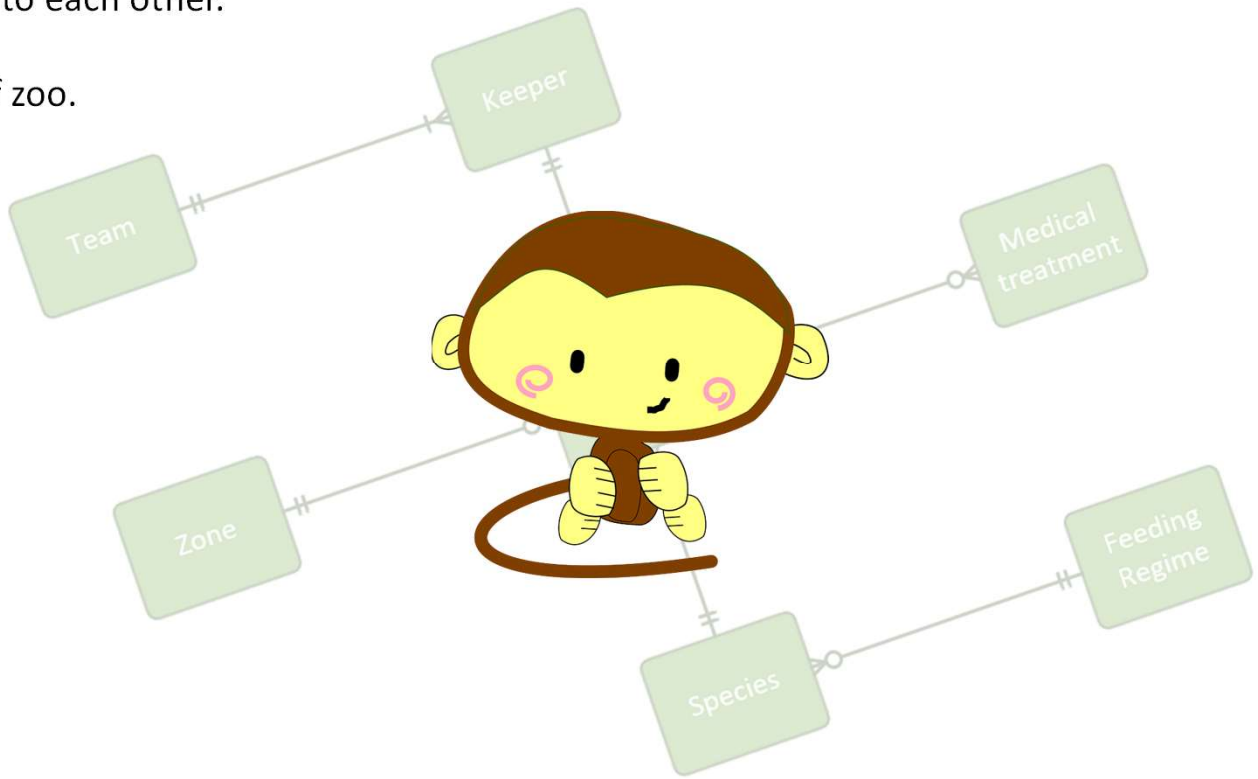
Entity Relationship Diagrams

An Entity Relationship Diagram (ERD) is type of model used to describe how different things (or *entities*) can be linked to each other.

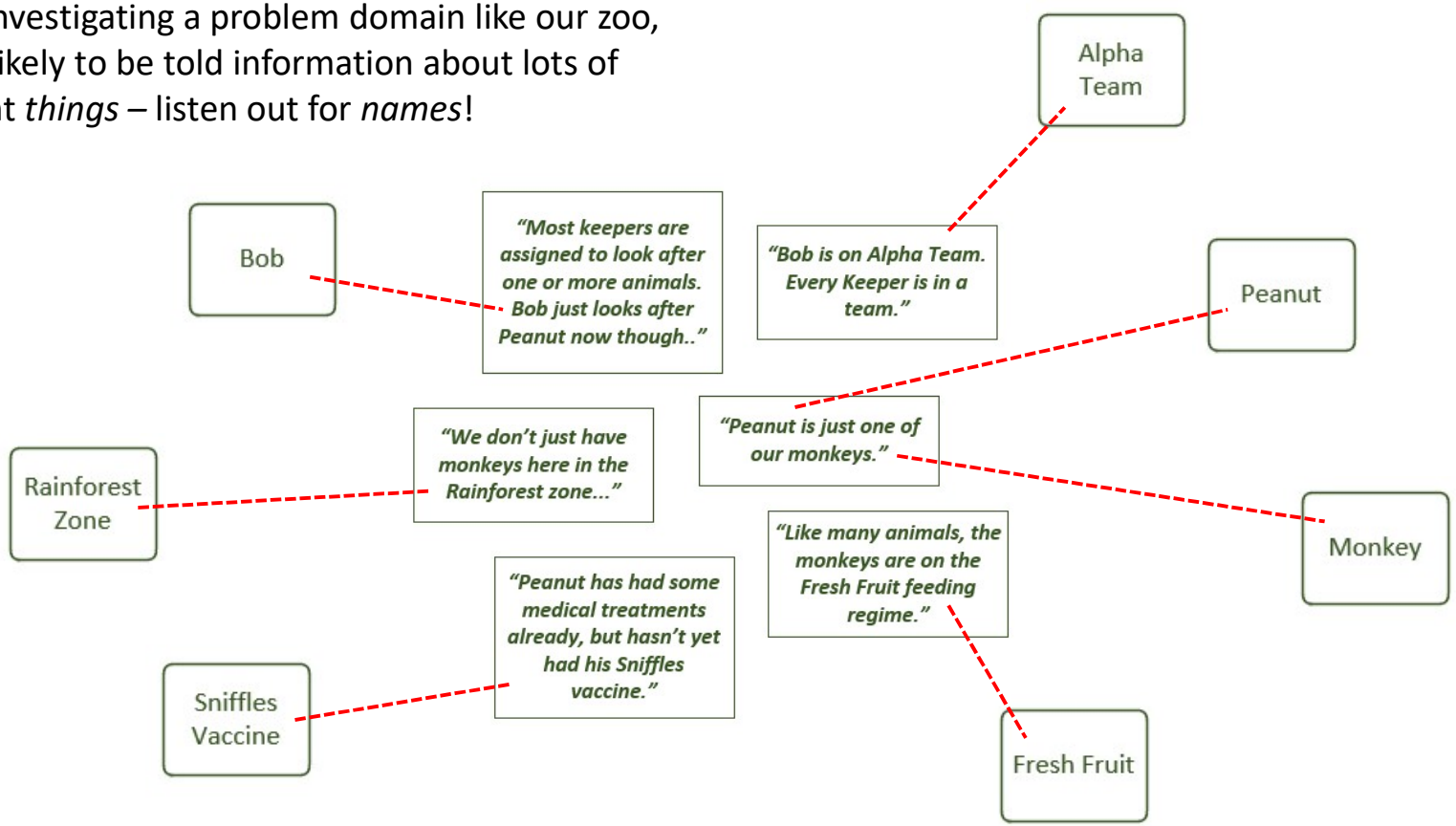
In this guide, we'll be using an example of zoo.

There will be monkeys.



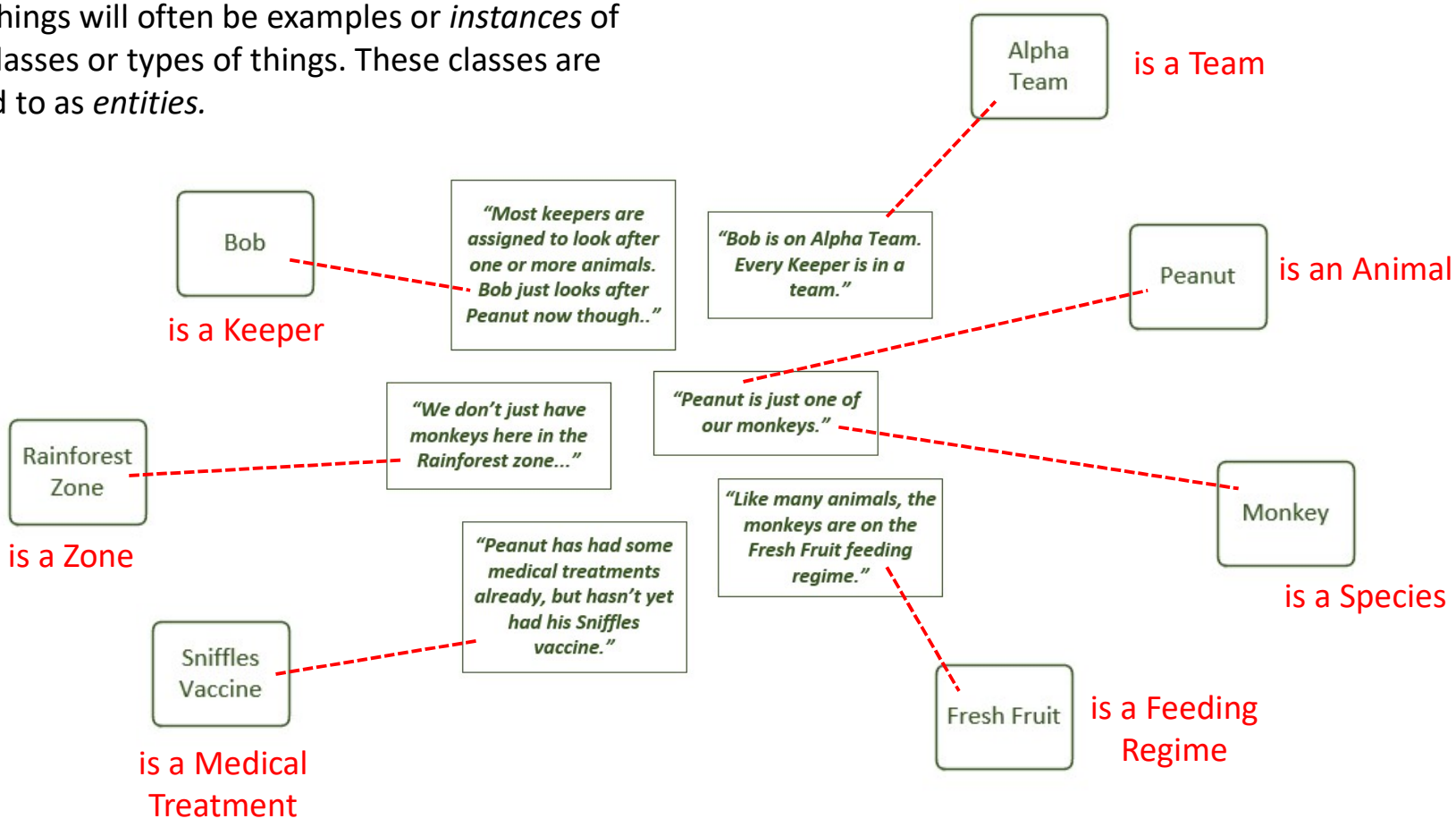
Look for *names*

While investigating a problem domain like our zoo, you're likely to be told information about lots of different *things* – listen out for *names*!



Identify types of thing

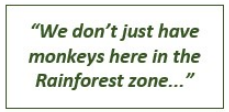
These things will often be examples or *instances* of wider classes or types of things. These classes are referred to as *entities.*

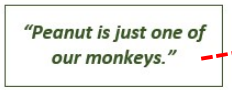


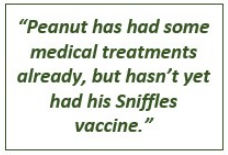
Define the links

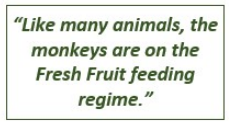
You'll discover business rules governing how these entities are linked to each other- although you might have to do more digging to get accurate details!

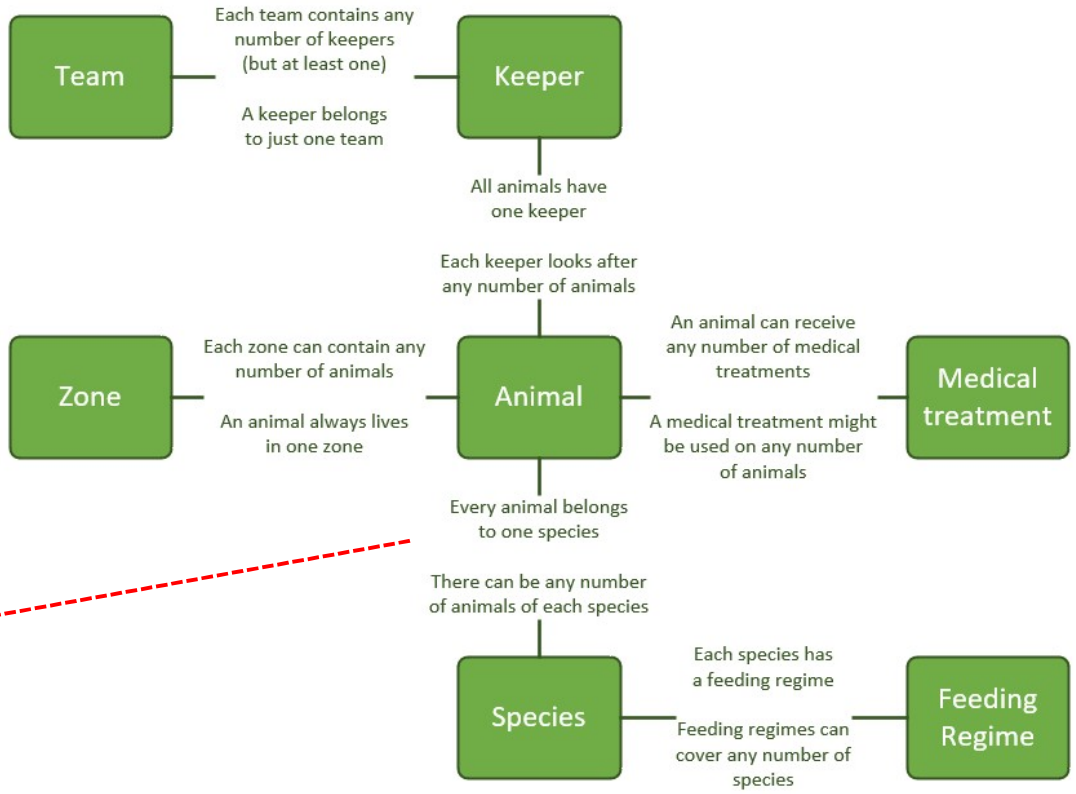
You want to establish the *minimum* and *maximum* links between each connected entity type.











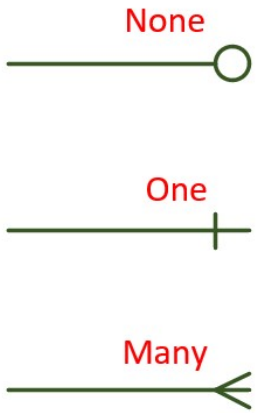
At this point, you've actually done the hard work!

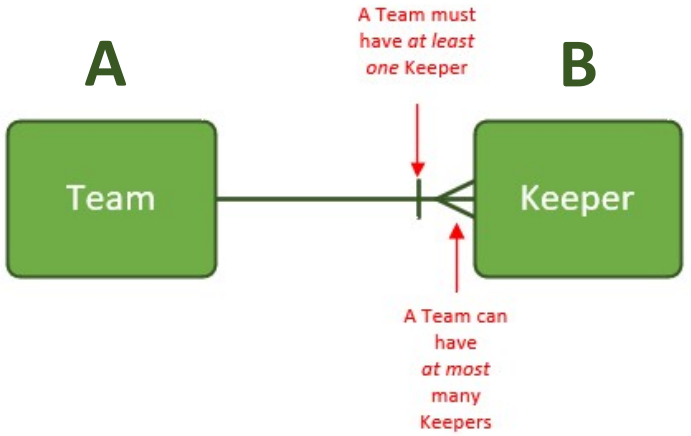
Use symbols to show the links

ERDs can use a range of different notation styles. In this guide, we're going to use one called "crow's feet".

Symbols are marked on the lines connecting entities to show how many of each can be connected – e.g. A must link to at least one B, and only ever to one B.

You can show the type of relationship by applying a selection from the following symbols to the connecting line:

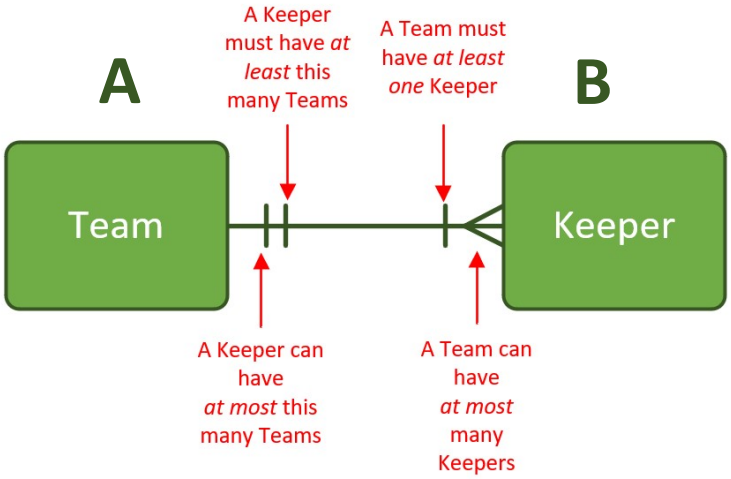


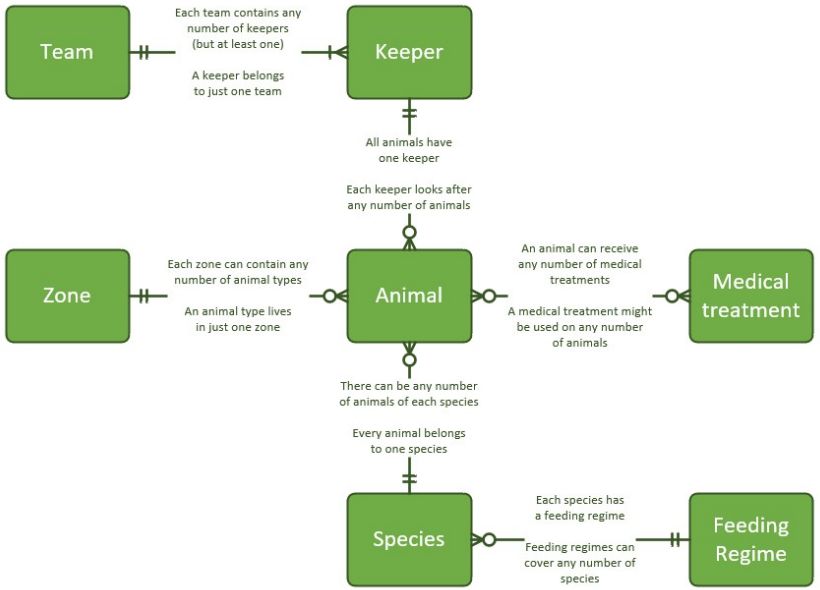


At the ***furthest end*** of a connecting line from A, you put one symbol to indicate the ***minimum*** number of Bs, and a second symbol for the ***maximum*** number of Bs.

Use symbols to show the links

You do the same again in the other direction, showing how many As each B can connect to.

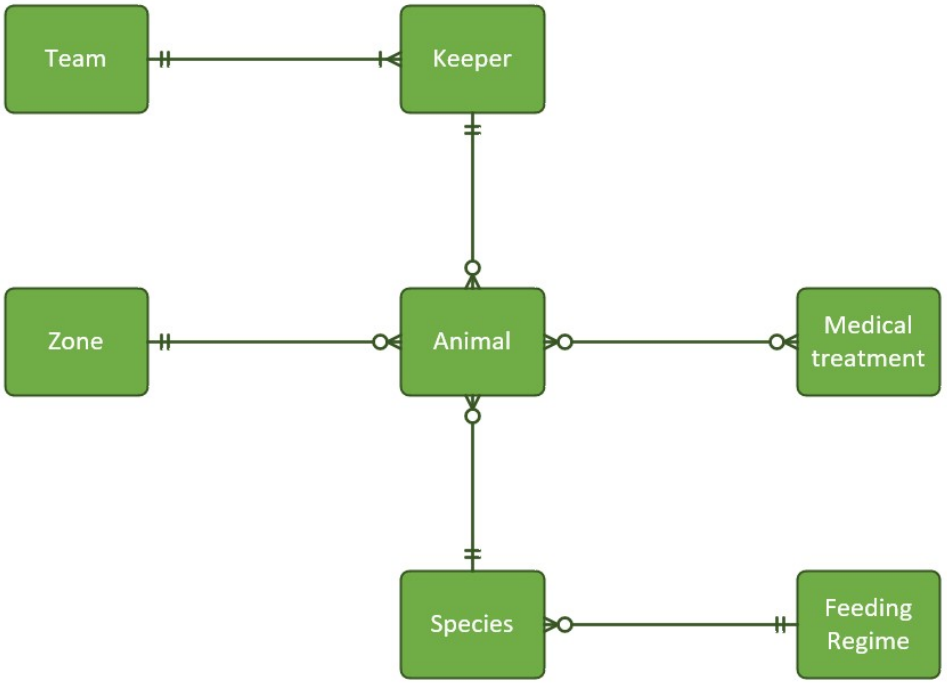




Simply mark each connector with the appropriate symbols for the type of relationship...

The finished product

Your finished ERD might look something like this…



Having an ERD isn't an end in itself!

The act of creating one forces you to ask questions and check your understanding with stakeholders.

Analysing and modelling these connections will help you capture requirements for process designs and system solutions.