

Unit CMA161 – Forested Area

Introduction

PISA 2022

Forested Area
Introduction


Read the introduction. Then click on the NEXT arrow.

FORESTED AREA

In this unit you will be using a spreadsheet to answer questions related to the following situation:

A forest is an ecosystem in which a variety of trees, plants, and animals can be found.

The amount of forested area in a country can change over time.



On the next screen, you will practise using the spreadsheet.

This is the introduction to the unit *Forested Area*, which provides students with some background information about the context of the unit – that the amount of forested area in a country can change over time – and lets them know that they will be using a spreadsheet tool to assist with answering the questions.

Practice


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Practise

You are now going to practise using the spreadsheet before continuing on to the questions.




Use the spreadsheet to complete the following three actions:

- Sort a column.
 - Click on the  symbol in Column B, C, or D to sort that column in ascending (low to high) order.
 - Note that all the columns will sort based on the way any one column is sorted.
- Perform a calculation
 - Select a column from the first drop-down menu located below the spreadsheet.
 - Next, select an operation from the middle drop-down menu.
 - Then select a column from the last drop-down menu.
 - Click on "Run."
 - The results will display in the first available empty column.
- Display the mean (average) of a column
 - Select a column from the drop-down menu next to "Mean," located below the spreadsheet.
 - Click on "Run."
 - The result will display in the cell below that column.

Click on  to continue.

FORESTED AREA

The spreadsheet below shows the amount of forested area as a percentage of the total land area in each of the 15 countries in this data set. Data are shown for the years 2005, 2010, and 2015.

Column A	Column B	Column C	Column D	Column E	Column F	Column G
Country	2005	2010	2015	 X	 X	 X
Algeria	0.64	0.81	0.82			
Armenia	11.77	11.74	11.77			
Colombia	54.26	52.85	52.73			
Germany	32.66	32.73	32.76			
Greece	29.11	30.28	31.45			
India	22.77	23.47	23.77			
Kazakhstan	1.24	1.23	1.23			
Lebanon	13.34	13.38	13.42			
Panama	64.33	63.21	62.11			
Peru	59.01	58.45	57.79			
Portugal	36.52	35.89	35.25			
Senegal	45.05	44.01	42.97			
South Korea	64.42	64.08	63.99			
Thailand	31.51	31.81	32.1			
United States	33.26	33.7	33.85			

Calculate

Column Operation Column

Mean

After the introduction screen, students come to a practice screen where they must perform several actions to familiarise themselves with the functionality of the spreadsheet. The actions include sorting any column, performing a calculation (adding, subtracting, multiplying, or dividing) with the data in any two columns, and generating the mean of any column. Each action comes with instructions for how to use the tool to complete that action, and each action must be completed before the next action is shown (for convenience, they are all shown in this image). The arrow to advance to the next screen only becomes active once all three actions have been completed. Note that the data that students are using in the practice screen is the same data that is used in the unit.

If students get confused about what to do on this screen and are inactive for a certain amount of time, a pop-up message appears to remind them of the action that they need to perform. If another period of inactivity elapses after the pop-up message appears, then an animation shows how to perform each action. Once all of the animations have run, the students can advance to the next screen.

Instruction

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Instruction

Instructions for how to use the spreadsheet are available in each question.

They are located in a menu called "How to Use the Spreadsheet" that can be opened and closed.

Click on the bar below to open the instructions. Click on the bar again to close the instructions.

How to Use the Spreadsheet

- Click on to **sort** a column in **ascending** (low to high) order. Click on the icon again to **sort** the column in **descending** (high to low) order.
- To perform **calculations**:
 - Select a column from the first drop-down menu.
 - Select an operation from the middle drop-down menu.
 - Select a column from the last drop-down menu.
 - Click on "Run."
 The results will display in the first available empty column.
- To display the **mean** (average) of a column, select a column from the drop-down menu and click on "Run." The result will display in the cell below that column.
- To undo an action in a column, click on .
- To clear a column, click on .
- To completely clear the spreadsheet, click on "Clear All."

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Calculate

Column Operation Column

Mean

After the practice screen, students come to an instruction screen, which is just to let them know that instructions for using the spreadsheet are available in each item and can always be accessed by clicking on the bar with the text, "How to Use the Spreadsheet". Clicking on this bar opens the list of instructions, as shown above. Clicking on the bar again closes the list of instructions.

As with the practice screen, students are not allowed to advance past this screen until they have performed the action (i.e., opened the instructions). Again, if there is a period of inactivity, then a pop-up message reminds students of the action they need to perform. If they still do not perform the action, then after another short period of time, an animation plays. After the animation plays, students can advance to the first item in the unit.