Sample-Rate Counting Lab

Count sample values without confusing them with musical beats.

Name _____ Date _____

Sample rate is samples per second PER CHANNEL. 1 kHz = 1,000 Hz. Total sample values = sample rate x seconds x channels. Count sample values, not bytes. A calculator is allowed.

File	Sample rate	Duration	Channels
A	48,000 Hz	2 seconds	1
B	48,000 Hz	2 seconds	2
C	44,100 Hz	1 second	1

Use the model above. Write a brief answer for each item.

1. Write 48 kHz in Hz.

2. How many sample values are in A?

3. How many sample values are in B, across both channels?

4. How many sample values are in C?

5. How many sample values are in one channel of B?

6. How many are in 0.5 second of mono audio at 48 kHz?

7. Does 48 kHz mean 48,000 musical beats per second?

8. A and B have equal duration and rate. Why does B contain twice as many values?

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Use the model above. Write a brief answer for each item.

1. Write 48 kHz in Hz.

48,000 Hz

2. How many sample values are in A?

96,000

3. How many sample values are in B, across both channels?

192,000

4. How many sample values are in C?

44,100

5. How many sample values are in one channel of B?

96,000

6. How many are in 0.5 second of mono audio at 48 kHz?

24,000

7. Does 48 kHz mean 48,000 musical beats per second?

No. It counts audio samples per second per channel.

8. A and B have equal duration and rate. Why does B contain twice as many values?

It has two channels instead of one.