Maya Finds Decimals in Every Beat

Grade 5 | Math | Nonfiction | Music Theme | ~177 words | CCSS.MATH.5.NBT.A.1

Name: _____ Date: _____

📖 **READ — READ THIS PASSAGE CAREFULLY. YOU MAY READ IT TWICE.**

Maya discovered that decimals are hiding inside every piece of music she plays. At her school's music lab, Maya noticed that digital audio software displays sound levels as decimal numbers. The screen showed values like 0.5 and 0.05. Maya realized that 0.5 is five tenths, while 0.05 is five hundredths. Even though both numbers use the digit five, their values are very different. Each position to the right of the decimal point represents a value ten times smaller than the position before it. This idea is called place value, and it controls how loud or soft each instrument sounds. Maya moved to the recording station and studied the tempo display. A song set at 1.2 beats per second is faster than one set at 0.12 beats per second. The digit one holds a different value depending on its place. Finally, Maya adjusted the pitch settings and saw that 2.5 and 0.25 are not equal, even though they share the same digits. Maya left the music lab understanding that place value gives every decimal digit its true meaning.

💡 *Tip: Read the passage twice before turning to the questions on the next page.*

Maya Finds Decimals in Every Beat

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✏️ **ANSWER** *USE THE PASSAGE ON PAGE 1 TO HELP FIND YOUR ANSWERS.*

MAIN IDEA

1. **What is this passage mostly about?**

TEXT EVIDENCE

2. **What evidence in the passage shows that Maya understood the difference between 0.5 and 0.05?**

VOCABULARY

3. **What does the word place value mean as it is used in this passage?**

INFERENCE

4. **Why would it matter to a music producer if they confused 1.2 beats per second with 0.12 beats per second?**

CAUSE AND EFFECT

5. **According to the passage, what causes each position to the right of the decimal point to have a smaller value?**

TEXT EVIDENCE

6. **How does the passage show that sharing the same digits does not make two decimals equal?**

✓ ANSWER KEY — Maya Finds Decimals in Every Beat

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TEACHER / PARENT USE ONLY — Suggested answers shown below each question

Maya discovered that decimals are hiding inside every piece of music she plays. At her school's music lab, Maya noticed that digital audio software displays sound levels as decimal numbers. The screen showed values like 0.5 and 0.05. Maya realized that 0.5 is five tenths, while 0.05 is five hundredths. Even though both numbers use the digit five, their values are very different. Each position to the right of the decimal point represents a value ten times smaller than the position before it. This idea is called place value, and it controls how loud or soft each instrument sounds. Maya moved to the recording station and studied the tempo display. A song set at 1.2 beats per second is faster than one set at 0.12 beats per second. The digit one holds a different value depending on its place. Finally, Maya adjusted the pitch settings and saw that 2.5 and 0.25 are not equal, even though they share the same digits. Maya left the music lab understanding that place value gives every decimal digit its true meaning.

MAIN IDEA

1. What is this passage mostly about?

> This passage is mostly about how Maya uses music software to discover that the position of a digit in a decimal number determines its value.

TEXT EVIDENCE

2. What evidence in the passage shows that Maya understood the difference between 0.5 and 0.05?

> The passage states, "Maya realized that 0.5 is five tenths, while 0.05 is five hundredths," which shows she understood the two values are not the same.

VOCABULARY

3. What does the word place value mean as it is used in this passage?

> In this passage, place value means the idea that a digit's worth depends on where it sits in a number, so the same digit can represent very different amounts depending on its position.

INFERENCE

4. Why would it matter to a music producer if they confused 1.2 beats per second with 0.12 beats per second?

> Because 1.2 is ten times greater than 0.12, a producer who confused the two would set a song at the wrong speed, making it sound much too fast or too slow for the listener.

CAUSE AND EFFECT

5. According to the passage, what causes each position to the right of the decimal point to have a smaller value?

> Each position to the right of the decimal point has a smaller value because each place represents a value ten times smaller than the position directly before it.

TEXT EVIDENCE

6. How does the passage show that sharing the same digits does not make two decimals equal?

> The passage states, "Maya adjusted the pitch settings and saw that 2.5 and 0.25 are not equal, even though they share the same digits," proving that digit placement changes a number's value.