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	Can we spend less on our household expenses?
Age group:	7-10
Subjects:	Mathematics
Total time required:	1 ½ hours a day over a span of 5 days
Self-guided / Supervised activity:	Medium supervision by parents / guardians
Resources required:	Paper and pencil

Day	Time	Activity and Description
1	10 minutes	Meeting for introduction: One family member calls for a family meeting. The goal of the meeting is to invite children to help with managing house expenses. Hence, this project is to learn more about house expenses, and see if the family can do well with less expenses. [Parents may encourage participation by offering the kids a gift worth 10% (or part of) of the savings they help generate!] House expenses refers to the money spent buying things needed to keep the entire household functioning well on a day-to-day basis. This project is only focusing on house expenses; it excludes Education, Health, Travel, Transportation, and others.
	10 minutes	Learners engage with their parents/family members to find out what the common expenses around the home are and categorize them into different groups. Learners can seek for their parents/family members guidance on how to categorize the different expenses. Generally, house expenses, can be mainly clustered into 4 categories: - Food & beverages (F&Bs), - Toiletries and detergents, - Rent/mortgage & utilities, and - Furniture & appliances. For the sake of this project, we will only focus on rent/mortgage & utilities, and food & beverages.

	10 minutes	Learners will start by looking into expenses within <u>rent, utilities and services</u>. Some of the definitions for these expenses are: - Rent - monthly cost paid to a landlord for the use of property or land. - Mortgage – monthly payments made to the bank/lending institution as payment for the ownership of the house/property you currently stay in. - Utilities – payments made for services used at home such as water, electricity, landline/phone service, internet, other subscriptions - Services – like cleaning, laundry or others Learners will think about the various ways in which they can collect information on these expenses. Some of the options could be - Interviews with parents to find out the current costs - Check current recipes of the services - Get estimates of these from an adult
	20 minutes	Learners look for ideas on how to reduce these costs. They can ask themselves and /or their parents/family members questions to help them learn about cost cutting strategies. 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) Some ideas on how to cut costs - Barter trade - Cheaper alternatives - Free/used alternatives available - Purchase of used items - Reduce on the quantities - Discounts and offers from other companies - Check out substitute service providers who may provide services at cheaper rates - Buying in bulk

<table>
<tr><td></td><td></td><td>Learners will then find out the new cost of the item with the new proposed cost savings strategy and summarize the information in a table like one below

<table>
<tr><th>Item</th><th>Cost Saving Strategy</th><th>Old cost</th><th>Proposed new cost</th><th>Cost saving</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Total savings</td><td></td></tr>
</table>

Cost saving = old cost – proposed new cost
Total savings = sum of all savings per item</td></tr>
<tr><td rowspan="2"></td><td>25 minutes</td><td>Literacy extension: 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).</td></tr>
<tr><td>10 minutes</td><td>Learners present, and parents/family members note down their assessment of the presentation.
Parents/family members will provide feedback:
- what they loved about the presentation,
- what could have been improved,
- and the parents’ approval on the cost cutting suggestions

Learners make the suggested edits and revise your work.</td></tr>
<tr><td></td><td>5 minutes</td><td>Learners to note down the approved cost cutting suggestions. The parents tell them that tomorrow’s focus will be on food and beverages.</td></tr>
<tr><td rowspan="2">2</td><td>10 minutes</td><td>Intro: Over the next 4 days, learners are going to be focusing on the foods and beverages (F&Bs) expenses; understanding if they are wasting anything, the costs of the F&Bs and developing a cost reduction plan for the home.

Today, we will focus on identifying the wasted F&Bs. Once this is determined, learners will then determine the cost of the wasted F&B and can come up with suggestions to reduce costs without having any negative effects on the quality of life in the next few days.</td></tr>
<tr><td>Extended activity</td><td>Learners to note down all food, snacks, water, and drinks that will be served today for all the family members in their household. This may be best done by populating a table for all family members. It is also</td></tr>
</table>

	all over the day	important to determine the quantities of wasted F&Bs in each category. Learners can create their own table or use the template provided in Day 2 worksheet. Parents/family members explain, and learners will start populating it for the whole day F&Bs consumed in the house!
	10 minutes	Learners will then present the sheet with the identified wasted F&Bs to the parents and family members for discussion. Parents/family members will provide feedback on: - What they loved about the presentation or what are new ideas that occured to them based on what the child presented - What are some other aspects that learners can think about Learners make edits based on the feedback provided.
3	5 minutes 20 minutes	Today, learners will focus on identifying the cost of the different food items within their household and computing the cost of the wasted F&Bs. Demo of calculating the costs: Learners will start by identifying the cost of the food items they noted down in the worksheet yesterday. To do this they need the items' price (of the same brand and size). Learners need to think about the different ways they can obtain the cost information for the food items. Some options on how they can get this information include: - the supermarket/shop receipt. Ask their parents/family members for the receipts of the different items from the last shopping that was done in the household - A price list (either paper copy, or the phone application of the supermarket/shop if available) - Internet search on the supermarket website or any other supermarket they can look up on the internet - Collect the information through an interview with a shopkeeper in a nearby shop or supermarket - Approximate price by asking an adult family member/parent/neighbour Add the cost details to the cost column of the worksheet developed on Day Two. At the bottom, compute the total cost of food consumed that day.
	1-1 ½ hour	Using the table/Worksheet 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.

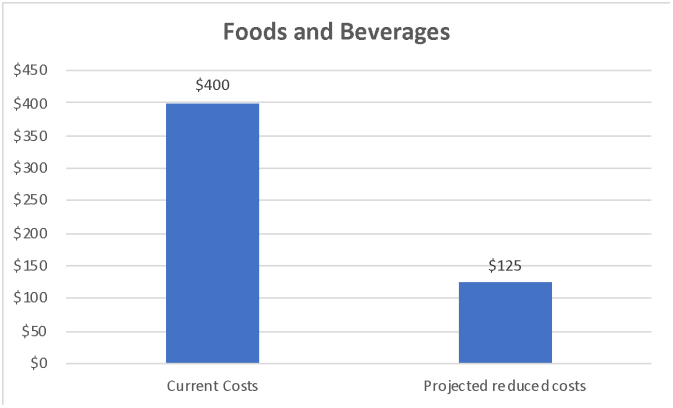
		Costs are calculated according to the quantity consumed. Example 1: if a croissant is for $2, then the wasted ½ croissant is for 1$. Ex2: if 1 L of fresh milk costs 12 $, then the wasted 100 ml of milk is worth 1.2 $. *If any of the learners did not yet study division or are having a hard time with division, then parents/family members can help, or provide estimates of the daily or monthly costs, along with estimates of the value of waste. Add the wasted F&Bs cost details to the worksheet developed on Day 2 and compute the total cost of wasted F&Bs for the day.
	10 minutes	Learners will then present the sheet with the identified costs of the food items and the costs of wasted F&Bs to the parents and family members to critique and revision. Parents/family members will provide feedback: - what they loved about the presentation, - what could have been improved, Learners make the suggested edits and revisions to their work.
4.	10 minutes	Intro by parent: Today, learners will compute the estimated monthly cost of wasted F&B consumption, and think through suggestions on how to reduce costs of wasted F&Bs.
	20 minutes	Learners calculate the estimated value of wasted F&Bs per month. Ask learners to first think through how they can estimate this cost and why it is important to know this cost. To compute the estimated value of wasted F&Bs per month is the daily value computed on day 3 above is multiplied by 30 (since a month has ~30 days on average). This is the estimated/projected monthly reduced cost for F&Bs. After computing the estimated value of wasted F&Bs, ask the learners to think about why it is important to know this value. Some of the probing questions could be: - What is the monthly value of wasted F&Bs? - In what other ways can this money be used by the family? (Saved, used to purchase other essential commodities or expenses in the home etc.) - 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? How many days do you think a hungry or homeless person can survive on the wasted F&Bs?

	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/family members. Some ideas on how they can reduce costs include: - Only buying essential and healthy food stuffs and avoiding junk food. - Asking the different family members to only get the food amount that is exactly enough for them. - Make savings by deducting the monthly wasted F&Bs amount from the monthly food expenses
	20 minutes	Learners will then present the estimated monthly value for wasted F&Bs, the reasons why it is important to know this value and cost saving ideas to the parents and family members to critique and revise. Parents/family members will provide feedback: - The suggestions that they approve and why - The suggestions that they don't approve and why - Additional suggestions Learners make the suggested edits and revise their work.
5	10 minutes	Introduction: The last activity of this project is to design and implement an action plan to reduce the family living costs as per the approved suggestions from the previous days of activities. 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 - 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)
	20 minutes	Learners prepare a display showing the current costs (from all categories) versus the projected reduced costs. Learners can develop a table (like the one below) or bar graphs (like the one below) to illustrate this. Table showing current cost vs projected reduced costs

Expense Category	Current costs	Projected reduced costs
Rent/Mortgage and utilities		
Foods and Beverages (F&Bs)		

Bar Graph showing current cost vs projected reduced costs:

If the current cost of F&Bs is $400 and cost of wasted F&Bs also known as projected reduced cost is $125, then your bar graph who look like the one below:



Some guidelines on how to plot the bar graph using the example above:

- Draw a vertical line and horizontal line starting at the bottom of the vertical line going right as shown above. These are your axes. The y-axis is the vertical line in the graph and the x-axis is the horizontal line. Write zero at the corner where the two lines meet.
- The y-axis is like a vertical number line. You can write numbers in 1, 5, or any interval. We used intervals of 50 in the example above because we had a high maximum value of 400 for the Y axis. This axis represents the costs. It starts from 0 and ends with the maximum cost of the two costs we have i.e., current cost and projected reduced costs
- The x-axis represents the categories of the costs we are interested in i.e., current cost and projected reduced costs. Draw rectangles representing the two cost types as shown above
- The rectangles will be as high as the total number of each category. For example, in the graph above, the current

		costs are $400. What are the projected reduced costs? Is it properly captured on the graph? ○ Color or shade each rectangle using a different color or shading pattern for each of the rectangles to ensure it can be seen clearly.
	30 - 45 minutes	Learners create a cost cutting plan (using the template shared in the appendix) to implement and monitor the suggestions. Clear responsibilities must be divided amongst relevant family members to ensure proper implementation: - Who are the ones responsible to monitor various suggestions to reduce costs of rent/mortgage and utilities consumption? What will each do? - Who are the ones responsible to monitor various suggestions to reduce food waste? What will each do? Prepare to present your plan and suggested roles.
	20 minutes	Overall project reflection on the learning experience. Suggested questions: - 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 on this project? - What advice would you give your parents?
Assessment Criteria:		**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).

Topics/concepts covered:	- Addition and subtraction - Multiplication and division - Estimation - Tables and charts - Problem solving skills - Critical thinking skills - Communication skills

Learning outcomes:	- Add and subtract numbers with up to 3 digits - Multiply and divide within 100. - Estimate the answer to a calculation - Solve problems using number facts - Interpret and present data using bar charts, and tables - Estimate, compare and calculate different measures, including money - Make sense of problems and persevere in solving them. - Reason abstractly and quantitatively. - Enhance the learners' problem solving, critical thinking and communication skills
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	Can we spend less on our household expenses?
Age group:	11-14
Subjects:	-Mathematics
Total time required:	1 ½ hours a day over a span of 7 days
Self-guided / Supervised activity:	Medium supervision by parents / guardians
Resources required:	Paper and pencil

Day	Time	Activity and Description
1	10 minutes	The household meets. One of the parents introduces that they need the help of their children with managing house expenses. 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!] House expenses refers to the money spent to buy things needed to keep the household functioning well on a day-to-day basis. Introduction: his project is only focusing on house expenses; it 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: food & beverages, toiletries and detergents, rent/mortgage & utilities, and furniture & appliances. 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	Learners will start by looking into expenses within rent, utilities and services. Some of the definitions for these expenses are: - Rent - monthly cost paid to a landlord for the use of property or land. - Mortgage – monthly payments made to the bank/lending institution as payment for the ownership of the house/property you currently stay in.

		- Utilities – payments made for services used at home such as water, electricity, landline/phone service, internet, other subscriptions - Services – like cleaning, laundry or others Learners will think about the various ways in which they can collect information on these expenses. Some of the options could be - interviews with parents to find out the current costs - check current recipes of the services - get estimates of these from an adult
	20 minutes	Learners look for ways and thoughts on how to reduce these costs. They can ask themselves and /or their parents/family members questions to help them learn about cost cutting strategies. 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) Some ideas on how to cut costs - Barter trade - Cheaper alternatives - Free/used alternatives available - Purchase of used items - Reduce on the quantities - Discounts and offers from other companies - Check out substitute service providers who may provide services at cheaper rates - Buying in bulk Learners will then find out the new cost of the item with the new proposed cost savings strategy and summarize the information in a table like one below

		<table><tr><td>Item</td><td>Cost Saving Strategy</td><td>Old cost</td><td>Proposed new cost</td><td>Cost saving</td></tr><tr><td>Rent</td><td>Alternatives: find a cheaper house to rent</td><td>$300</td><td>$250</td><td>$50</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">Total savings</td><td></td></tr></table> Cost saving = old cost – proposed new cost Total savings = sum of all savings per item
	15 minutes	**Literacy extension:** 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.
	10 minutes	Learners present, and parents/family members note down their assessment of the presentation. Parents/family members will provide feedback: - what they found creative about the presentation and ideas, - what could be improved, why, and orientations regarding how. Learners make the suggestion edits and revisions to their work.
	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	15 minutes	Intro: Over the next 4 days, learners are going to be focusing on the foods and beverages (F&Bs) expenses, toiletries and detergents, and furniture and appliances. They will engage to understand what wastage may be happening, the costs of the F&Bs, and develop a cost reduction plan for the home. Today, we will focus on identifying the wasted F&Bs. Once this is determined, learners will then determine the cost of the wasted F&B and can come up with suggestions to reduce costs without having any negative effects on the quality of life in the next few days.
	Extended activity all over the day	Learners to note down all food, snacks, water, and drinks that will be served today for all the family members in their household. This may 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. Learners can create their own table or use the template provided

		Learners to note down all food, snacks, water, and drinks that will be served today for all the family members in their household. 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. Learners can create their own table or use the template provided here Day 2 worksheet for template. Parents/family members can explain the template to the learners, and learners will start populating it for the whole day F&Bs consumed in the house!
	10 minutes	Learners will then present the sheet with the identified wasted F&Bs to the parents and family members to critique and revision. Parents/family members will provide feedback: - new ideas that occured to them based on what the child presented, - some other aspects that learners can think about Learners make edits based on the feedback provided.
3	5 minutes 20 minutes	Introduction by the parent/family member/educator: Today, learners will focus on identifying the cost of the different food items within their household and computing of the wasted F&Bs. Demo of calculating the costs: Learners will start by identifying the cost of the food items they noted down in the worksheet yesterday. To do this they need the items' price (of the same brand and size). Learners need to think about the different ways they can obtain the cost information for the food items. Some options on how they can get this information include: - the supermarket/shop receipt. Ask their parents/family members for the receipts of the different items from the last shopping that was done in the household - A price list (either paper copy, or the phone application of the supermarket/shop if available) - Internet search on the supermarket website or any other supermarket they can look up on the internet - Collect the information through an interview with a shop keeper in a nearby shop or supermarket - Approximate price by asking an adult family member/parent/neighbour

		Add the cost details to the worksheet developed on Day Two in the cost column and at the bottom, compute the total cost of food consumed that day.
	1-2 hours	Using the table/Worksheet 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. Costs are calculated according to the quantity consumed. Example 1: if the egg cartoon 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 $ *If any of the learners did not yet study division or are having a hard time with division, then parents/family members can help, or provide estimates of the daily or monthly costs, along with estimates of the value of waste. Add the wasted F&Bs cost details to the worksheet developed on Day 2 and compute the total cost of wasted F&Bs for the day.
	10 minutes	Learners will then present the sheet with the identified costs of the food items and the costs of wasted F&Bs to the parents and family members to critique and revision. Parents/family members will provide feedback: - what they loved about the presentation, - what could have been improved, Learners make the suggestion edits and revisions to their work.
4	15 minutes	Intro by parent: Today, learners will compute the estimated monthly cost of wasted F&B consumption, and think through suggestions on how to reduce costs of wasted F&Bs.
	20 minutes	Learners calculate the estimated value of wasted F&Bs per month. Ask learners to first think through how they can estimate this cost and why it is important to know this cost. To compute the estimated value of wasted F&Bs per month is the daily value computed on day 3 above is multiplied by 30 (since a month has ~30 days on average). This is the estimated/projected monthly reduced cost for F&Bs. After computing the estimated value of wasted F&Bs, ask the learners to think about why it is important to know this value. Some of the probing questions could be:

		- What is the monthly value of wasted F&Bs? - In what other ways can this money be used by the family? (Saved, used to purchase other essential commodities or expenses in the home etc.) - 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? How many days do you think a hungry or homeless person can survive on the wasted F&Bs?
	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/family members. Some ideas on they can reduce costs include: - Only buying essential and healthy food stuffs and avoiding junk food. - Asking the different family members to only get the food amount that is exactly enough for them. - Make savings by deducting the monthly wasted F&Bs amount from the monthly food expenses.
	20 minutes	Learners present their ideas and suggestions to their parents/family members. Parents/family members provide feedback: - The suggestions that they approve and why - The suggestions that they don't approve and why - Additional suggestions Learners make the suggestion, edits and revisions received from parents/family members to their work.
5	10 minutes	Today, learners will 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).
	45 minutes	Definitions: - Toiletries refers to things/materials used in washing and taking care of one's body and for cleaning their environment. These may include soap, toothpaste, shampoo etc - Detergents are water-soluble cleansing agents which combine with impurities and dirt to make them more soluble and differ from soap in not forming a scum with the salts in hard water.

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<td>Learners will need to think about how they will collect information on toiletries and detergent usage in their home.

Learners may use the following methods to collect the information.

- Check all toiletries used by family members
- Ask every member about their monthly consumptions
- Similarly, check all detergents used per month
- Check the receipts used to purchase toiletries and detergents from the most recent month
- Interview the parents or an adult to get estimates on household consumption for toiletries and detergents

Learners will track the toiletries and detergent daily usage by household members using a tool similar to the one used for F&Bs.

Learners calculate the costs of toiletries and detergents consumed by the family in 1 month

Hint: Multiply the daily usage by average number of days (30)</td>
</tr>
<tr>
<td></td>
<td>20 minutes</td>
<td>Learners will now think of and discuss ways to reduce costs without having any negative effects on the quality of life.

Some ideas on how to cut costs

- Barter trade
- Cheaper alternatives
- Free/used alternatives available
- Purchase of used items
- Reduce on the quantities
- Discounts and offers from other companies
- Check out substitute service providers who may provide services at cheaper rates
- Buying in bulk

Learners can use a table like the one below to summarize their work

<table>
<tr><th>Item</th><th>Cost Saving Strategy</th><th>Old monthly cost</th><th>Proposed new monthly cost</th><th>Cost saving</th></tr>
<tr><td>Toilet paper</td><td>Alternatives: find a</td><td>$50</td><td>$25</td><td>$25</td></tr>
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		<table><tr><td></td><td>cheaper house to rent</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">Total savings</td><td></td></tr></table>
	10 minutes	Learners present their ideas (the costs and monthly consumption, as well as ideas for cost reduction to the parents) and suggestions to their parents/family members. Parents/family members provide feedback: - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions Learners make the suggestion, edits and revisions received from parents/family members to their work.
6	10 minutes	Today, learners will 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). Learners will need to find out all the furniture and home appliances currently available and used at home. This may be done by: - Checking all furniture sets/items in the house - Trying 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 Learners can use a table
	45 minutes	Learners calculate the costs of all furniture and appliances in the house. To estimate the monthly consumption, we estimate a 20% depreciation for all furniture and home appliances 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.

<table>
<tr><td></td><td>20 minutes</td><td>Learners will think of ways to reduce costs without having any negative effects on the quality of life. Some of the reflection questions could be:

● Do we need all the furniture and appliances that we have?
● Is there a way that they can last for more than 5 years?

Learners can also reflect on some of the cost saving strategies used in the other expense areas to come up with creative ways of making savings on furniture and appliances.</td></tr>
<tr><td></td><td>10 minutes</td><td>Learners present their ideas and suggestions to their parents/family members. Parents/family members provide feedback:
- what they loved about the presentation,
- what could have been improved,
- and the parents' approval on the cost cutting suggestions

Learners make the suggestioned edits and revisions received from parents/family members to their work.</td></tr>
<tr><td>7.</td><td>10 minutes</td><td>Introduction: the last activity of this project is to design and implement an action plan to reduce the family living costs as per the approved suggestions.
The main tasks are:
- 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)</td></tr>
<tr><td></td><td>30 minutes</td><td>Learners prepare a display showing the current costs (from all categories) versus the projected reduced costs. Learners can develop a table (like the one below) or bar graphs (like the one below) to illustrate this.

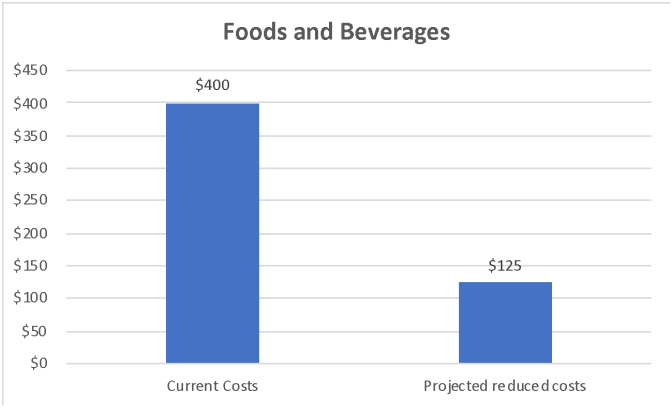
Table showing current cost vs projected reduced costs

<table><tr><td>Expense Category</td><td>Current costs</td><td>Projected reduced costs</td></tr><tr><td>Rent/Mortgage and utilities</td><td></td><td></td></tr></table></td></tr>
</table>

Foods and Beverages (F&Bs)		
Toiletries and detergents		

Bar Graph showing current cost vs projected reduced costs:

If the current cost of F&Bs is $400 and cost of wasted F&Bs also known as projected reduced cost is $125, then your bar graph who look like the one below:



Some guidelines on how to plot the bar graph using the example above:

- Draw a vertical line and horizontal line starting at the bottom of the vertical line going right as shown above. These are your axes. The y-axis is the vertical line in the graph and the x-axis is the horizontal line. Write zero at the corner where the two lines meet.
- The y-axis is like a vertical number line. You can write numbers in 1, 5, or any interval. We used intervals of 50 in the example above because we had a high maximum value of 400 for the Y axis. This axis represents the costs. It starts from 0 and ends with the maximum cost of the two costs we have i.e., current cost and projected reduced costs
- The x-axis represents the categories of the costs we are interested in i.e., current cost and projected reduced costs. Draw rectangles representing the two cost types as shown above
- The rectangles will be as high as the total number of each category. For example, in the graph above, the current costs are $400. What are the projected reduced costs? Is it properly captured on the graph?

		○ Color or shade each rectangle using a different color or shading pattern for each of the rectangles to ensure it can be seen clearly. Learners can do this for all the expense areas computed during this project
	10 minutes	Learners present their ideas and suggestions to their parents/family members. Parents/family members provide feedback: - what they loved about the presentation, - what could have been improved, - and the parents' approval on the cost cutting suggestions Learners make the suggestion, edits and revisions received from parents/family members to their work.
	20 minutes	Overall Project Reflection on the learning experience from this project. Learners to reflect on what they have learned from the project using some of the suggested questions: - 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 on this project? - What advice would you give your parents?

Assessment: criteria for presentations, activity observation checklists

Topics/concepts covered	- Addition and subtraction - Multiplication and division - Estimation - Tables and charts - Problem solving skills - Critical thinking skills - Communication skills
Learning outcomes:	- Add and subtract numbers with up to 3 digits - Multiply and divide within 100. - Estimate the answer to a calculation - Solve problems using number facts

	- Interpret and present data using bar charts, and tables - Develop their use of formal mathematical knowledge to interpret and solve problems, including financial mathematics - Make sense of problems and persevere in solving them. - Reason abstractly and quantitatively. - Express relations between variables graphically - Enhance the learners' problem solving, critical thinking and communication skills
Required previous learning:	- Fractions, percentages, and arithmetic operations
Inspiration:	
Additional enrichment activities:	- Using pie charts and bar graphs in the final presentation of findings

Appendix 1: Day 2 Worksheet

Food & Beverages

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EAA welcomes feedback on its projects in order to improve, please use this link: https://forms.gle/LGAP9k17fMyJrKJN7

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.

Family member	Food				Drinks		Cost (Day 3 Activity)	Waste	Cost of waste (Day 3 Activity)	Example
	b/fast	lunch	dinner	Others (snacks, desserts, fruits etc.)	Coffee, tea, hot beverages	Water and cold beverages	For each of the food items indicate the cost	All leftover food or drinks that get thrown away	Use this space to compute the cost of wasted F&Bs	Breakfast
1										Ex: member 1 2 eggs, 2 slices of toast, 1 avocado, 10 olives, & 1 croissant (*waste: 2 olives and ½ croissant)
2										Members 2, 3 & 4 600 ml of milk, 300 g of cereal, 3 cookies. (*waste: ½ cookie, 100 ml milk.)
3										

Appendix 2: Cost Cutting Plan Template

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https://forms.gle/LGAP9k17fMyJrKJN7

Expense Area	Cost cutting suggestion	Who is responsible to monitor it	Punishment to the violator (can be a fee paid)
Rent and Mortgages			
Foods and Beverages (F&Bs)			

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