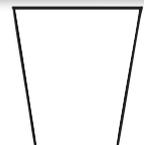


# INHERITANCE WITH SMARTIE CUPS

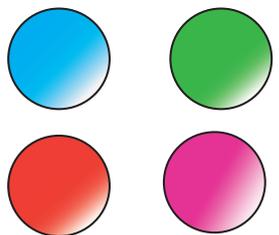
All living creatures create offspring of the same kind, but the offspring are not identical copies of their parents. When living things reproduce they pass on characteristics, known as traits, to their offspring. Our DNA contains all of the information for many of these traits such as eye colour, or whether or not you can roll your tongue. But some traits are a result of the environment, for example the weight of a cat is partly down to its genes (inherited) and partly down to how much the owner feeds it (environmental)!

### You will need:



**X6 CUPS**

Alternative: you could make origami paper cups if you would like to decorate them!



**X6 OF EACH**

**X4 DIFFERENT COLOURED SMARTIES**



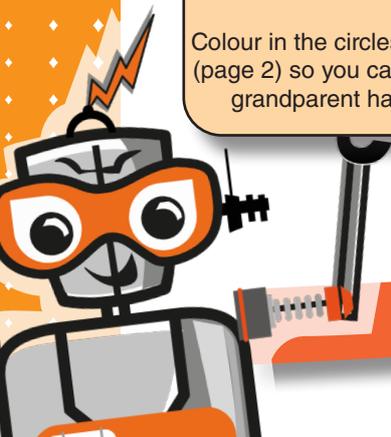
**PENS**

Label each of your cups: Grandfather A, Grandmother A, Grandfather B, Grandmother B, Mother and Father.

**REPEAT**  
Place 6 smarties of one colour into Grandfather A, 6 of another into Grandmother A, repeat with the other set of Grandparents (B).

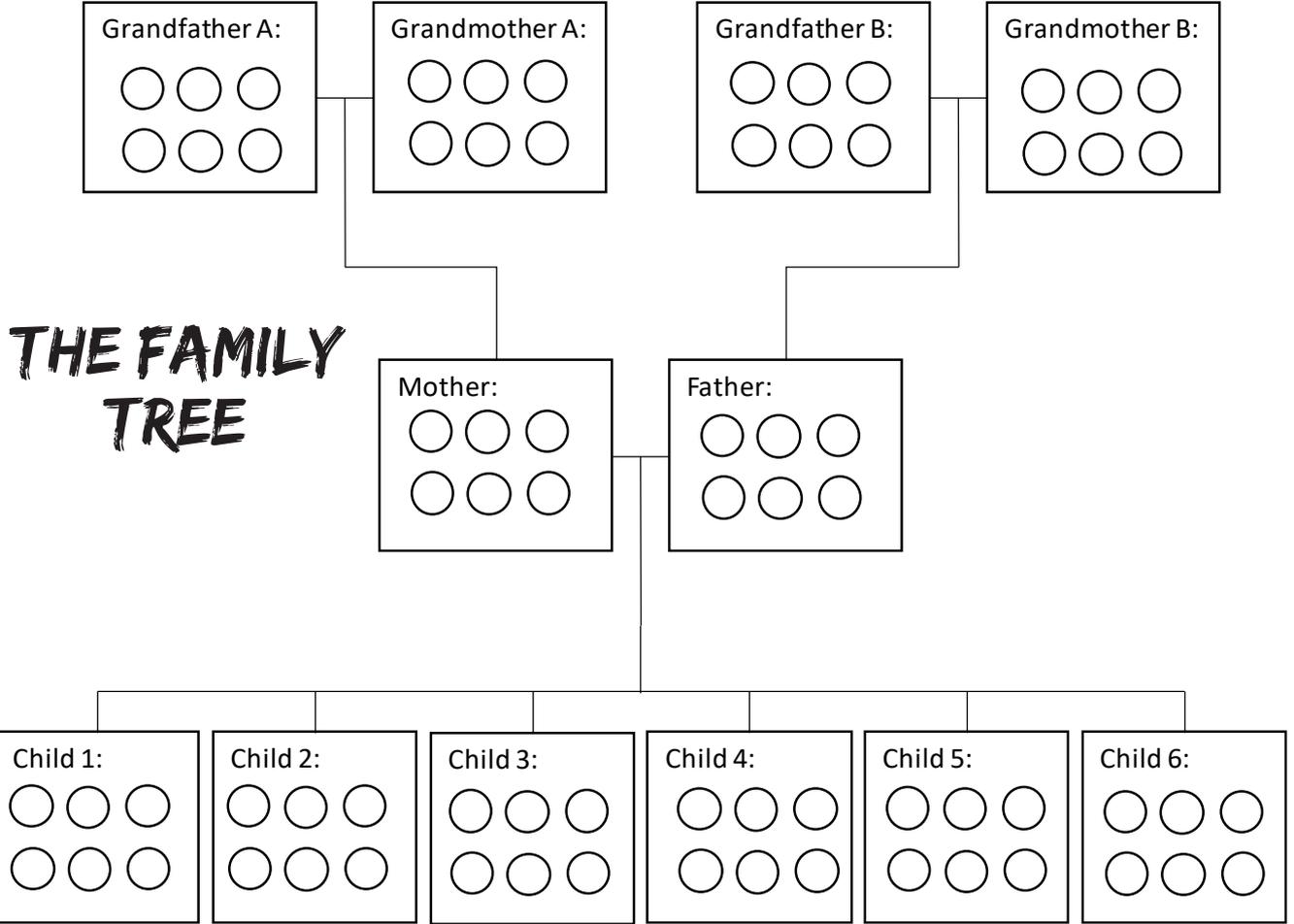
Colour in the circles on the family tree (page 2) so you can remember which grandparent had which colour.

**REPEAT**  
Next, take 3 smarties from Grandfather A and 3 from Grandmother A. Then, place them into the Mother cup. Repeat with Grandparents B and place them into the Father cup.



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The Mother and Father cup monsters are going to have 6 babies! Take 3 smarties from the mother and 3 from the father to make up child 1's DNA. Place the smarties back into the mother and father cups (use your family tree to make sure you put them back in the right place!) Then repeat until all 6 of the children have been made!



Would the children cup monsters look the same as their parents?

\_\_\_\_\_

Do all of the children cup monsters have the same traits?

\_\_\_\_\_

How many of the cup monster children have 1 trait from each of the 4 grandparents?

\_\_\_\_\_

Did any of the children not inherit a particular trait?

\_\_\_\_\_



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