Chromosomal mutations

Fill in the blank

Phenotypic variations result from: changing of genes/ Alleles

Trisomy creates Klinefelter syndrome

Monosomy creates turner syndrome

Endopolyploidy can happen in cancer cells

Commercial bananas are examples of triploid sets

Peanuts are examples of tetraploid sets

What is the definition of transcription factors?

Protiens that bind to DNA which regulates gene expression

What is aneuploidy? What are the two categories.

when an organism gains or loses only 1 chromosome

monosomony and trisomy

Describe nondisjunction.

when paired homologs fail to seperate either in mejosis I or II

creates chromosomal variation

Describe ~~monoploidy~~ monosomy.

loss of 1 chromosome

unmasks lethal genes that are incompatable with life

2n-1

What is Haploinsufficiency?

when the recessive gene is insufficient for that organism to live

What is the animal version of turner syndrome in pigs? Describe what rudimentary gonads are like.

Monosomy X

small with no follicles = infertile

Describe trisomy:

Addition of a chromosome

Autosomes = lethal

but plant trisomy is viable

What is the animal version of Kleinfelter? Describe their characteristics.

Male calico cats

small testes, infertile, cognitive defeds, and resistant to insulin

Brain dump: Down syndrome, DSCR1, and VEGFA

Trisomy 21

↑ Dscr, causes a 10% cancer reduction because ↓ VEGFA

What age is considered geriatric pregnancies?

Around 35

What are syntenic regions? What are they used for?

chromosomal regions in other species with same/similar contect

used for research

Compare Euploidy and Polyploidy

Euploidy: complete chromosome set

Poly Ploidy: more than 2 multiples (3n, 4n, 5n, etc)

Describe autopolyploid

sets are identical to Parents

2 sperm fertilize an egg

Describe allopolyploid

Hybridizing species

Not homologous = typically infertile

Describe autotetraploid and what role does colchicine play?

chromosomes double but cell doesn't divide

colchicine alters spindle fibers, so they can't pull chromosomes apart

Compare allotetraploids and amphidiploids.

Allo → unknown original species

Amph → both originals known

What is endopolyploidy?

when only certain cells are Polyploidy.

Like cancer