depending on the audience, the trainer may need to go back over the units of area measurement to ensure that all the participants have a clear idea of what 1 m<sup>2</sup> represents.</p>	Appendix 2  (Or real reams of paper)	Collaborative learning  Discussing
30'	<p><b>Calculate the weight of a sheet</b></p> <p>Now that we've agreed that 1 m<sup>2</sup> of paper weighs 80g, how do we find the weight of a single sheet of A4?</p> <p>The work continues with the same sub-groups, and the trainer can point out that he himself has identified 2 different and equally effective techniques for carrying out this calculation. He will encourage the groups to identify these 2 approaches, and at the very least to choose one of them to solve the problem.</p> <p>NB: the 2 approaches are</p> <ul style="list-style-type: none"> <li>- Calculate the surface area of an A4 sheet, to find the ratio with a surface area of 1 m<sup>2</sup> and apply it to</li> </ul>	Rules/meters Paper Sheets	Collaborative learning  Discussing



	<p>the weight = requires skills in calculating surfaces and proportional quantities</p> <ul style="list-style-type: none"> <li>- Graphing a surface area of 1 m<sup>2</sup> to calculate how many A4 sheets are needed to cover it, and dividing the weight of 1 m<sup>2</sup> by the number of sheets = can help avoid complicated calculations for those who are not at ease with them</li> </ul>		
15'	<p><b>Discussing results</b></p> <p>The sub-groups then present the method(s) they have identified and the result they have achieved.</p> <p>The different approaches are compared in terms of practicality, efficiency and speed.</p> <p>When everyone agrees on the result, the teacher asks everyone to go back to the sheet of paper on which they had formulated their hypothesis, and compare it with the result.</p>		<p>Discussing</p> <p>Self-reflexing</p>
10'	<p><b>Solving the problem</b></p> <p>Now that we know the weight of a sheet of paper, it's easy to work out how much I can fit into an envelope franked at the basic rate.</p> <p>The teacher asks everyone to write the answer on their sheet of paper.</p> <p>Does everyone agree?</p> <p>There may be 2 proposals: 3 or 4 sheets, depending on whether or not the participant has taken into account the weight of the envelope...</p>		<p>Individual</p> <p>Discussing</p>



## Appendix 1

*To be adapted and updated according to the offers available in the country concerned*

### Les principaux tarifs postaux lettres et timbres 2024

Lettre recommandée, Lettre verte, Lettre Services Plus... Vous souhaitez connaître le **prix des timbres** ? Découvrez les principaux **tarifs des courriers**. Tarifs nets en vigueur à partir du 1er janvier 2024 au départ de la France métropolitaine.

#### Tarifs Lettre verte

Poids jusqu'à...	Tarifs Lettre verte Vers la France uniquement <sup>2</sup>
20 g	1,29 €
100 g	2,58 €
250 g	4,30 €
500 g	6,30 €
1 kg	7,70 €
2 kg	9,29 €

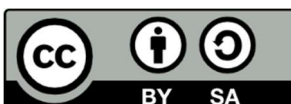
<https://www.laposte.fr/tarifs-postaux-courrier-lettres-timbres>



Jackmack34@<https://pixabay.com/fr>



Jackmack34@<https://pixabay.com/fr>



Appendix 2



Photo ALPES

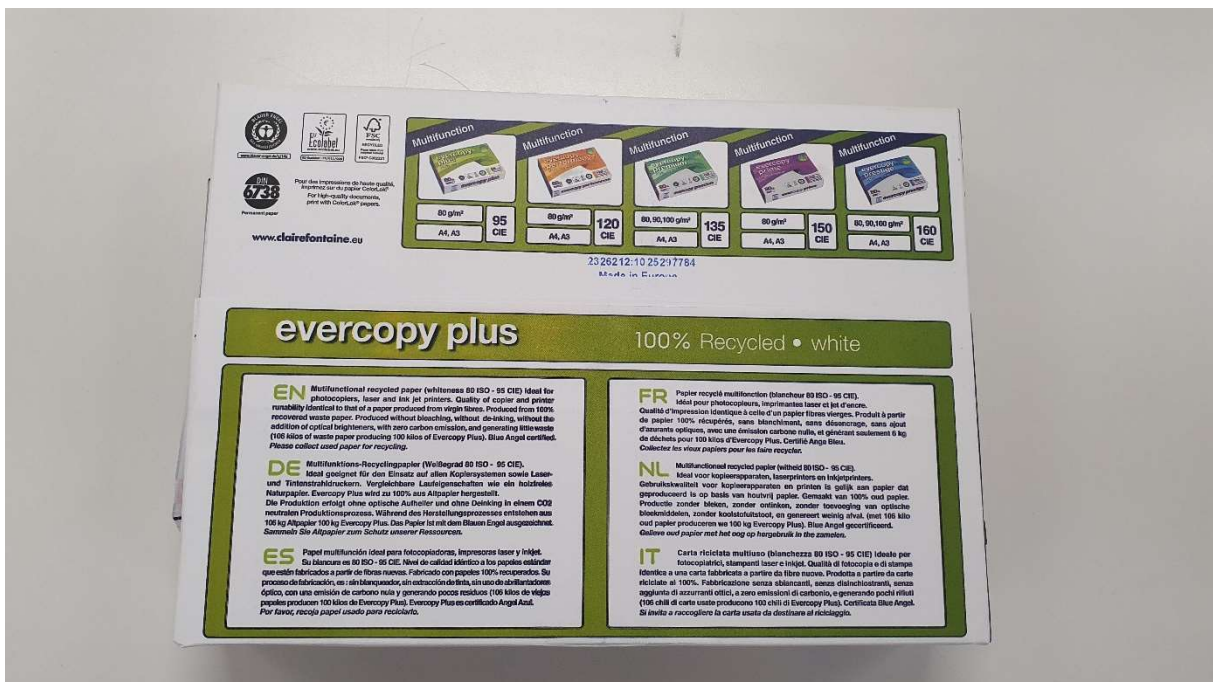
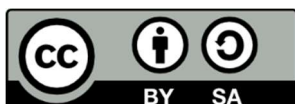


Photo ALPES



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