

## STUDENT MATERIALS

### FIELD DAY FRENZY QUESTIONS

Your school is holding a field day to celebrate the end of the school year. As Class President, part of your responsibility is to help with the planning.

#### Task 1: Chaperone Conundrum

Your middle school has a total of 576 students in the school. Parent chaperones will be needed to take groups of students. The principal has decided that the perfect size group would be 18 students in each group. Using the long division algorithm, figure out how many chaperones the school needs for groups of 18 students. You must show all your work in the algorithm and be sure to include the answer.

$$\begin{array}{r}
 \cancel{4} \cancel{1} \cancel{8} \\
 \cancel{5} \\
 \cancel{6} \cancel{0}
 \end{array}
 \quad
 \begin{array}{r}
 \cancel{1} \cancel{8} \\
 \cancel{6} \\
 \cancel{8}
 \end{array}
 \quad
 \begin{array}{r}
 2 \\
 18 \\
 \underline{36} \\
 54
 \end{array}
 \quad
 \begin{array}{r}
 3 \\
 18 \\
 \underline{54} \\
 72
 \end{array}
 \quad
 \begin{array}{r}
 \cancel{2} \\
 \cancel{1} \cancel{8} \\
 \cancel{3} \cancel{6} \\
 \cancel{5} \cancel{4} \\
 \cancel{7} \cancel{2} \\
 \underline{18} \\
 2 \\
 \underline{36}
 \end{array}
 \quad
 \begin{array}{r}
 32 \\
 18 \overline{) 576} \\
 \underline{54} \downarrow \\
 36 \\
 \underline{36} \\
 00
 \end{array}$$

The school will need 32 chaperones for the school field trip. I found that out by long division!

### Task 2: Time Management

Now that you have figured out how many chaperones are needed, you will need to find the volunteers. You've been given the first three class periods of school to create a Sign-Up Genius for parents to sign-up for volunteering. Each class period is 60 minutes long, so you have been given 180 minutes to complete this website. If it takes an average of 8 minutes to create just one volunteer slot on the website, would three class periods be long enough?

Using long division, figure out if you have been given enough time to ensure the site is ready to launch. If not, how long will you need?

Be sure to show all steps of the long division process, as well as explaining your answer written format.

$$\begin{array}{r}
 225 \\
 8 \overline{) 1800} \\
 \underline{16} \phantom{0} \\
 20 \phantom{0} \\
 \underline{16} \phantom{0} \\
 40 \\
 \underline{40} \\
 0
 \end{array}$$

Yes, you should still have time left + even  
 so if you wanted to change  
 somethings on the site.

**Task 3: Creating an Answer Key**

One of the math teachers thinks it would be fun to have a math event at the field day. Students will be given a worksheet with division problems and possible answers. To win the competition, the group needs to find the mistakes that were made and prove it by solving it themselves with long division. You have been asked to make an answer key for this activity. Be sure to solve the problems using long division to prove that they are correct or incorrect.

1.  $21,156 \div 86 = 246$  True or False? Prove with long division.

Handwritten student work for problem 1. The work includes several long division attempts. One attempt is circled and labeled "my work" with the conclusion "yes it is correct". Other attempts show errors in subtraction and alignment.

If false, what is the correct answer? \_\_\_\_\_

2.  $196,466 \div 23 = 8,439$  True or False? Prove with long division.

Handwritten student work for problem 2. On the left is a large long division problem showing a correct solution for  $196,466 \div 23 = 8,542$ . On the right are several smaller, incorrect long division problems illustrating common student errors.

If false, what is the correct answer? 8,542

3.  $78,934 \div 647 = 123$  True or False? Prove with long division.

$$\begin{array}{r}
 122 \\
 647 \overline{) 78934} \\
 \underline{647} \phantom{0} \\
 1423 \\
 \underline{1294} \\
 1294 \\
 \underline{1294} \\
 000
 \end{array}$$

$$\begin{array}{r}
 647 \\
 2 \\
 \hline
 1294
 \end{array}$$

If false, what is the correct answer? 122