

# Answers

---

## Exercise 1

When decoded, the string should read “MATH IS AWESOME”.

## Exercise 2

For the message “YORK UNIVERSITY”, there are 12 unique characters: YORKUNIVEST and a space.

The lowest power of 2 that is higher than 12 is 4.  $2^4 = 16$ . Therefore there should be no characters encoded with more than 4 bits.

The most frequently used characters are I R and Y. Therefore, all of these will receive 3 bit sequences while the others will receive either 3 or 4.

Code: 010 1000 001 1001 011 1010 1100 000 1010 1101 001 1110 000 1111 010