



Mathematics and Optics at Elvira Elementary: 4th grade

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The Baker: Multiplication and Division

This lesson allowed the students to perform number operations in a practical context. In an effort to implement the Common Core Math Standards, the student had to explain in words how to find the answers. Some made drawings that grouped elements to help them divide and multiply.

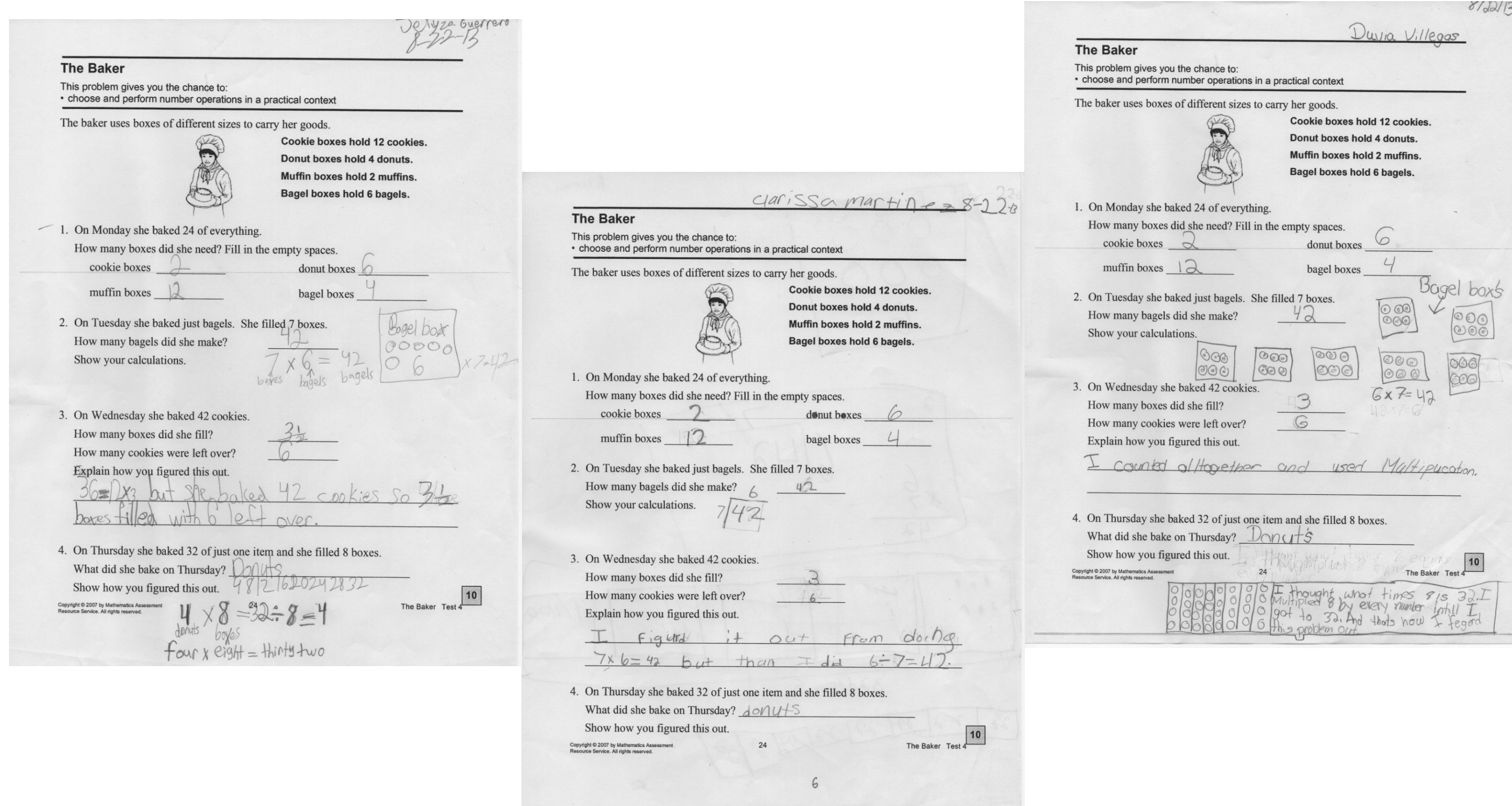


Figure 1. Examples of students work.

Holiday: Math games

The last day of the semester is normally an “off day”, where students are excited about the break and games are very popular. On December 19 we played a math game. The students worked in teams, each having a very specific role. The students came up with their group name and worked together to solve a variety of math problems that I would randomly select out of a bag. The objective of the game was to review all the topics learned so far.



Figure 3. Top left: math game rules. Top right: equivalent fraction day. Bottom: depictions of what the fellow would look like before they met her.

Optics experiments: Rainbow and Fresnel lens

To connect the fellow’s research in optics to the classroom, we performed a few optics experiments in the classroom.

- 1) Rainbow. We created a rainbow outside by shining sunlight onto a screen, made of a particular material, similar to raindrops.
- 2) Fresnel lens: Flat plastic square made out of concentric rings, which behaves like a lens.

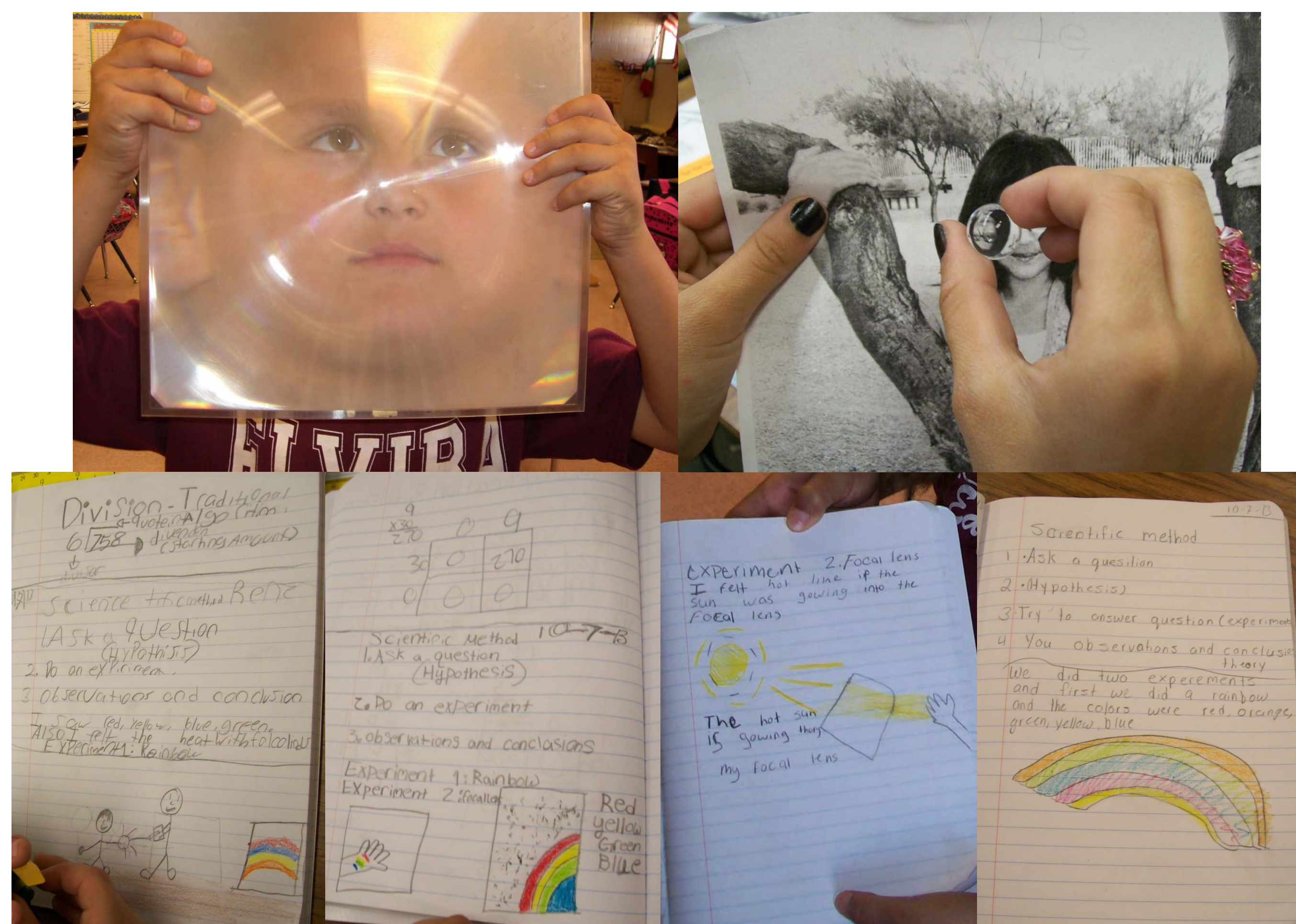


Figure 2. Students and their observations after the experiments.

Museum rate plan: math reasoning

The objective of this problem was to promote problem solving by making sense of the problem, this is the 1st standard of mathematical practices from the Common Core.

In this exercise, the students were able to develop their mathematical reasoning by determining the best rate plan when visiting the museum given 3 different rate options. They found the least expensive option.

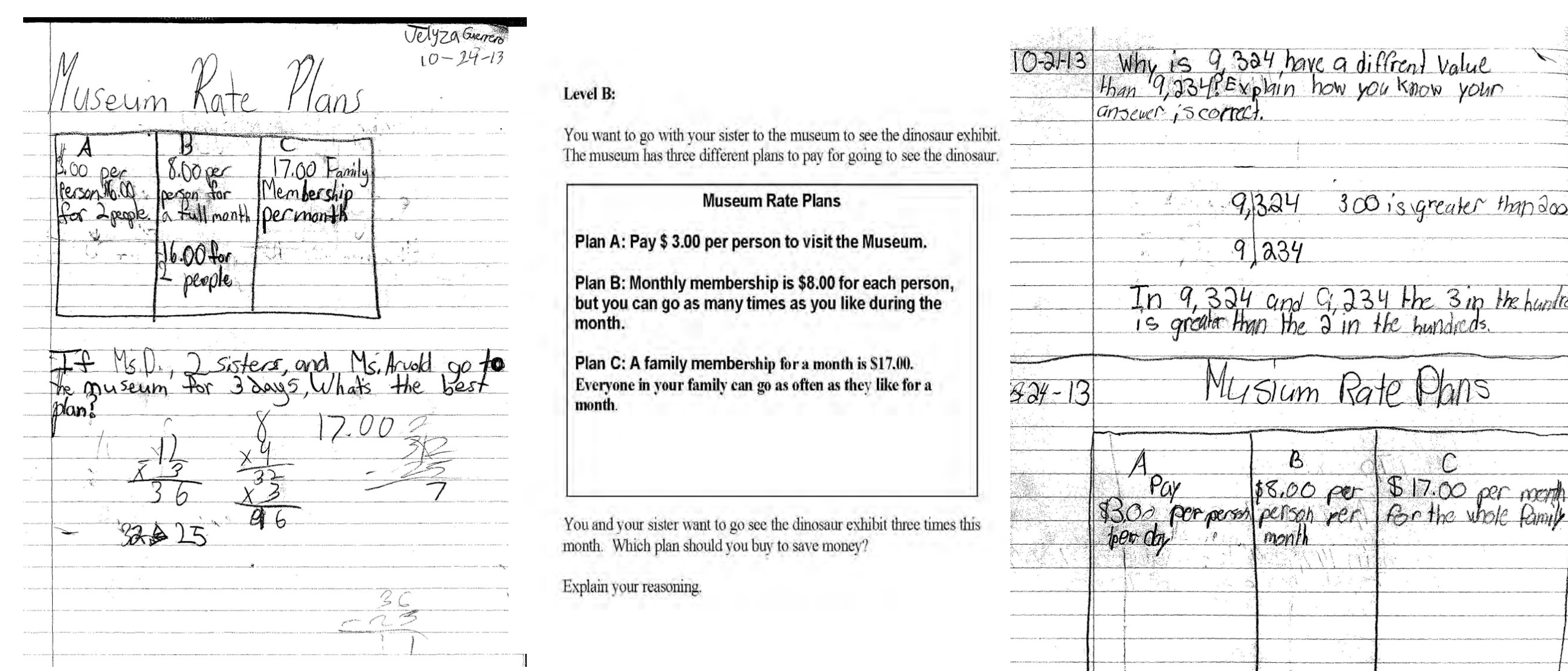


Figure 4. Examples of students work.

Acknowledgments

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References

<http://www.insidemathematics.org/>

