

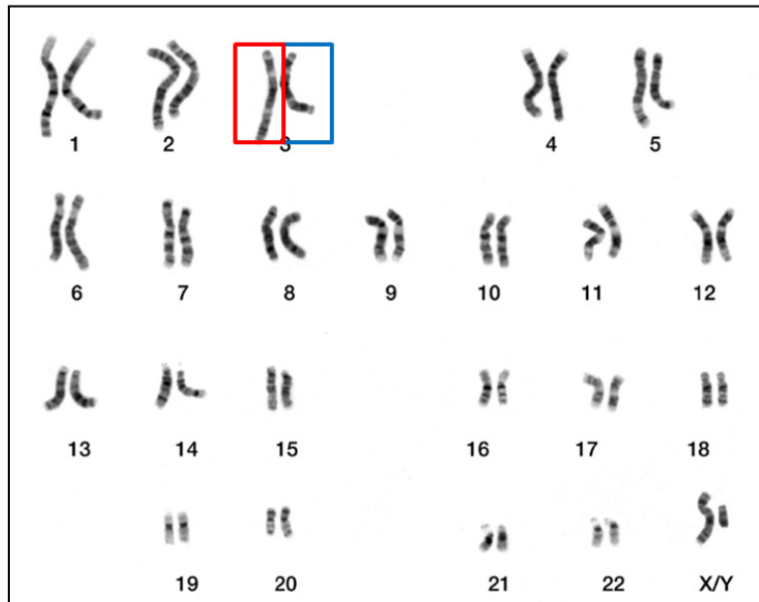


**What do
you know
about our
Duchess?**



**What are
the
chances
that she
gives birth
to a boy?**

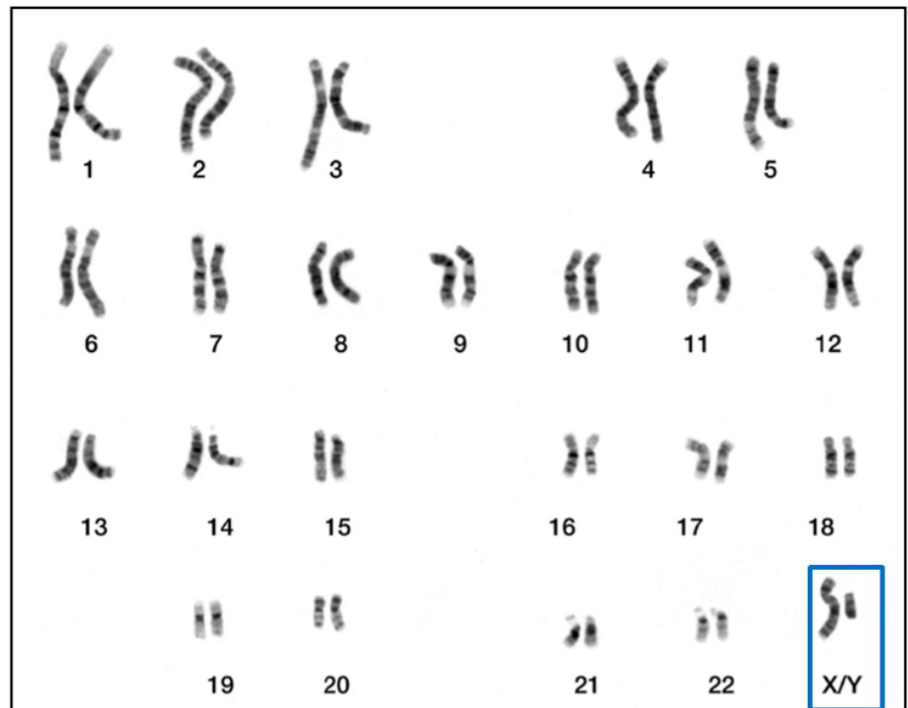
You get one chromosome in each pair from your Mum...



...and one from your Dad.

In the nucleus of most human cells are chromosomes. They are long strings of a substance called DNA. Humans have 23 pairs of chromosomes – 46 altogether.

Where does each member of the pair come from?



This pair of chromosomes is called the sex chromosomes.

It is different in men and women.

Men have XY
Women have XX

		X	X
	X	XX	XX
	Y	XY	XY

	X	X
X	XX	XX
Y	XY	XY

**So, what is the chance
that Kate has a boy?**

alleles - different flavours of genes

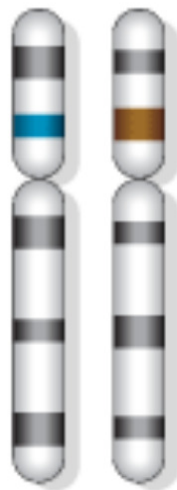
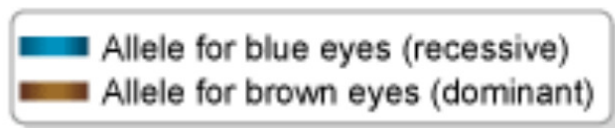
Dominant

Recessive

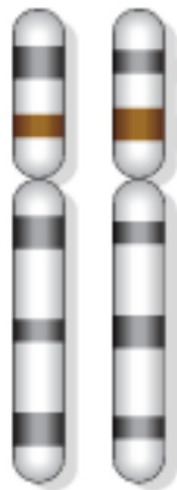
BB

bb

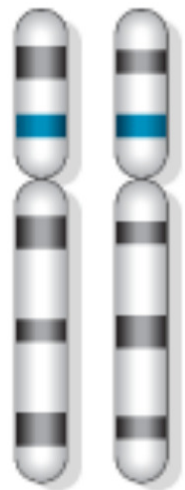
Bb



Individual A:
heterozygous



Individual B:
homozygous



Individual C:
homozygous
recessive

We can also use Punnett Squares to tell us about genetic traits

Dad has brown eyes, but has allele Bb.
Mum has blue eyes, with allele bb. What eye colours might their children have?





Harry Potter and the Recessive Allele

How Are Wizards Made?

- Muggles have the alleles Mm or MM

- Wizards have the allele mm

- M is dominant to m so you can only be a wizard if you have no M allele

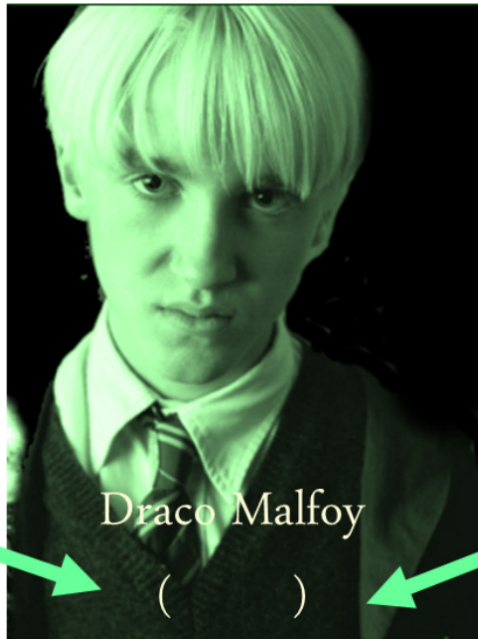
The Malfoys



Lucius Malfoy (mm)



Narcissa Malfoy (mm)



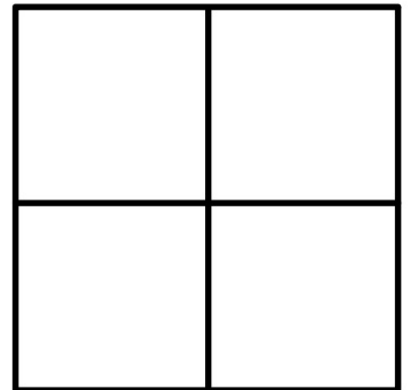
Draco Malfoy

()



	m	m
m		
m		

If Hermione's parents are
Muggles, how can she be a wizard?



Choose which sheet you
would like to work on.