

Forested area, released item #4 (CMA161Q04)

PISA 2022

Forested Area
Question 4 / 4

How to Use the Spreadsheet

Refer to "Forested Area" on the right. Use the spreadsheet to help you answer the question below. Click on a choice and then type an explanation to answer the question.

Helena claims that South Korea has more forested area than any other country in this list for the years shown.

Is her claim supported by the data in the spreadsheet?

Yes

No

Explain your answer.

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	↻ ✕	↻ ✕	↻ ✕
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	63.69			
Thailand	31.51	31.81	32.1			
United States	33.26	33.7	33.85			

Calculate

Column Operation Column Run

Mean Column Run Clear All

This is the final item in this unit. Students are presented with a claim that South Korea has more forested area than the other 15 countries on the list for the years shown, and they have to determine if the claim is supported by the data in the spreadsheet. As with some other human-coded items, students need to select either "Yes" or "No," and then provide an explanation to support their selection. Unlike the previous items in the unit, this item does not actually require manipulating the data in the spreadsheet to answer; however, all the functionality of the spreadsheet is still available.

Even though South Korea is the country in this list with the highest percentage of forested area for each of the three years, the correct answer is "No," the claim is not supported by the data in the spreadsheet. It is not possible to conclude anything about the actual amount of forested area in these countries from the data shown because the data shown are only the percentage of forested area. The total land area of each country is not also given in the spreadsheet, and this "missing" information is necessary for determining the actual amount of forested area in each country. That is, because the data shown are percentages of different quantities (i.e., different land areas, which are not included in the spreadsheet) they do not support the claim.

This is a reasoning item that requires students to evaluate a claim by understanding the limits of what can be inferred from the available data. That is, students do not have to determine if the specific claim about South Korea is actually true or not; they have to determine if the claim is supported by the available data. It is a very difficult item that scaled at Level 6. There is no partial credit response for this item. The coding rubric is shown below. Note that the coding rubric does not contain an exhaustive list of responses. However, the sample responses in the rubric are representative of how students typically respond to this item.

Unit Name – Item #	Forested Area – CMA161Q04
Content Area	Uncertainty and data
Process	Reasoning
Context	Societal
Item Format	Open Response - Human Coded
Answer	Refer to rubric below
Proficiency Level	6

Full Credit

Code 1: Selects No and explains that the spreadsheet only shows the percentage of forested area OR that the spreadsheet does not show the total land area for each country OR that the areas of the countries are different.

- [No] This is not true because the spreadsheet only shows the values as a percentage.
- Her claim is not supported by the data in the spreadsheet because we do not know the total area for each of the countries listed. [*Selection of “No” is implied here.*]
- [No] Because the total area of each country is different.
- [No] Each country does not have the same area.

No Credit

Code 0: Other responses, including selecting No but giving an incorrect explanation or without giving an explanation OR selecting Yes with or without an explanation.

- [No].
- [No] Because it is different.
- [Yes] South Korea has the greatest amount for each year shown.

Code 9: Missing