Real Life Applications of Sets

- Set Theory is a relatively young branch of Mathematics and was originally started by a German Mathematician called Georg Cantor (1845 - 1918).
- There aren't a lot of practical uses of Set Theory but it comes into many other sections of Mathematics you will study later.
- Some possible uses of it are outlined below.

1) If you and your friend are ordering a pizza and you like a particular set of toppings and your friend likes a different set of toppings, then the best selection would be a pizza that has the overlap between the two sets i.e. the intersection of the two sets. If the same friend is coming to visit and you want to make a sandwich for both of ye. Your preference is chicken, lettuce and coleslaw while their preference is ham, cheese and mayonnaise. In this case, it makes sense to buy the ingredients to make both sandwiches, which is the Union of the two sets.

2) A similar example would be a couple choosing a name for their new baby. One person might have a set of names they like and their partner has a set of their favourite baby names. The choice for the baby's name might come from the intersection of the two sets.
3) In Science, when classifying living things, it might help to use sets to organise your thinking. With an ant, for example, it is part of a set of all ant types. The set of ants is a subset of a larger set called invertebrates. And invertebrates are a subset of an even larger set of all animals, which is in turn a subset of all living things.

4) Sets are used a lot in Computer Science. One way they are used is to set up databases. In an online phone book you would have the set of all people in a particular area and you would also have a set of all their phone numbers and another set of their addresses. If someone wants to search for a particular surname, or address, the database needs to find the intersection between the three sets.
5) Another use of Set Theory is in linguistics. The Google translate program compares large sets of words from many different languages to statistically match what the most likely translation would be.

Google translate