UNIT 8 · STANDARD 6.SP.2

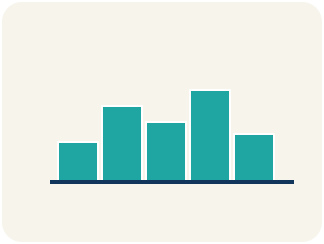
Shape of Data Distributions

Lesson 8-7

Name: Type your name **Date:** Today's date **Class:** Class period

Key Vocabulary Level 2 Standard

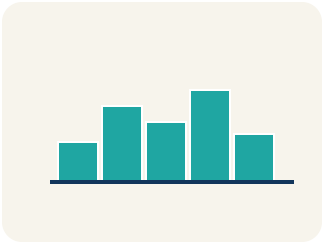
Picture first, then the word, then a plain-language meaning. Say each word out loud.



Heights: 60, 62, 64, 66, 68, 66, 64, 62, 60 — rises and falls evenly like a hill

Symmetric

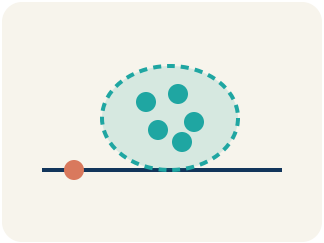
Write the definition:



Skewed right: most data low (1,2,2,3,3,3,15) — tail stretches toward the high value

Skewed

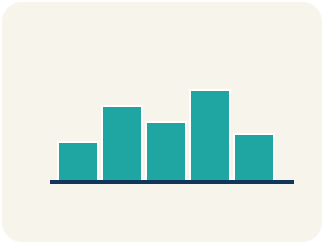
Write the definition:



Scores 18, 19, 20, 21, 22 form a cluster around 20 — they are tightly grouped

Cluster

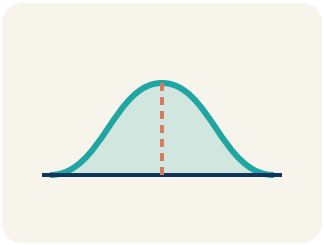
Write the definition:



Data: 5, 6, 7, 8, ___, ___, ___, 20 — the empty space from 9 to 19 is a gap

Gap

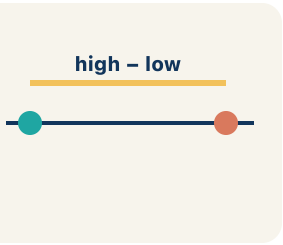
Write the definition:



Looking at a dot plot or histogram, you can see if data is symmetric, skewed, clustered, or has gaps

Data distribution

Write the definition:



Symmetric data with low variability: tightly packed around the center. Skewed data: spread unevenly

Variability

Write the definition:

Guided Notes Level 2 Standard

🎯 **WHAT WE'RE LEARNING TODAY**

I can describe the shape of a data distribution as symmetric, skewed, or having clusters and gaps.

✏️ **Fill in each blank as we go. Use the Word Bank to help you.**

📚 **WORD BANK — FILL EACH BLANK WITH THE BEST WORD**

Symmetric | Skewed | Cluster | Gap | Data distribution | Variability

☝️ *Tap any word to see what it means and a picture.*

1. A distribution where both sides look like mirror images is _____.

2. A distribution with a tail stretching out to one side is _____.

3. A group of data values bunched close together is a _____.

4. An interval where there are no data values is a _____.

5. The way data values are spread out across a range is the _____.

6. How much the values in a data set differ from one another is the _____.

🧱 Watch & Try — Worked Examples

See the notes in action: watch one worked all the way through, then try the next with the same steps.

👀 I do — watch

Follow each step as your teacher solves it.

Problem: A histogram of basketball players' ages shows: most players are 22–28, with a long tail of older players up to age 40. What is the shape of this distribution?

A. Skewed right

B. Symmetric

C. Skewed left

D. Uniform

Step 1 Most data is on the left (younger ages) with a tail stretching right (older ages).

Step 2 This is skewed right.

✅ **Answer:** A. Skewed right

🧩 Try — put the steps in order

Drag the cards (or use the ▲▼ buttons) to put the solution steps in the right order, then press **Check**.

This is skewed right.

Most data is on the left (younger ages) with a tail stretching right (older ages).

🤝 We do — together

Solve this one with your class using the same steps.

Problem: A data set is symmetric. What is likely true about the mean and median?

A. They are approximately equal

B. The mean is much higher than the median

C. The median is much higher than the mean

D. They are always exactly the same

Step 1 _____

Step 2 _____

Answer: _____

✏️ **You do — your turn**

Now try one on your own. Show every step.

Problem: Match each description with the correct distribution shape.

Show your work:

Try It

Solve on your own. Check the answer key when you are done.

1. Display 2: A dot plot of starting players' heights has one clear peak in the middle, with roughly even sides falling away from that peak. What shape best describes this distribution?

A. Symmetric with one cluster around the peak

B. Skewed right

C. Skewed left

D. Has a large gap

Show your work:

2. Display 5: A free-throw percentage histogram has most players clustered between 70% and 85%, a clear empty interval from 50% to 65%, and a few players down at 40%-50%. Which features are present, and what is the overall shape?

A. A cluster (70-85%), a gap (50-65%), and a left tail — so skewed left

B. A symmetric display with no gaps

C. A right tail of high values — so skewed right

D. Two equal peaks with no cluster or gap

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A teacher shows two dot plots of quiz scores from two different classes. Class A's data is symmetric with a cluster around 80. Class B's data is skewed right with most scores between 60–70 and a few scores near 100. Compare the classes: which has a higher median? Which has a higher mean? In which class does the mean better represent a typical score?

Sentence starter: Class A is ____ with scores clustered around ____. Class B is skewed ____ with most scores at ____. Class A likely has a ____ median. Class B's mean is pulled ____ by the high scores. The mean better represents a typical score in Class ____ because ____.

Show your work:

Reflect — Exit Ticket

A data set has most values clustered between 40–60, with a few values at 90–100. What is the shape of the distribution and which measure of center is best?

A. Skewed right; use median

B. Symmetric; use mean

C. Skewed left; use median

D. Uniform; use mean

Your answer: