Math Grade 8 C

Grade Level Standard(s):

KY.8.SP.1

Materials:

- Math 8 C Monarch Butterfly Population Scatter Plot
- Math 8 C Attainment Task Questions for Student Use

Response Code:

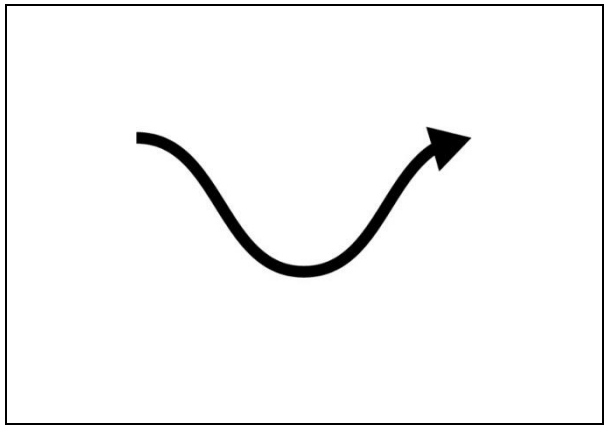
- Indicate the answer provided by the student.

Text Coding:

- "Quotation marks" indicate the script that the teacher should read to the student.
- *Italicized text* provides further direction for the test administrator.
- Words in parenthesis ( ) are optional; they may replace or be read in addition to the word(s) immediately preceding.

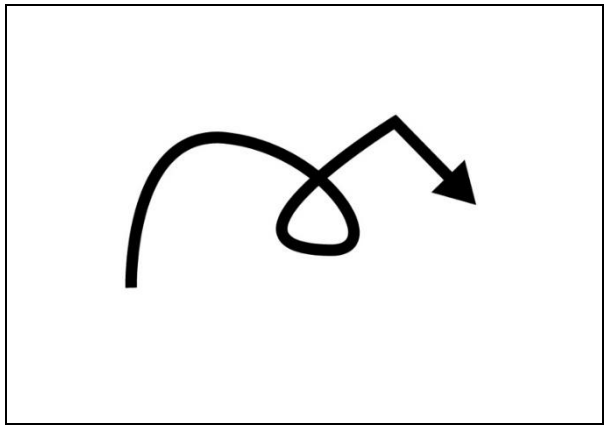
a.

Non-linear



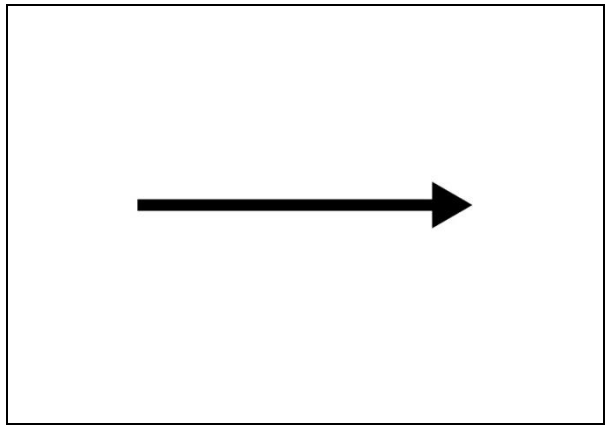
b.

Random



c.

Linear



Before beginning task administration, please ensure that all conditions specified in the administration protocol (starting on page 10 of the Administration Guide Overview and Attainment Task Administration) have been met. Inform the student that the task is about to start by saying, "We are about to start the task, and I am going to ask you some questions."

All questions from this task are available for presentation to the student in the supplemental material Math 8 C Attainment Task Questions for Student Use.

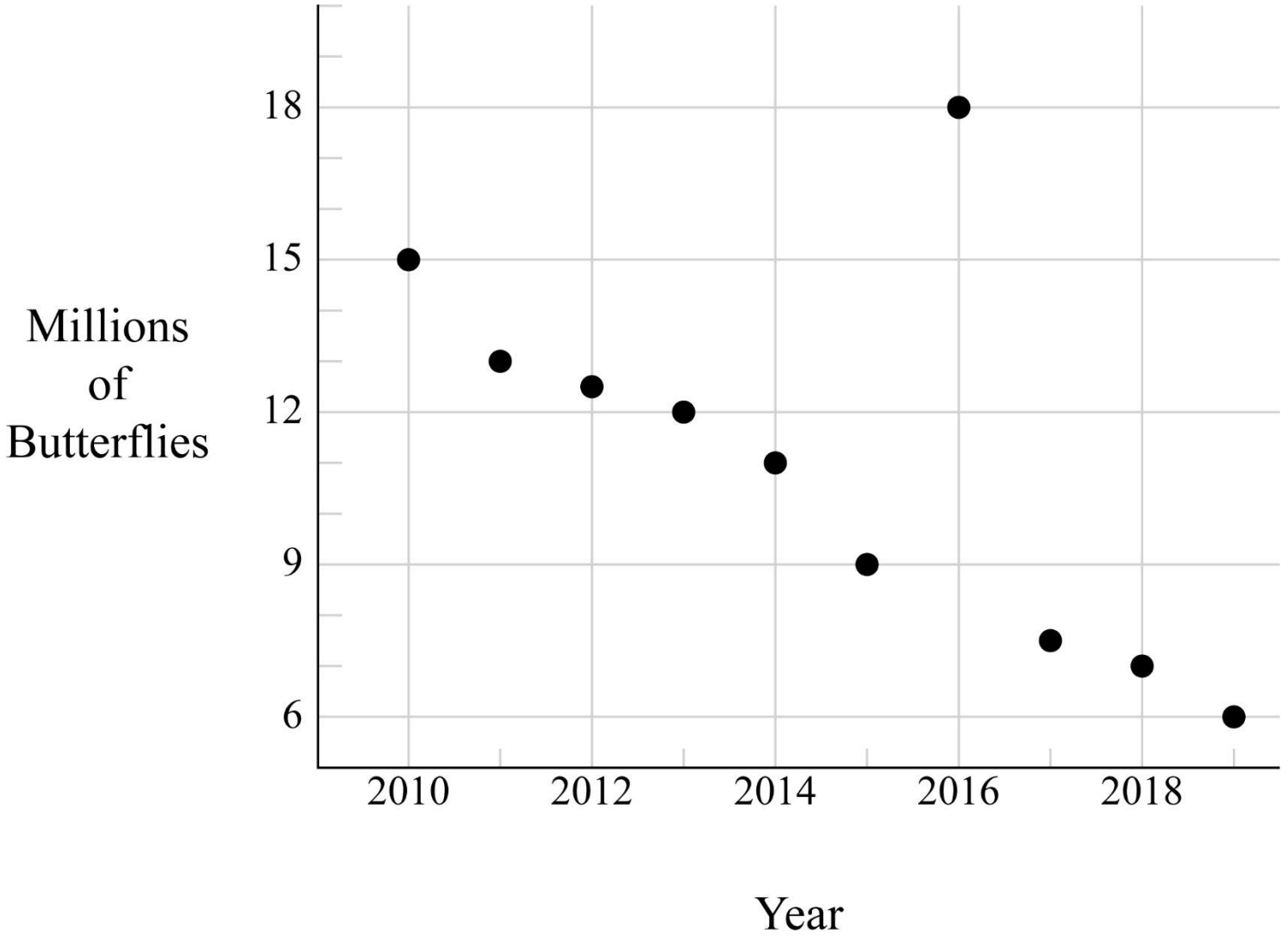
"Taylor is studying how one can use math to better understand nature. Since 2010, Monarch butterfly populations in Kentucky have been changing."

Present the student with Math 8 C Monarch Butterfly Population Scatter Plot.

4. "What type of relationship would **best** model the association between the passing years and the Monarch butterfly population in Kentucky?"

Response Option	***Response Rationale***
a. Non-linear	*The student observes the scatterplot but incorrectly identifies the trend within the scatterplot as non-linear.*
b. Random.	*The student observes the scatterplot but incorrectly identifies the outlier within the scatterplot as part of the trend and therefore chooses a random association.*
c. Linear **(Correct)**	*The student observes the scatterplot and recognizes the trend within the scatterplot as linear.*
Depth of Knowledge (DOK) 2	

Math 8 C Monarch Butterfly Population Scatter Plot



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Math 8 C Attainment Task Questions for Student Use

4. What type of relationship would **best** model the association between the passing years and the Monarch butterfly population in Kentucky?

Kentucky Academic Standard: KY.8.SP.1 - Construct and interpret scatter plots for bivariate numerical data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association and nonlinear association. **MP.2, MP.7**

Alternate Assessment Target: *Limit to positive x, y coordinates.*

Student Group	Number of Students*	Percent Correct
All students	528	46.78%
Gender		
Female	162	41.36%
Male	366	49.18%
Ethnicity		
African American	71	45.07%
American Indian or Alaska Native	<10	Not Reported
Asian	<10	Not Reported
Hispanic or Latino	<10	Not Reported
Native Hawaiian or Pacific Islander	<10	Not Reported
White (non-Hispanic)	384	47.66%
Two or More Races	66	43.94%
English Learner	32	62.50%
Economically Disadvantaged	404	47.28%

*Number of Students that attempted the item