



# DNA and Genetics

## What Do I Need

- Plain paper
- Different coloured pens or pencils
- Scissors
- Glue or sticky tape

## What Do I Do

What traits (characteristics) do you have in common with your friends and family?

1. Have a look at the following list of traits. 7 are inherited and 7 are learned. Can you identify which are which?
  - Hair colour
  - Eye colour
  - Favourite animal
  - Being able to speak more than one language
  - Freckles
  - Having a scar
  - Favourite sport or game
  - Having a second toe longer than your big toe
  - Being able to roll your tongue
  - Personality – for example, are you loud or clever or brave?
  - Left or right-handedness
  - Favourite food
  - Having dimples
  - Having a special talent – can you sing or make people laugh or do the splits?

Check your answers in the answer sheet.

2. Choose 5 of your favourite inherited traits, and 5 of your favourite learned traits. Make these into a table (or use the example table), with row to fill in information for other people. Fill in what your traits are.
3. Ask your family and friends what their traits are – give them a call if you don't live with them! If you can't speak to them, write what you think they might say. If you don't have a big family, ask your friends what they have in common with their family.
4. Look at how much in common you have with each of your family members.
  - You probably have more inherited traits in common with your close family (parents, brothers and sisters) than with other family members (cousins, great grandparents) as you share more of your genes (which tells you what inherited traits you have) with your close family.
  - You probably have fewer inherited traits in common with your friends because you are not related, and so your genes will be very different.
  - Similarities or differences in learned traits are likely to be pretty similar between you and your friends and family as this is determined by things other than your genes – like having a good teacher might make you enjoy maths. There is probably no one who has exactly the same traits as you – you (and your genes) are unique!

Make a “friends and family tree” of traits.

1. Draw a tree trunk on a big piece of paper. Draw a picture of you on it, and write around it what your traits (inherited and learned) are.
2. Cut out leaf shapes from different coloured pieces of paper.
3. Allocate one leaf per person you surveyed – write their name and draw a picture of them on the leaf.
4. In one colour, write things that you share with this person. In another colour write things that are different between you and the. Use the table you made in the previous activity to help with this part.
5. Stick the leaves onto your tree - you have now made a tree of traits!

Adapted from and inspired by activities from,

<https://teach.genetics.utah.edu/content/heredity/>