

Eighty-Eight Keys

Although the first piano was invented over 300 years ago, there have been very few major changes to the instrument since then. One of the most important changes, however, was the number of keys. Today, all standard pianos have 88 keys. However, this was not always the case.

The first piano was invented in the early 1700's by a man named Bartolomeo di Francesco Cristofori, a harpsichord maker from Italy. The harpsichord is a musical instrument that had been popular in Europe since the 1400's. Pianos and harpsichords are both keyboard instruments, and they work in similar ways. When you press a key on a harpsichord, a small piece of wood plucks a string. The vibration of the plucked string makes a sound. When you press a key on a piano, a small hammer strikes a string, causing it to vibrate, which then makes a sound.

The difference between plucking the string and striking the string creates the main distinction between the harpsichord and the piano—volume. Harpsichords play notes at only one volume. No matter how hard you hit the keys of the harpsichord, the sound it makes will be the same. The piano, on the other hand, can play notes in different volumes. If you press down very hard on a piano key, the sound will be loud. If you press it with a gentler touch, you will create a much softer sound. Musicians and composers loved the piano's ability to produce sounds at different volumes. They were now able to express a much wider variety of emotions and tones through their music.

Pianos quickly became far more popular than harpsichords and composers began writing more and more music designed specifically for the piano. As the music they wrote started to become more complicated, they began to want more from their pianos. The original piano had 60 keys, just like a harpsichord. With these 60 keys, pianos could play five octaves. An octave is the range of eight pitches in a scale. Soon, composers asked piano makers to add more keys so that the piano could play more octaves. Piano-makers found a way to add two more octaves to the piano, giving the instrument 84 keys. In the 1880's, the famous piano manufacturer Steinway added four more keys. This created the 88-key piano we are familiar with today. Composers and musicians were thrilled with the range of sounds that the Steinway pianos could make. Other piano makers soon began to copy the Steinway company's design. Soon, all pianos had the same number of keys: 88.

Why did piano-makers stop at 88 keys? Notes higher or lower than the ones an 88-key piano can play are actually very difficult for human beings to hear. For this reason, not many composers are interested in having pianos that can play these extra notes. Of course, there are some composers who want to be a bit more experimental and creative with their music. There are a few options for these individuals. One Australian piano manufacturer named Stuart and Sons has created a piano with 102 keys. As you might imagine, this piano is much larger and much heavier than a standard piano. It is also far more expensive. Upright pianos that many people have in their homes cost around \$3,000. More expensive grand pianos used by professionals have an average cost of \$50,000. By contrast, the Stuart and Sons' 102-key piano can cost up to \$300,000. So far, only five of these 102-key pianos have been made.

Although it is certainly possible that pianos in the future will have even more than 102 keys, most pianos will probably continue to be made with the traditional 88 keys. After all, piano makers only earn money if people will actually buy their pianos.

1) What do harpsichords and pianos have in common?

A. they were both invented by Bartolomeo di Francesco Cristofori

- B. they both originally had 88 keys
- C. they both make sounds using strings
- D. they are both able to make sounds at different volumes

2) As used in paragraph 3, what is the best antonym for **distinction**?

- A. similarity
- B. enjoyment
- C. contrast
- D. confusion

3) If added to the passage, which of the following pieces of information would fit best in paragraph 3?

A. Although piano keys were once made out of ivory, this practice was banned in the 1980's to protect elephants. Today, most piano keys are made out of plastic or resin. Some musicians claim that ivory keys provide a better playing surface and prefer performing on pianos made before the ivory ban was put into place.

B. The word "piano" comes from the way Cristofori described his new instrument. He referred to it as a "gravicembalo col piano e forte," which is Italian for "soft and loud keyboard instrument." Eventually, this name was shortened—first to "pianoforte," and finally to just "piano."

C. Aside from increasing the number of keys, there have been a few other changes to the piano since Cristofori's time. The strings of a piano are now made of steel instead of brass or iron. Pianos are also much larger and heavier than they once were.

D. One of Cristofori's original pianos from 1720 is located in the Metropolitan Museum of Art in New York City. Over the years, several people made changes to the instrument. The entire interior surface of the instrument (called a sound board) was completely replaced in 1938. Although this piano can be played, so many changes have been made to it that it sounds completely different than the way it did when Cristofori built it.

4) According to the passage, in the 1880's the Steinway company changed the piano by

- A. increasing the number of keys
- B. decreasing the number of keys
- C. allowing the notes to be played at different volumes
- D. making sure the notes were only played at one volume

5) In the passage, the author mentions a piano made by a company named Stuart and Sons. According to the information in the passage, which of the following is NOT true about this piano?

- A. it has more keys than a standard piano
- B. it costs much more than a regular piano
- C. there are very few of them
- D. it is easier to transport than a regular piano

6) Based on information in the final paragraph, we can infer that the author thinks that

A. it is time for people to stop relying on “traditional” musical instruments and start being more creative

B. today’s piano makers are too greedy

C. 88-key pianos are outdated and old-fashioned

D. people will probably not buy pianos with more than 88 keys

7) In your own words, explain the differences and similarities between pianos and harpsichords.
