

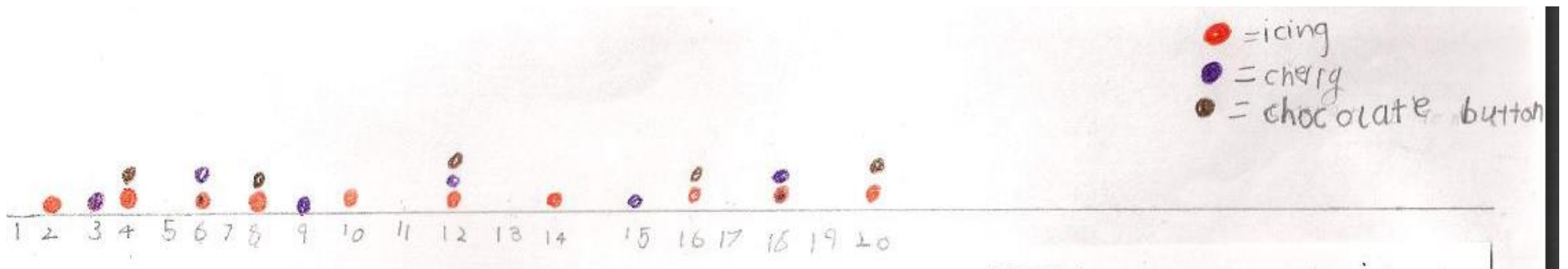


Lesson 2 – 14.07.2020

LO: Problem Solving

Success Criteria:

1. Draw 20 plain biscuits.
2. Decorate them according to what Patrick did e.g. icing only on every second biscuit (miss one, ice one, miss one, ice one...)
3. Write down which biscuits had **no** decoration, and which had **3** decorations.



There are 7 biscuits with nothing on: 1, 5, 7, 11, 13, 17, 19

Only biscuit 12 had 3 decorations.

1. Begin with Task 1– try to use a **systematic method** (using a pattern to make sure you get all the possible answers) and **find as many ways as you can**
2. Then have a go at Task 2 – use a **systematic method to find as many ways as possible** and make sure **all 3 numbers are different and odd.**

Task 1

Monster

Alesha can use these coins to pay 45p:

- two 20p and one 5p
- one 20p, two 10p and one 5p
- one 20p, one 10p and three 5p
- one 20p and five 5p
- four 10p and one 5p
- three 10p and three 5p
- two 10p and five 5p
- one 10p and seven 5p
- nine 5p

There are 13 different ways to pay 50p using only silver coins. First add 5p to each of the ways for 45p.

The other four possibilities are:

- two 20p and one 10p
- one 20p and two 10p
- five 10p
- one 50p

Task 2

Three monkeys

There are 10 possibilities:

- 1, 3, 21 3, 5, 17
- 1, 5, 19 3, 7, 15
- 1, 7, 17 3, 9, 13
- 1, 9, 15 5, 7, 13
- 1, 11, 13 5, 9, 11

Challenge: What if the monkeys ate 24 nuts, with each of them eating a different even number of nuts?

The possible answers are:

- 2, 4, 18 4, 6, 14
- 2, 6, 16 4, 8, 12
- 2, 8, 14 6, 8, 10
- 2, 10, 12

