

How Is Paper Money Made?

By Sharon Fabian

Twenty-four hours per day, high speed presses are running in Washington, DC, and Fort Worth, Texas. They're not printing newspapers with the latest news. They're not printing the latest novel, either. What they are printing is money -- pages and pages of paper money.

In 2007, for example, the Bureau of Engraving and Printing produced about thirty-eight million bills every day in a variety of denominations. Their total value was about seven hundred fifty million dollars.

Most of the money printed by the Bureau of Engraving and Printing goes to replace old, worn-out dollar bills. The average life span of a bill is only a few years - from about two years for a one dollar bill to about seven years for a one hundred dollar bill.

In the United States, dollar bills are made using a printing method known as intaglio. Intaglio printing produces dollar bills with images that have a slightly raised feel.

The process begins with a master engraver. The master engraver uses an engraving tool called a burin, a whetstone, and a magnifying lens to carve finely detailed images onto a soft steel plate. He engraves the portrait that will be on the front of the bill, the monument for the back, fine lines for the backgrounds, and fancy borders.

The same portraits are now used all the time on bills of each denomination. There is George Washington on the one, Lincoln on the five, Hamilton on the ten, Jackson on the twenty, Grant on the fifty, and Franklin on the one hundred dollar bill. The designs on the backs of the bills include famous monuments such as Independence Hall, the US Capitol, and the Lincoln Memorial.

In addition to these well-known images, many other images have been used on US dollars at one time or another. They include a portrait of a famous Native American chief, a cornucopia, a bison, an olive branch, the Goddess Liberty, a laurel wreath, and George Washington crossing the Delaware River. Images on the bills also include the four Colonial America agricultural products: corn, cotton, wheat, and tobacco.

Once the master engraver has engraved the initial steel plate, it is used to make additional printing plates. These plates will be used over and over again in the printing presses.

To begin the actual printing, a special ink is applied to the plates. Then the plates are wiped clean, leaving ink only in the engraved lines. In the presses, tons of pressure is applied to the plates as they print the paper. The paper itself is made of cotton and linen with red and blue fibers woven in. When the printing plates are lifted, the designs from the plates can be seen embossed on the paper.

After the main emblems are embossed on the paper, a different printing process applies additional designs including the Treasury seal, the Federal Reserve seal, and the serial number.

Next, the sheets of dollar bills are checked for mistakes. Then they are cut into rectangles that measure two and sixty-one hundredths inches by six and fourteen hundredths inches, or individual bills. The bills are stacked and packaged for shipment to one of the Federal Reserve districts. From there, they will be sent to various banks. If you go to the bank to cash a check, some of the new bills may find their way into your pocket. Where they go after that is up to you.



Name _____



Date _____

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Questions

_____ 1. The high speed presses in Washington, DC, and Fort Worth, Texas, that are described in this article print _____.

- A. newspapers
- B. magazines
- C. money
- D. all of the above

_____ 2. Most of the money printed each year goes to _____.

- A. buy more cars
- B. pay off the government debt
- C. replace worn-out bills
- D. buy more consumer goods

_____ 3. What does intaglio printing produce?

- A. multicolored print
- B. raised print
- C. cursive print
- D. red and blue print

_____ 4. What does a master engraver in the Bureau of Engraving and Printing carve?

- A. metal plates
- B. dollar bills
- C. printing presses
- D. coins

_____ 5. Washington and Jackson are the only two presidents to appear on US paper money.

- A. true
- B. false

_____ 6. Every few years, the faces of the presidents on the dollar bills are changed.

- A. false
- B. true

7. What is intaglio printing?

8. Which of the details of making paper money that were mentioned in this article do you think might help to prevent the bills from being copied by counterfeiters?
