-EPISODE V-
Heroic Mutants

NICE GENES!

a podcast by Genome BC

draw yourself as a SUPERHERO!

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If you had a superpower, what would it be and why?

_____

When you hear the word MUTATION, what comes to mind? Circle one:

GOOD! BAD NEITHER

WHAT is the difference?

PROKARYOTE



EUKARYOTE

Fill in the blank using the word bank

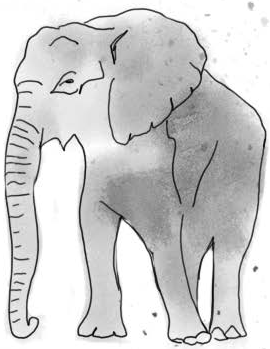
For a mutation to be passed on to the next generation the mutation must be in a _____ cell, for example a _____ or an _____

- word bank -

somatic	blood cell
germline	sperm
body cell	prokaryotes
egg	eukaryote

Tuskless Elephants?

Mammals have either two X chromosomes (XX-female), one X and one Y (XY - male) or a different combination of X and Y, which is called **intersex**



How do tusks help elephants?

Why do poachers desire elephant tusks?

The tuskless trait is a mutation that:

- is on the X-chromosome
- is dominant (only need one set)
- is linked to a lethal recessive trait

Can an XY-male elephant be tuskless? Explain

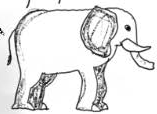
X^T: tusks
X^t: tuskless

tuskless mother \ tusked father	X^T	Y
X^t		
X^T		

On average, how many offspring will:

1. have tusks? ____
2. be tuskless? ____
3. not survive? ____

Complete the graph below to show the change in population over time in tusked and tuskless elephants in Goronsoga National Park

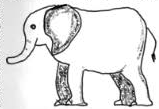


high

POPULATION →

tusked elephants

tuskless elephants



low

TIME →

1977

1992

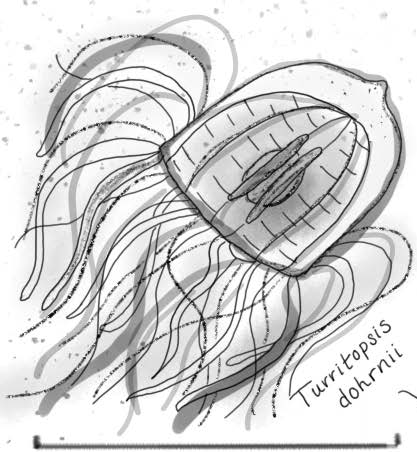
NOW

ivory trade illegal and poaching declines dramatically

what do you predict will occur in the future?

Mozambiques Civil War
During this time, 90% of the elephant population was killed by poachers for the ivory in their tusks ∴

HOW have some humans mutated to better suit their environments?



COME ONE, COME ALL and see the

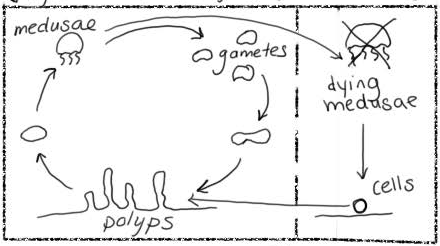
Immortal Jellyfish

no rush though, it will be here a while...

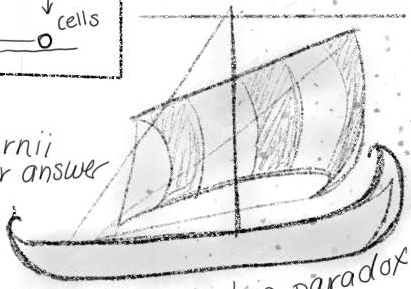
WHY are mutations important to the health of a species?

immortal Jelly fish

regular Hydrozoan Lifecycle



What do you think? Is the Turritopsis dohrnii immortal? Explain your answer



Theseus' ship paradox