MSTAR PRACTICE WORKSHEET

Lesson 2-2: Represent and Describe Data in a Histogram

Grade 6 Mathematics · Standard 6.DS.5

Name: _____ Date: _____

These are MSTAR-style questions written for this curriculum to rehearse the format. They are not official Maryland assessment items. MSTAR — Maryland's new state test, first given in spring 2027 — uses the same kinds of questions you see here: selected response, select-all, two-part evidence questions, and written responses.

Part A — Skills Check

Warm up with the lesson's core skills — one best answer each.

Question 1 SELECTED RESPONSE · 1 POINT

A histogram shows these frequencies: 0–4: 3 players, 5–9: 8 players, 10–14: 12 players, 15–19: 5 players. How many players are represented in total?

(A) 12

(B) 15

(C) 20

(D) 28

Question 2 SELECTED RESPONSE · 1 POINT

In a histogram, what does the height of each bar represent?

(A) The frequency (count) of data in that interval

(B) The average of the data in that interval

(C) The range of the interval

(D) The median of the data

Question 3 SELECTED RESPONSE · 1 POINT

How is a histogram different from a regular bar graph?

(A) Histogram bars touch (no gaps) because the intervals are continuous ranges

(B) There is no difference

(C) Histograms use colors and bar graphs don't

(D) Bar graphs show numbers and histograms show words

Question 4 SELECTED RESPONSE · 1 POINT

A histogram has intervals: 0–4, 5–9, 10–14, 15–19. What is the width of each interval?

(A) 4

(B) 5

(C) 10

(D) 19

Question 5 SELECTED RESPONSE · 1 POINT

A histogram bar for the interval 20–29 reaches a height of 7. What does the 7 tell you?

(A) The largest value is 7

(B) There are 7 intervals

(C) The interval is 7 wide

(D) 7 data values fall between 20 and 29

Question 6 SELECTED RESPONSE · 1 POINT

A histogram of test scores shows: 50–59: 2, 60–69: 5, 70–79: 10, 80–89: 8, 90–99: 3. Which interval has the most students?

(A) 60–69 with 5 students

(B) 70–79 with 10 students

(C) 80–89 with 8 students

(D) 90–99 with 3 students

Part B — Test-Format Questions

These match the state test's formats: two-part questions, select-all, and written responses.

Question 7 TWO-PART QUESTION

Part A

A histogram uses intervals 0–9, 10–19, 20–29, and 30–39. A data value of 19 belongs in which interval?

Fill in the bubble next to the one best answer.

(A) 10–19

(B) 0–9

(C) 20–29

(D) It belongs in two intervals.

Part B

Answer Part A before Part B — Part B asks about your reasoning.

Why are the bars of a histogram drawn with no gaps between them?

(A) Gaps would make the histogram too wide.

(B) The intervals are continuous, so the bars show one unbroken range of values.

(C) Histograms always use exactly four bars.

(D) The bars represent categories that must touch.

Question 8 SELECT ALL THAT APPLY

Select ALL statements that are true about histograms:

Mark the box next to EVERY answer that is true. More than one is correct.

[A] The intervals must be equal in width.

[B] The height of each bar is the frequency of values in that interval.

[C] Bars touch because the intervals are continuous.

[D] You can read every individual data value directly off a histogram.

[E] Intervals must not overlap.

Part C — Show Your Thinking

Answer in writing, the way the state test's constructed responses work.

Question 9 WRITTEN RESPONSE · 2 POINTS

A teacher collected test scores and made two different histograms — one with intervals of 5 (50–54, 55–59, etc.) and one with intervals of 20 (50–69, 70–89, 90–109). Both use the same data. How might the two histograms look different? Which interval size gives you more detail about the distribution? When might the larger interval be better?

Write your answer in complete sentences. Show or explain your mathematical thinking.

When you finish, check your reasoning with your teacher or family. Your teacher has the scoring guide for the written responses.