

# Summer Project - **Special Number Report** — Rising 5<sup>th</sup> Graders

Mrs. Clement -- Mathematics

- This report will count as the 1<sup>st</sup> test grade of the 1<sup>st</sup> marking period.
- Since this is a **report**, the information must be written in complete sentences and paragraphs. Feel free to add visual illustrations as needed to add detail and depth to your work. Do NOT provide the information as lists or bullets. Follow all directions as outlined below.
- The report must be either hand-written or typed as you prefer. If it is typed, it will be the students' responsibility to print the pages and turn them in to the teacher on time.
- The overall grade will be lowered a full letter grade for every day it is late. If it is not turned in by the 1<sup>st</sup> week of school, the grade will automatically become an "F".
- Creativity, neatness, completeness, precision and accurate following of directions count toward the final report grade. Parent Signature is required. Attach these directions to the end of your report as an appendix.
- Refer to online sources or a dictionary as needed to research and to recall any relevant information.
- Let's Begin...**Choose a number from 11 to 100.** This will become your **special number.**

## Requirements for the Special Number Report:

1. Include a **cover page** (10 points):
  - a. Include a title.
  - b. Illustrate your special number on the cover.
  - c. Include your name (author).
  - d. Add the date, subject, and homeroom class number.



2. **Opening Page** must include (10 points):

- a. A statement of which number you have chosen as your special number.
- b. Explain why you chose this number.
- c. Explain at least 4 ways how this number is connected to your everyday life.

3. **Composite** and **Prime numbers** paragraph (10 points):

- a. Define these two math terms.
- b. Write about the difference between a **composite number** and a **prime number**.
- c. Write about whether your number is **prime** or **composite** and explain how you can be sure about this.

4. **Even** and **Odd numbers** paragraph (10 points):

- a. Define these two math words.
- b. After explaining what **even** and **odd** numbers are, explain how you can tell the difference between these types of numbers.
- c. Explain whether your special number is **even** or **odd** and prove how you know for certain.

5. **Factors** and **Multiples** paragraph (20 points):

- a. Define the terms **factors** and **multiples**.
- b. Explain the difference between **factors** and **multiples** as you understand it.
- c. Include a sentence naming **all** the **factors** of your number. (For example; All the factors of the number 10 are 1x10 and 2x5)
- d. Also list the **first 10 multiples** of your number. (For example; The 1<sup>st</sup> ten multiples of 10 are 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100)
- e. Explain if your number has many **factors**, why or why not?
- f. Does your number have many **multiples**, why or why not?

6. **LCM & GCF** paragraph (10 points):





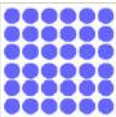
- First explain what **LCM (least common multiple)** is and define it.
- Next explain what **GCF (greatest common factor)** is and define it.
- Compare your number to the number ten and name the **LCM** that your special number and the number 10 share in common.
- Compare your number to the number ten and find/name the **GCF** that your special number and the number ten share in common.

7. **Square number & cubed number** paragraph (10 points):

- Discuss and define what a **square number** is and what a **cubed number** is.
- Write about what your special number equals when it is **squared**. (Basically this means you will write about and show us what your number equals when it's multiplied times itself).
- Write about what your special number equals when it is **cubed**. In other words, what is your number to the 3<sup>rd</sup> power? (Basically this means you will write about and show us what your number equals when it's multiplied times itself like this **number x number x number**. Here's another example, 10 cubed can be written as 10<sup>3</sup> and I would solve it like this 10 x 10 x 10 = 1,000 therefore 10 cubed equals one-thousand. 10 to the third power equals 1,000).


**square numbers**


A square number can end only with digits 0, 1, 4, 6, 9, or 25.


4		2 <sup>2</sup> or 2 x 2 = 4
9		3 <sup>2</sup> or 3 x 3 = 9
16		4 <sup>2</sup> or 4 x 4 = 16
25		5 <sup>2</sup> or 5 x 5 = 25
36		6 <sup>2</sup> or 6 x 6 = 36


What is your number times itself?

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 1<sup>3</sup> = 1 x 1 x 1 = 1

2<sup>3</sup> = 2 x 2 x 2 = 8 

 3<sup>3</sup> = 3 x 3 x 3 = 27

4<sup>3</sup> = 4 x 4 x 4 = 64 

**Cube numbers**

1, 8, 27, 64, 125, 216, 343, 512, 729, 1000, ... ..

1<sup>3</sup> = 1 x 1 x 1 = 1

2<sup>3</sup> = 2 x 2 x 2 = 8

3<sup>3</sup> = 3 x 3 x 3 = 27

4<sup>3</sup> = 4 x 4 x 4 = 64

5<sup>3</sup> = 5 x 5 x 5 = 125

6<sup>3</sup> = 6 x 6 x 6 = 216

7<sup>3</sup> = 7 x 7 x 7 = 343

8<sup>3</sup> = 8 x 8 x 8 = 512

9<sup>3</sup> = 9 x 9 x 9 = 729

10<sup>3</sup> = 10 x 10 x 10 = 1000



8. **More about your special number** paragraph (20 points):

- Show what your special number looks like when written in **roman numerals**.
- Write your number in **3 different** foreign languages. (You may need to research this.)
- Show what your number would look like when written in **tally marks**.
- Show your number **expressed in units and longs** (like they do in the lower grades for place value)
- Find **three** things that cost the same price as the value of your special number. (For example, if my number were 1,000 then it's value would be \$1,000. I would be able to buy a round trip coach flight to England for the price of \$1,000 or I could purchase an Apple Mac Book Air 11.6' notebook for the same price. Did you know that for \$1,000 you could even get a new fiberglass front door including installation?)



- Can you find another interesting thing about your number that I forgot to include...is it the title of a book or movie or famous store, etc.? Get creative and share this information.
- Summarize your ideas about what you have discovered that makes this number extra special. Don't forget a closing sentence and a possible message.
- Add a poem about your special number (i.e. acrostic, free verse, rhyming, or haiku etc.)

9. **Bonus Section +10 points:** (*I would seriously consider including this because Mrs. Clement rarely gives extra credit work. You should **always** be doing your best work to earn your grade!*)

- Include a paragraph about what you look forward to in your math class this year?
- What are your expectations?
- What are your goals for 6<sup>th</sup> grade math?
- What do you plan to pursue in the future and how might math help you achieve this?

Once school begins I can be contacted at [nguerrero@nps.k12.nj.us](mailto:nguerrero@nps.k12.nj.us)