Station 1:
Mitosis Infographic

MITOSIS

('MY-TOE-SIS')

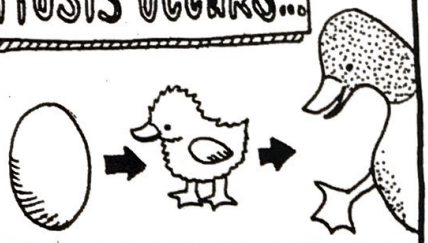
NCEA LEVEL 2 BIOLOGY 2.4

OR ANYONE WHO IS INTERESTED IN A PRIMER ON THE MAGICAL PROCESS OF MITOSIS

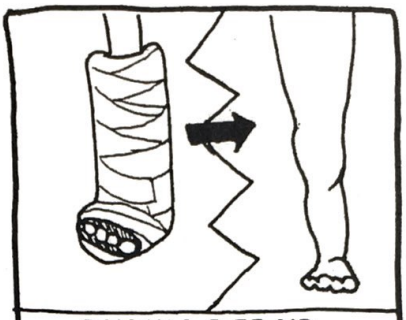
REMEMBER!!

MITOSIS IS THE PROCESS OF MAKING AN IDENTICAL COPY OF A SOMATIC* (AKA BODY) CELL. THIS CAN OCCUR IN ANY CELL IN A PLANT OR ANIMAL- EXCEPT CELLS USED FOR SEXUAL REPRODUCTION- FOR EXAMPLE SKIN CELLS, BLOOD CELLS AND MUSCLE CELLS ALL REPLICATE VIA MITOSIS.
THE CELLS MAKE IDENTICAL COPIES OF THEMSELVES SO OTHER OLD, DAMAGED OR DYING CELLS CAN BE REPLACED.

MITOSIS OCCURS...

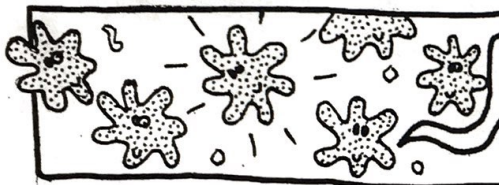


DURING GROWTH



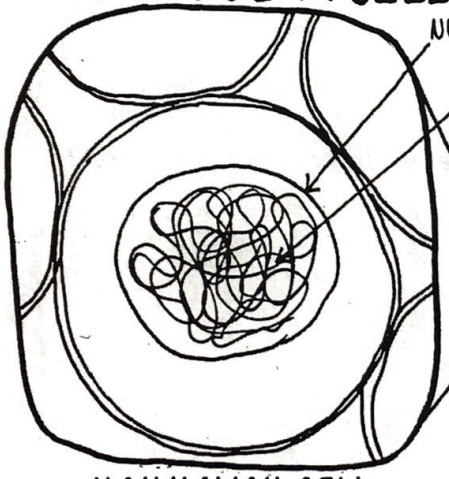
DURING REPAIR

AND FOR RENEWAL



MITOSIS CAN ALSO CREATE NEW INDIVIDUALS VIA ASEXUAL REPRODUCTION... THINK BACTERIA...

A REGULAR CELL



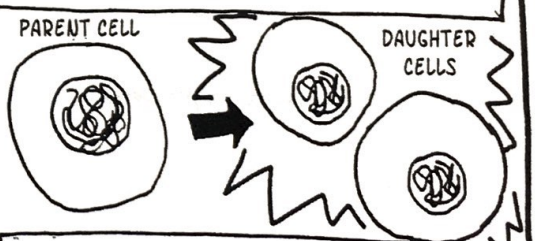
MAMMALIAN CELL

EVERY CELL IN THE BODY HAS DNA IN THE NUCLEUS. THIS DNA CONSISTS OF A NUMBER OF INDIVIDUAL CHROMOSOMES (IN HUMANS THERE ARE 46 CHROMOSOMES IN EVERY CELL).

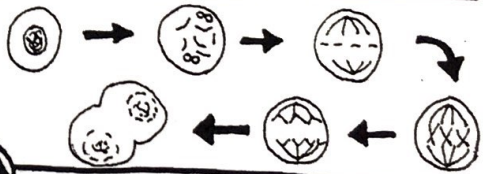
THE PURPOSE OF MITOSIS IS TO **DUPLICATE** THE GENETIC INFORMATION IN THE CELL AND TO MAKE SURE EACH OF THE TWO RESULTING CELLS GET **IDENTICAL COPIES** OF THE INFORMATION.

A SINGLE CHROMOSOME

BUT... A CELL CANNOT SIMPLY SPLIT IN TWO WITHOUT CONSIDERATION OF WHATS INSIDE IT!



IT MUST GO THROUGH THE VARIOUS STAGES OF MITOSIS IN ORDER TO PRODUCE TWO IDENTICAL "DAUGHTER" CELLS.



GO TO NEXT PAGE TO SEE HOW...

FACT: THERE ARE APPROX. 200 TRILLION SOMATIC CELLS IN YOUR BODY.

EACH OF THESE CELLS HAS 46 CHROMOSOMES. EACH CHROMOSOME IS MADE UP OF A STRAND OF DNA 100-1000'S OF GENES LONG!

CAN YOU IMAGINE THE AMOUNT OF DNA THAT IS REGULARLY BEING COPIED IN ORDER TO PRODUCE NEW CELLS THROUGH MITOSIS?!

* A SOMATIC CELL IS ALSO KNOWN AS A BODY CELL. FROM THE GREEK WORD "SOMA" MEANING 'BODY'- AND MAKES UP ALL THE CELLS IN THE BODY, EXCEPT GAMETES. GAMETES ARE CELLS THAT GIVE RISE TO OFFSPRING THROUGH SEXUAL REPRODUCTION- AND THEY DIVIDE THROUGH MIEOSIS (NOT MITOSIS).

Name: _____ Period: _____

Mitosis Infographic

Directions: Use the Infographic to answer the following questions

1. What type of cells perform mitosis? Give an example

2. What type of cells do not perform mitosis?

3. What are three reasons for mitosis to occur?

4. What type of organism use mitosis to reproduce?

5. What is the purpose of mitosis?

6. What does the DNA consist of?

7. Approximately how many somatic cells are in your body?

8. If mitosis occurs properly in humans, how many chromosomes should be in each somatic cell?