Lesson plan for 2ⁿᵈ lesson visit

Target: Class 3A / 3B / 3C / 3D
Length: 2 periods (70 mins)
Date:
Venue:
Objective:
1. To explore the graphs of linear equations [$y = mx + c$].
2. To understand the concept of best-fit lines.
3. To create suitable statistics chart and find the slope best-fit lines using Google Sheet.
4. To discover ways to improve the design and data analysis.

Lesson flow:

Time	Content	Teaching aids
15 mins	Exploration: - Explore the graphs of linear equations [$y = mx + c$] on Desmos. - By changing the unknowns m and c , students observe the effects on the graph. - Conclude that m and c are the slope and vertical intercept respectively.	MacBook Desmos
10 mins	Demonstration by students: - Create statistics chart and find best-fit line for the data in a certain range using Google Sheet's functions. - Understand that best-fit line may give a better slope and a common skill to describe the relation of quantity or make prediction.	MacBook Google Sheet
20 mins	Whole Class Discussion: Description about different parts of the graph from teacher's trials Data analysis: - Task 0 : Remove data with mistakes - Task 1 : Plot the broken-line graph - Task 2 : Select a suitable part of the data and plot another graph. Hence, find the slope of the best-fit line.	Presentation Slide MacBook Google Sheet
10 mins	Presentation: - Graphs and results of the data analysis are collected. - Teacher shows curves of all groups' data on the same graph to make comparison. Students write down specific slopes on the board and a comparison can be done among groups. - A few groups are selected to present their design and findings from data analysis.	MacBook Google Sheet
5 mins	Conclusion: - Slope can be used to describe rate of increase or decrease. - Besides using two points, slope of best-fit line can also be found with the aid of computer software or online apps.	MacBook Google Sheet
10 mins	Within group Discussion: Conclude whether the shelter can successfully reduce the rate of temperature increase	

| | - Discuss ways of improvement of the designs, data collection and data analysis.
- Complete the related parts of the log-book

Cross-group discussion: (if time is allowed) | |