

LESS IS MORE (ALL AGES)

Ages 8 to 10 (Level 2)

Description:	In this project, learners will look into home expenses and identify how they can reduce extra costs while maintaining or improving the quality of life for the family.
Leading Question	Why don't our kids help us in managing and reducing our home expenses?
Age group:	7-10
Subjects:	-Mathematics
Total time required:	1 ½ hours a day over a span of 6 days
Self-guided / Supervised activity:	Supervised by parents / guardians
Resources required:	Paper and pencil

Day	Time	Activity and Description
1 Rent, utilities and services	10 minutes	Meeting for introduction: One of the parents calls for a family meeting: it is preferred to sit in a circle. One of the parents introduces that they need the help of their children with managing house expenses during this time of economic slow-down; simply put: if we cannot do as much work and be as productive, then we earn less money and so we must try to spend less. Hence, this project is to learn more about house expenses, and see if we can survive with less expenses. [The parent may offer the kids a gift worth 10% (or part of) of the savings they help generate!] Introduction by the parent about life expenses in general, and that this project is only focusing on house expenses; noting that this project excludes: Education, Health, Travel, Transportation, and others.
	10 minutes	The parent explains that house expenses, can be mainly clustered into 4 categories: food & beverages, toiletries and detergents, rent/mortgage & utilities, and furniture & appliances. For the sake of this project, we will only focus on: <u>rent/mortgage & utilities, & food & beverages.</u>
	10 minutes	The task for today is to look into expenses within <u>rent, utilities and services</u> . The parents give a brief definition of each, and how much it costs monthly: rent/mortgage- monthly cost utilities- Water, Electricity, landline, internet, other subscriptions Services- like cleaning services or others
	20 minutes	Group activities: learners discuss their thoughts on these costs, and identify suggestions to reduce these costs. The parent can facilitate this discussion, or let the learners lead on it. Suggested questions: How can we reduce the cost of? Which of these cost cutting suggestions will have a positive impact on our life? (or in simpler words:

		which of these can make us more healthy, or make us more happy if we used the saved cost somewhere else...etc)
	25 minutes	Learners prepare a presentation on their suggestions: They can use: a drawing, role playing, or a compelling speech for example. The presentation must clearly state the suggestion, justification, and expected cost reduced. Criteria to assess the presentation: Clear, interesting, convincing conclusions, doable suggestions, and would improve the quality of life (or would not compromise on the quality of life).
	10 minutes	Learners present, and parents note down their assessment of the presentation. Parents provide feedback: <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
	5 minutes	Learners to note down the approved cost cutting suggestions. The parents tell them that tomorrow's focus will be on food and beverages.
2 Food & Beverages (F&Bs)	10 minutes	Intro: The aim of the 2 nd day's session is to identify the monthly cost of wasted F&Bs. Once this is determined, learners can come up with suggestions to reduce costs without having any negative effects on the quality of life.
	Extended activity all over the day	Learners to note down all food, snacks, water, and drinks that will be served today. This can best be done by populating a table for all family members. It is also important to determine the quantities of wasted f&bs in each category. See template provided in Day2 worksheet . Parents explain, and learners will start populating it for the whole day F&Bs consumed in the house!
3 Costs of wasted F&Bs	20 minutes	Demo of calculating the costs: Using the table that was filled the day before, the learners need to calculate the costs of wasted food items, that is food not consumed and gets thrown away, with the help of parents. To do this they need the items' price (of the same brand and size). They can get this from: <ul style="list-style-type: none"> - the supermarket receipt - A price list (either paper copy, or the phone application of the supermarket if available) - Internet search on supermarket website - Approximate price by asking an adult <p>Costs are calculated according to the quantity consumed.</p> <p>[Example 1: if a croissant is for \$2, then the wasted ½ croissant is for 1\$. Ex2: if 1 L of fresh milk costs 12 \$, then the wasted 100 ml of milk is worth 1.2 \$.]</p>

		* If learners did not yet study division, then parents must help, or provide estimates of the daily or monthly costs, along with estimates of the value of waste.
	1-1 ½ hour	The learners can divide the task amongst one another, and get the parents' help. It is important to try to calculate or estimate the cost of wasted food.
4. F&B Cost reduction	10 minutes	Intro by parent: This day is to explore: The estimated monthly cost of wasted F&B consumption, and suggestions to reduce costs
	20 minutes	Learners calculate the estimated value of wasted F&Bs per month. The estimate is the daily value multiplied by 30 (since a month has ~30 days on average). This value is important for 2 reasons: - Monetary value in \$ - How many days do you think can a hungry person survive on the wasted food? Any reflections on this? (Probe: can we save the expenses on wasted food, and instead donate this to feed a hungry person or find ways to store leftovers or plan meals in a way that prevents waste?)
	30 minutes	Learners think of and discuss ways to reduce costs without having any negative effects on the quality of life. Prepare to present the ideas to the parents. Criteria to assess the presentation: Clear, interesting, convincing conclusions, the suggestions are doable and would improve the quality of life (or would not compromise on the quality of life)
	10 minutes	Learners Present Parents observe and assess
	10 minutes	Parents provide feedback: - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
5. Set the cost-cutting plan	10 minutes	Introduction: the last activity of this project is to implement an action plan to reduce the family living costs as per the approved suggestions. The main tasks are: - Present the agreed upon recommendations that they got the parents' approval on - Present how much savings they estimate the family can generate from the two categories (mortgage, rent & utilities, And F&B). each recommendation - Set a plan (see the cost cutting plan template) to implement all the suggestions, with clear monitoring roles amongst family members to ensure the implementation

		<ul style="list-style-type: none"> - Observe the cost reduction over 2 months to verify whether expenses have gone down - (If parents agree, to provide a gift of a value of 10% (1\$ for every \$10 saved) of the saved amount after 2 months)
	30-45 minutes	<p>Set the plan to implement and monitor the suggestions. Clear responsibilities must be divided amongst relevant family members to ensure proper implementation:</p> <ul style="list-style-type: none"> - Who are the ones responsible to monitor various suggestions to reduce costs of utilities and services consumption? What will each do? - Who are the ones responsible to monitor various suggestions to reduce food waste? What will each do? <p>Prepare to present your plan and suggested roles. Criteria to assess the presentation: Clear, interesting, convincing conclusions, the roles are doable</p>
	10 minutes	Learners Present Parents observe and assess
	10 minutes	<p>Parents provide feedback:</p> <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
	20 minutes	<p>Reflection on the learning experience. Suggested questions:</p> <ul style="list-style-type: none"> - How would consuming less affect the environment and other people? - What did you love about this project? - What have you enjoyed doing? - What skills have you gained/practiced? - What would you do differently from now on? - What strengths have you discovered in you? What weaknesses have you overcome by working at this project? - What advice would you give your parents?

Assessment: criteria for presentations, activity observation checklists

Learning outcomes:	<ul style="list-style-type: none"> - Practice arithmetic operations to solve real life challenges that help to improve the quality of life - Self-direction and organization: from working with least supervision, to identifying required tasks and setting a plan of action - Practice problem solving techniques
Required previous learning:	- Fractions, percentages, and arithmetic operations
Inspiration:	
Additional enrichment activities:	- Using pie charts and bar graphs in the final presentation of findings

Ages 11 to 14 (Level 3)

Description:	In this project, learners will look into home expenses and identify how they can reduce extra costs while maintaining or improving the quality of life for the family.
Leading Question	Why don't our kids help us in managing and reducing our home expenses?
Age group:	11-13
Subjects:	-Mathematics
Total time required:	1 ½ hours a day over a span of 7 days
Self-guided / Supervised activity:	Supervised by parents / guardians
Resources required:	Paper and pencil

Day	Time	Activity and Description
1 Rent, utilities and services	10 minutes	Meeting for introduction: One of the parents calls for a family meeting: it is preferred to sit in a circle. One of the parents introduces that they need the help of their children with managing house expenses during this time of economic slow-down; simply put: if we cannot do as much work and be as productive, then we earn less money and so we must try to spend less. Hence, this project is to learn more about house expenses, and see if we can survive with less expenses. [The parent may offer the kids a gift worth 10% of the savings they help with?!] Introduction by the parent about life expenses in general, and that this project is only focusing on house expenses; noting that this project excludes: Education, Health, Travel, Transportation, and others.
	15 minutes	A parent led brainstorming activity on house expenses, with the aim of identifying the main expense categories: <u>food & beverages</u> , <u>toiletries and detergents</u> , <u>rent/mortgage & utilities</u> , and <u>furniture & appliances</u> . Brainstorming is best done individually first: for 5 minutes everyone silently notes down the categories she/he can think of. Then, each in turn mentions one of their categories, and they skip the ones that have been mentioned already. The parents need to show the other family members how the home expense can be clustered into the four above mentioned categories. Hopefully all family members agree on these categories (as the project tasks are based on these).
	15 minutes	The task for today is to look into expenses within <u>rent, utilities and services</u> . The parents give a brief definition of each, and how much it costs monthly: rent/mortgage- monthly cost utilities- Water, Electricity, landline, internet, other subscriptions Services- like cleaning services or others
	20 minutes	Group activities: learners discuss their thoughts on these costs, and identify suggestions to reduce these costs. The parent can facilitate this discussion, or let the learners lead on it. Suggested questions: How can we reduce the cost of? Which of these cost cutting suggestions will have a positive impact on our life? (or in simpler words:

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<https://forms.gle/LGAP9k17fMyJrKJN7>

		which of these can make us more healthy, or make us more happy if we used the saved cost somewhere else...etc)
	15 minutes	Learners prepare a presentation on their suggestions: They can use: a drawing, role playing, or a compelling speech for example. The presentation must clearly state the suggestion, justification, and expected cost reduced. Criteria to assess the presentation: Clear, interesting, convincing conclusions, doable suggestions, and would improve the quality of life (or would not compromise on the quality of life).
	10 minutes	Learners present, and parents note down their assessment of the presentation. Parents provide feedback: <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
	5 minutes	Learners to note down the approved cost cutting suggestions. The parents tell them that tomorrow's focus will be on food and beverages.
2 Food & Beverages (F&Bs)	15 minutes	Intro: The aim of the 2 nd day's session is to identify the total daily consumption of F&Bs. Once this is determined, the daily and monthly costs of F&Bs can be calculated the next day, and consequently learners can come up with suggestions to reduce costs without having any negative effects on the quality of life.
	Extended activity all over the day	Learners to note down all food, snacks, water, and drinks that will be served today. This can best be done by populating a table for all family members. It is also important to determine the quantities of wasted f&Bs in each category. See Day2 worksheet for template . Parents explain, and learners will start populating it for the whole day F&Bs consumed in the house!
3 Costs of F&Bs	20 minutes	Demo of calculating the costs: Using the table that was filled the day before, the learners need to calculate the costs. To do this they need the items' price (of the same brand and size). They can get this from: <ul style="list-style-type: none"> - the supermarket receipt - A price list (either paper copy, or the phone application of the supermarket if available) - Internet search on supermarket website - Approximate price by asking an adult - <p>Costs are calculated according to the quantity consumed.</p> <p>[Example 1: if the egg carton containing 30 eggs is for 15 \$, and 2 eggs are consumed, then the cost of 2 eggs is: $(2/30)*15=1\\$. Ex2: if 1 L of fresh milk costs 13 \$, 600 ml of milk are for: $(600/1000)*13=7.8 \\$]</p>

		* It is important to also calculate the value of the wasted food.
	1-2 hours	The learners can divide the task amongst one another, and then check each other's work. It is important to calculate the cost of waste as well.
4. Cost reduction	15 minutes	Intro by parent: This day is to explore: The estimated monthly cost of F&B consumption, and suggested cost reduction
	20 minutes	Learners calculate the estimated value of wasted F&Bs per month. The estimate is the daily value multiplied by 30 (since a month has ~30 days on average). This value is important for 2 reasons: - Monetary value in \$ - How many days do you think can a hungry person survive on the wasted food? Any reflections on this? (Probe: can we save the expenses on wasted food, and instead donate this to feed a hungry person? Or preserve leftovers for future meals or prevent waste by minimizing quantities used/planning better)
	30 minutes	Think of and discuss ways to reduce costs without having any negative effects on the quality of life. Prepare to present the ideas to the parents. Criteria to assess the presentation: Clear, interesting, convincing conclusions, the suggestions are doable and would improve the quality of life (or would not compromise on the quality of life)
	10 minutes	Learners Present Parents observe and assess
	10 minutes	Parents provide feedback: - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
5 Toiletries and detergents	10 minutes	Introduction by the parent on the aim for today: identify the costs of toiletries and detergents, and figure out ways to reduce these costs while improving the quality of life (or at least not compromise on the current quality of life for the family). If learners seem to be confident that they know what is required, they are asked to propose their plan for the day. What needs to be done: - Check all toiletries used by family members - Ask every member about their monthly consumptions - Similarly, check all detergents used per month - Calculate the costs as was done with F&Bs (using Supermarket apps or receipts)
	45 minutes	Learners calculate the costs of toiletries and detergents consumed by the family in 1 month
	20 minutes	Think of and discuss ways to reduce costs without having any negative effects on the quality of life.

		Prepare to present your findings: the costs and monthly consumption, as well as ideas for cost reduction to the parents. Criteria to assess the presentation: Clear, interesting, convincing conclusions, the suggestions are doable and would improve the quality of life (or would not compromise on the quality of life)
	10 minutes	Learners Present Parents observe and assess
	10 minutes	Parents provide feedback: <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
6 Furniture and appliances	10 minutes	Introduction by the parent on the aim for today: identify the costs of all the furniture and home appliances, and figure out ways to reduce these costs while improving the quality of life (or at least without compromising the current quality of life for the family). If learners seem to be confident that they know what is required, they are asked to propose their plan for the day. What needs to be done: <ul style="list-style-type: none"> - Check all furniture sets/items in the house - Try to identify their original price: either by looking at receipts, asking parents, visiting the retailer's website, or 'guesstimating' - Similarly, check all home appliances (kitchenware, electrical appliances...), and identify their original price - Also, add the costs of lamps consumed and need replacement monthly
	45 minutes	Learners calculate the costs of all furniture and appliances in the house. To estimate the monthly consumption, we estimate a 20% depreciation per year. This means: a piece of furniture or appliance is expected to last for 5 years, hence we estimate the yearly consumption by dividing its total price by 5. Then for monthly consumption, you divide the yearly consumption by 12.
	20 minutes	Think of and discuss ways to reduce costs without having any negative effects on the quality of life: do we need all the furniture and appliances that we have? Is there a way that they can last for more than 5 years? Prepare to present your findings: the costs and monthly consumption, as well as ideas for cost reduction to the parents. Criteria to assess the presentation: Clear, interesting, convincing conclusions, the suggestions are doable and would improve the quality of life (or would not compromise on the quality of life)
	10 minutes	Learners Present Parents observe and assess
	10 minutes	Parents provide feedback: <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
7. Set the cost-	10 minutes	Introduction: the last activity of this project is to implement an action plan to reduce the family living costs as per the approved suggestions. The main tasks are:

cutting plan		<ul style="list-style-type: none"> - Calculate the current total monthly living costs of the family - Present what the reduced costs would be if all the cost-cutting suggestions were implemented. - Set a plan to implement all the suggestions, with clear monitoring roles amongst family members to ensure the implementation - Observe the cost reduction over 2 months to verify whether expenses have gone down - (If parents agree, to provide a gift of a value of 10% of the saved amount after 2 months)
	20 minutes	Learners prepare a display showing the current costs (from all categories) versus the projected reduced costs
	30 minutes	<p>Set a plan to implement and monitor the suggestions. You can see this template as a suggestion.</p> <p>Clear responsibilities must be divided amongst relevant family members to ensure proper implementation.</p> <p>Prepare to present your plan and suggested roles.</p> <p>Criteria to assess the presentation: Clear, interesting, convincing conclusions, the roles are doable</p>
	10 minutes	Learners Present Parents observe and assess
	10 minutes	<p>Parents provide feedback:</p> <ul style="list-style-type: none"> - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions
	20 minutes	<p>Reflection on the learning experience. Suggested questions:</p> <ul style="list-style-type: none"> - How would consuming less affect the environment and other people? - What did you love about this project? - What have you enjoyed doing? - What skills have you gained/practiced? - What would you do differently from now on? - What strengths have you discovered in you? What weaknesses have you overcome by working at this project? - What advice would you give your parents?

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Learning outcomes:	<ul style="list-style-type: none"> - Practice arithmetic operations to solve real life challenges that help to improve the quality of life - Self-direction and organization: from working with least supervision, to identifying required tasks and setting a plan of action - Practice problem solving techniques
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Inspiration:	
Additional enrichment activities:	- Using pie charts and bar graphs in the final presentation of findings

Day 2 worksheet

Food & Beverages

In each of the cells, there must be a detail of all ingredients and quantities. The more accurate the better it is to estimate the costs.

	Food				Drinks		Waste	Example
	b/fast	lunch	dinner	Others (snacks, desserts, fruits..)	Coffee, tea, hot beverages	Water and cold beverages		
Family member 1							All left over food or drinks that get thrown away	Breakfast
2								Ex: member 1 2 eggs, 2 slices of toast, 1 avocado, 10 olives, & 1 croissant (*waste: 2 olives and ½ croissant)
3								Members 2, 3 & 4 600 ml of milk, 300 g of cereal, 3 cookies. (*waste: ½ cookie, 100 ml milk.)

Cost cutting plan template

Cost cutting suggestion	Who is responsible to monitor it	Punishment to the violator (can be a fee paid)