1. Jenny, Laura, and Charlotte are playing on the playground at Woodfield Elementary School after Halloween. Their priority for today is dividing up their candy.

(a) Jenny has 8 pieces of candy. Being such a child as she is, Jenny wants to keep \( \frac{3}{4} \) of her candy. Use what you know about partitive division to explain to her how to measure out \( \frac{3}{4} \) of her 8 pieces.

(b) See if you can come up with a way to explain the process of measuring out \( \frac{3}{4} \) of her pieces using measurement division instead of partitive division.

2. After a certain amount of cajoling, Laura and Charlotte manage to convince Jenny to share all of her candy. They divide up most of their candy, but find themselves with a roll of Bubble Tape that needs dividing.

(a) Suppose a roll of Extra Bubbly Bubble Tape is 12 feet long. Draw a diagram of the bubble tape, and show where they can cut it to give even sized pieces to each girl.

(b) After they cut up the bubble tape, Laura comes to a sudden realization. “Rachel doesn’t get to go trick-or-treating,” Laura exclaims. “We should make sure she gets some bubble tape!” Is it possible to further cut up the bubble tape so all four girls will get equal amounts? Draw another diagram, including your cuts from the previous part, and explain how they should divide it up.

3. At Woodfield Elementary School, there are two playground monsters: Hubert lives under the jungle gym, and Fafner lives under the slide. It’s Eugene’s birthday, and that means he gets to bring in a cake. But whenever a student brings in a cake, Hubert demands \( \frac{2}{5} \) of it, and Fafner demands \( \frac{1}{3} \) of it.

(a) How can Eugene cut the cake to ensure that Hubert gets \( \frac{2}{5} \) of it? Draw a diagram. Using your diagram, explain what the 2 and the 5 mean in \( \frac{2}{5} \).

(b) How many pieces does Eugene have to cut the cake into if he wants to easily give Hubert his portion and Fafner his portion? Draw a diagram, and label the pieces he’s giving to Fafner and the pieces he’s giving to Hubert.

(c) What fraction of the cake did he have to give away? Explain, using your diagram, what the numerator and denominator of that fraction mean.

4. Being a clever fellow, Eugene had a backup cake that Hubert and Fafner didn’t know about. Being a good host, he has tried to make a cake that will cater to everyone’s desires. The top half of his cake is yellow cake, and the bottom half of his cake is chocolate. The left third of his cake has pecan-coconut icing, and the right two thirds has chocolate icing.

(a) Draw a diagram of his cake.

(b) What fraction of his cake is chocolate cake with chocolate icing? What does the numerator of this fraction mean, and what does the denominator mean?

(c) Use your diagram to explain why, when we multiply fractions, we multiply both the numerator and the denominator.