## Best Pens for College Students

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## Introduction

Everyone has to write with pens at some point in a day. College students take notes multiple times a day; we can go through pens quick. We came up with multiple tests to verify which pen is most efficient. We looked at costs, longevity, bleeding, and staining of the pens. We had to determine the following:

1. Which pen was cheapest with most volume per package?
2. Which pen bled the least through the pages?
3. Which pen stained our fingers?
4. Which pen last the longest during note taking?

To determine which pen scored the highest and lowest in our tests, we used the star-rating system. The star-rating system consists of four stars being the highest and best score. One star is the lowest and poorest score. After we conduct our tests, we will add up the star scores. The pen with the highest score is the winner. We selected four of the most common brands that we can find at Wal-Mart because most college students shop at Wal-Mart. We selected the following pens as our test subjects:

- Bic Cristal
- G2 Pilot
- PaperMate
- Uni-Ball



## Overview of the Options and Criteria

## Test One

In Test One, we compare the cost and volume in each pen package. We looked at the receipt of purchased items and write down the cost. Next, we will count how many pens were in the package; some have more than the others. Then, we will divide the cost by number of pens. The lowest cost got the highest stars. As college students, we want to get more pens for less money. This criterion will best determine which product is cheaper and has more volume. The pen that is the cheapest will get four stars, and the most expensive pen will get one star.

## Test Two

In Test Two, we tested each individual pen's longevity of their ink. We will scribble with the pens on paper and then compare ink levels. We want to see which pen has more ink and which pen will last the longest. As college students, we want a set amount of pens with a lot of ink that can last a while without having to buy more pens. The pen that last the longest will get four stars, and the pen that runs out first will get one star.

## Test Three

In Test Three, we tested the pens ink on one researcher hand to see if the ink stained the hand. College students really do not want stained hands from each time they write notes. We will do this with inking one of our tester's hands and then have her wash her hands. The pen that leaves a stain on the tester's hands will get one star and the pen that does not leave any evidence will get four stars.

## Test Four

In Test Four, we will test the pens to see which pen bleeds through the page making the notes hard to read. College students want to be able to write on both sides of notebook paper to save space in their notebook without any difficulty reading. We came up with an example sentence and wrote each sentence four times with each different pen. The pen that does not bleed will get four stars and the pen that bleeds will get one star.

## Test Five

In Test Five, we will test the pens to see which pen has the smallest size when written. We will measure each pen mark by a ruler. College students want to be able to save space when writing. The bigger the pen mark, the more space it takes up. The pen with the smallest size will get four stars and the pen with the biggest mark will get one star.

## Products

## Bic Cristal

Bic Cristal is one of the cheaper and more common brands of ballpoint pens that you can find at most stores. They come in a package of ten. They come in three different color such as red, blue, and black. We selected this brand because most college students purchased

## Pilot G2

Pilot G2 comes in a package of four gel pens. They are bigger in size. They come in a variety of colors such as blue, black, and red. They have a special feature where the ink can be refillable. This product has grips on the pens for comfort. College students can buy this brand at most stores.

## PaperMate

PaperMate comes in a package of ten. This particular brand is a ballpoint pen. They come in a variety of colors such as blue, black, and red that college students can buy at most stores. We selected this brand because college students buy this brand.

## Uni-Ball

The Uni-Ball pens come in a package of four gel pens. They have a special feature where the ink helps prevent check fraud. This pen has grips that provide comfort for the writer. They come in a variety of different colors such as blue, black, and red.


## Test 1 Cost/Volume and Results

To determine the cost and volume of each brand:

1. Look at the receipt of the purchased pens.
2. Look at how many pens are in package.
3. Divide each pen's cost by its total number in a package.

You should get the number that is each individual's pen cost per brand as listed in the table in Figure 1.1.

Results

| Product | Receipt Cost | Number of Pens per Package | Total Cost per Pen | Total Amount of Stars |
| :---: | :---: | :---: | :---: | :---: |
| Bic Cristal | \$1.14 | 10 | \$. 114 | is is is |
| Pilot G2 | \$4.97 | 4 | \$1.24 | Es Es |
| PaperMate | \$. 94 | 10 | \$. 094 |  |
| Uni-Ball | \$5.97 | 4 | \$1.49 | 23 |

Figure 1.1

## Test 2 Longevity and Results

To determine which pen would last the longest, we continually scribbled on a page with each pen to see which would run out first. PaperMate and Bic ran out early on, as you can see in Figure 2.1. The Uni-ball and Pilot G2 were both in the running for a long time, so we decided to stop scribbling and look at the amount of ink left in each pen. Whichever pen had the most ink left would win.


Figure 2.1

## Results

After eliminating PaperMate and Bic, we found that out of the remaining two pens, Pilot G2 had the most ink left, making it the winner of the longevity test.

## Test 3- Staining and Results

To determine which pen stains a person's hands, we did the following:

1. Mark the palm with each pen as shown in Figure 3.1
2. Washed the hands with soap
3. Dry the hands with a paper towel


Figure 3.1

## Results

We can see evidence of the Bic and Pilot G2 on the hands after the hand washing as shown in Figure 3.2.


Figure 3.2

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## Test 4 Bleeding and Results

To determine whether a pen bleeds through a notebook paper page, we wrote a long sentence with each different pen as shown in Figure 4.1. We flipped the paper over to see if we could see any bleeding from the pens.


Figure 4.1

## Results

We did not see any bleeding from the pens so all pens got four stars as shown in Figure 4.2.


Figure 4.2

## Test Five-Ballpoint size

To determine ballpoint size, we wrote a straight line with each pen. Then, we took a millimeter ruler to measure each pen line. The pen packages also have sizes written on the packages. Although it says on the packages that the Pilot G2 and Uni-Ball have 0.7 mm in ballpoint size, and the Bic Cristal and PaperMate have 1.0 mm and 1.2 mm . Therefore, we wanted to double check to see which brand had the smallest pen mark.


## Results

We awarded four stars to Uni-Ball and the Pilot G2 for having the smallest pen mark. We awarded Bic Cristal two stars while we awarded PaperMate one star for being the biggest ballpoint size in our test.

## Conclusions

We based our winner on the most stars awarded in our conducted tests. In each test, we awarded the winners four stars, and the losers got one star. We awarded the other brands scores that we felt best for their performance. We added up all of the stars in each category. The winner is UniBall.

| Results based on Star Rating System |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brand | Cost | Longevity | Staining | Bleeding | Ballpoint <br> size | Total <br> Stars |  |
| Bic | 3 | 2 | 1 | 4 | 2 | 12 |  |
| Pilot G2 | 2 | 4 | 1 | 4 | 4 | 15 |  |
| PaperMate | 4 | 1 | 4 | 4 | 1 | 14 |  |
| Uni-ball | 1 | 3 | 4 | 4 | 4 | 16 |  |

## Recommendation

We highly recommend Uni-Ball for all college students to use for notes. Although, Uni-Ball is the most expensive brand than the other brands, it ranked highly in our other tests. Uni-Ball ranked highest in three other categories: staining, bleeding, and ballpoint size. Uni-Ball in our opinion is worth the cost for a long-lasting pen that writes efficiently for a college student.



[^0]:    Feasibility Study

