

Bringing data to life – 14-16 years session overview

Session title	Overview	Learning Objective	Learning Outcome	Key Questions	Activity
Session 1: Setting the scene/scatter graphs	Learners are introduced to Ethiopia and learn to plot the relevant associated data as a scatter graph. Geography/Maths	<ul style="list-style-type: none"> To develop basic geographical knowledge about Ethiopia To learn how to plot a scatter graph, including a (LOBF) line of best fit. To understand the differences between correlation and relationship of bivariate data. To be able to apply the correlation of a scatter graph to its greater context. 	<ul style="list-style-type: none"> Learners will use maps, writing and photos to develop an idea of what Ethiopia is like and an understanding of the activities and outputs of the Women's Collective Action groups Learners will be able to plot their own scatter graph and recognise a correlation. They will be able to apply this correlation to the context from which the data was collected and infer further conclusions. 	<ul style="list-style-type: none"> What is Ethiopia like? How could you find out more about the people, places and activities we are learning about in this lesson? What are the benefits to using a scatter graph to show this information? How could we get a more accurate picture of how age relates to wealth amongst the women in Ethiopia? 	<ul style="list-style-type: none"> Introduction to the research data. Context of data. Quick multiple choice quiz. Plotting data on a scatter graph. Learning how to draw a LOBF. Describing the relationship and correlation between two sets of data.
Session 2: Cumulative frequency graphs	Learners use cumulative frequency graphs to compare the wealth index of WCA and non-WCA members in Ethiopia and Mali. Maths/Geography	<ul style="list-style-type: none"> To be able to consider the advantages and disadvantages of grouped data and understand the notation as it would be assessed. To learn how to draw a cumulative frequency graph and find its quartile values and interquartile range. To understand how to directly compare two cumulative frequency graphs. To be able to apply the comparisons of the two data sets to their greater context. 	<ul style="list-style-type: none"> Learners will be able to plot their own cumulative frequency graph and find the median and lower/upper quartile from the graph. They will be able to describe what this means for the women who are members of the WCA and those who aren't. 	<ul style="list-style-type: none"> How do I find the position of the median, upper and lower quartile values? What is implied by a higher median? What is implied by a higher interquartile range? What does the data tell you about the financial benefit of being a member of the WCA? 	<ul style="list-style-type: none"> Learning about WCA and shea production in Mali. Demonstration of how to create a cumulative frequency graph. Discussion regarding continuous and discrete data. Drawing their own and finding UQ, LQ, median and IQR. Critiquing other learners answers of comparisons of data.



<p>Session 3: Pie charts and Histograms</p>	<p>Learners examine pie charts to understand their use and limitations. They will also use and assess histograms and will consolidate their learning from the previous sessions. Maths/Geography</p>	<ul style="list-style-type: none"> • To consider the advantages and disadvantages of using a pie chart to display data. • To be able to consider the advantages and disadvantages of grouped data and understand the notation as it would be assessed. • To learn how to draw a histogram using frequency density. • To be able to apply the comparisons of the two data sets to their greater context. 	<ul style="list-style-type: none"> • Learners will be able to plot their own histogram using frequency density. They will learn how to calculate frequency density using class width. • They will be able to explain the limitations of using a pie chart to display data whilst also knowing when they can be useful. • They will be able to apply the data to the greater context and explain how it relates to what is happening in Ethiopia and Mali. 	<ul style="list-style-type: none"> • If it wasn't stated by the titles, could you tell how many people were included in each pie chart? Why might this be a good thing? • Histograms are brilliant when the class widths are unequal - what is the first thing you need to work out in order to plot a histogram? • What does the data tell you about the amount of experience amongst the women of Ethiopia? 	<ul style="list-style-type: none"> • Pie Chart Comparisons • Learners will at this point learn how to find out the frequency density and draw a histogram. • Summary of learning for 3 sessions
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