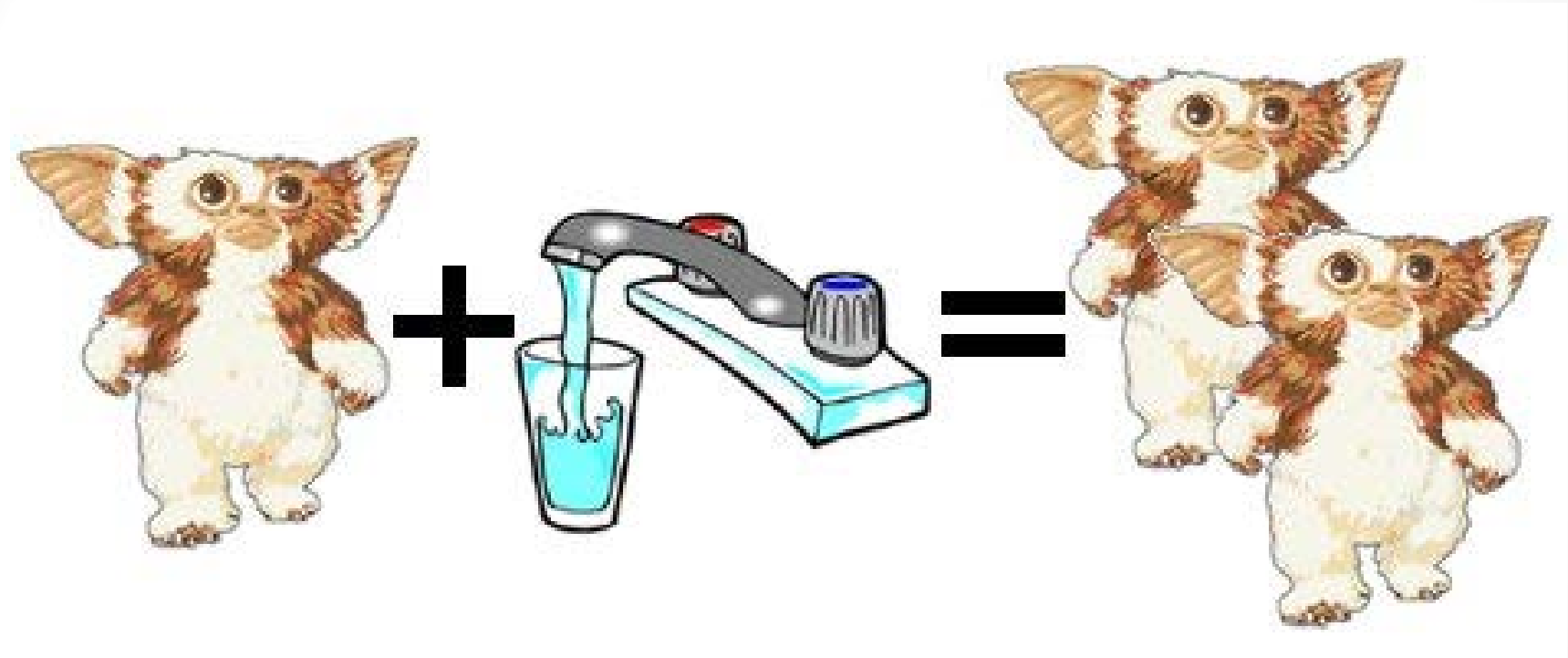


Asexual Reproduction



S1-1-03 Describe various types of asexual reproduction that occur in plant and animal species. Examples: fission, budding, sporulation, vegetative propagation, regeneration

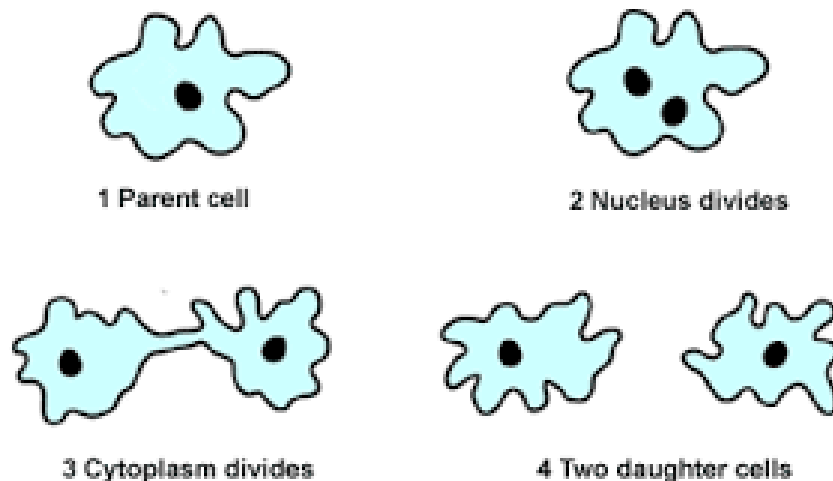
Reproduction and Cell Division...

Just as cells follow a **CELL CYCLE** to reproduce, a living organism will also reproduce as part of their **LIFE CYCLE**.

There are 2 ways to reproduce:

1. Asexual Reproduction:

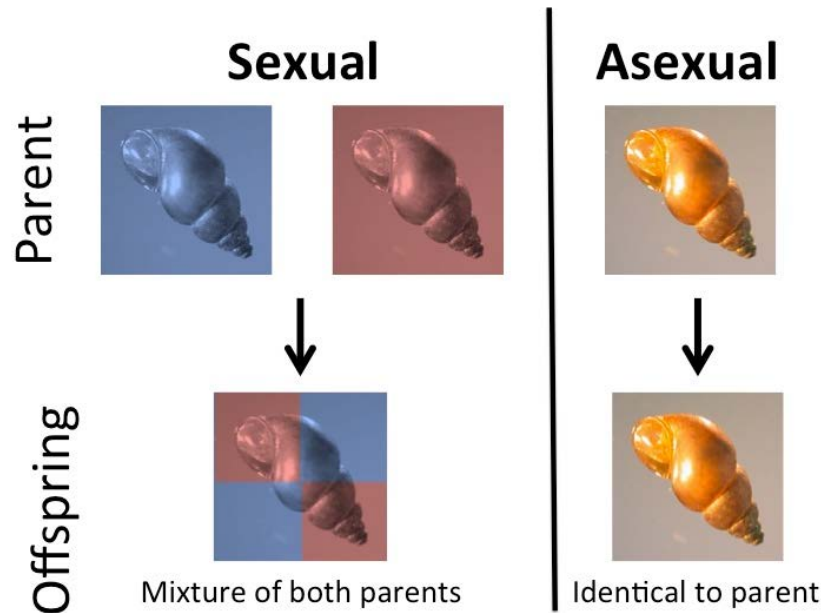
- Where a single organism gives rise to offspring with **IDENTICAL GENETIC MATERIAL**.
- Our **CELLS** reproduce by this method (**MITOSIS**).
- All offspring are **EXACT COPIES (CLONES)** of the **PARENT**.



Reproduction and Cell Division...

2. Sexual Reproduction:

- When GENETIC INFORMATION from TWO CELLS is combined to produce a NEW organism.
- In humans, two specialized SEX CELLS (EGG & SPERM) combined to eventually become you.
- We call the FERTILIZED egg cell a ZYGOTE. We all were ZYGOTES.
- The offspring are a **BLEND** of each parent

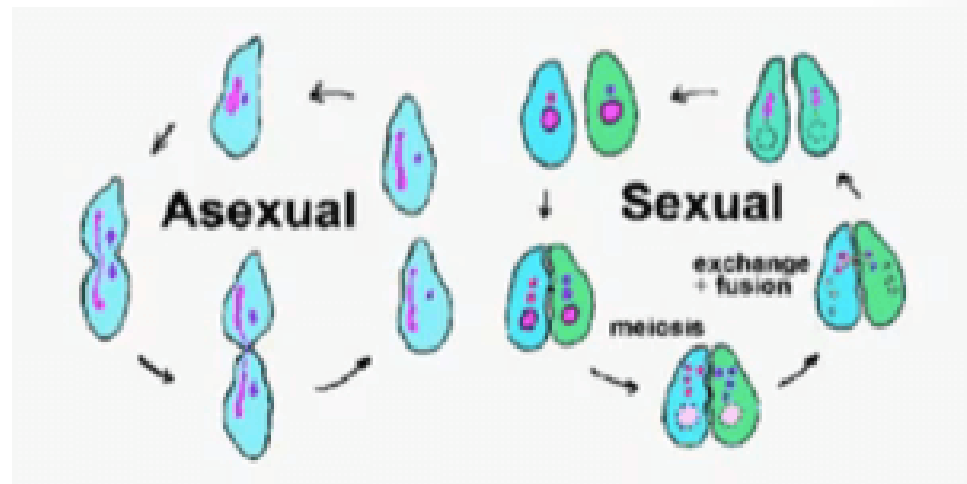


Reproduction and Cell Division...

Some organisms can use both methods of reproduction.

→ BACTERIA can make IDENTICAL offspring ASEXUALLY, or can COMBINE with other BACTERIA to produce NEW BACTERIA. This is bad for HUMANS...WHY?

Explanation:

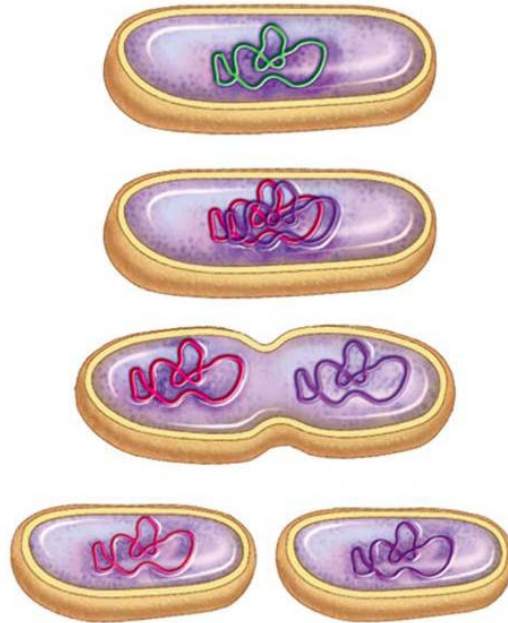


Types of Asexual Reproduction...

There are 5 types of asexual reproduction

1. BINARY FISSION

- Organism SPLITS directly into two EQUAL-SIZED OFFSPRING.
- Occurs in SINGLE-CELLED organisms like BACTERIA.

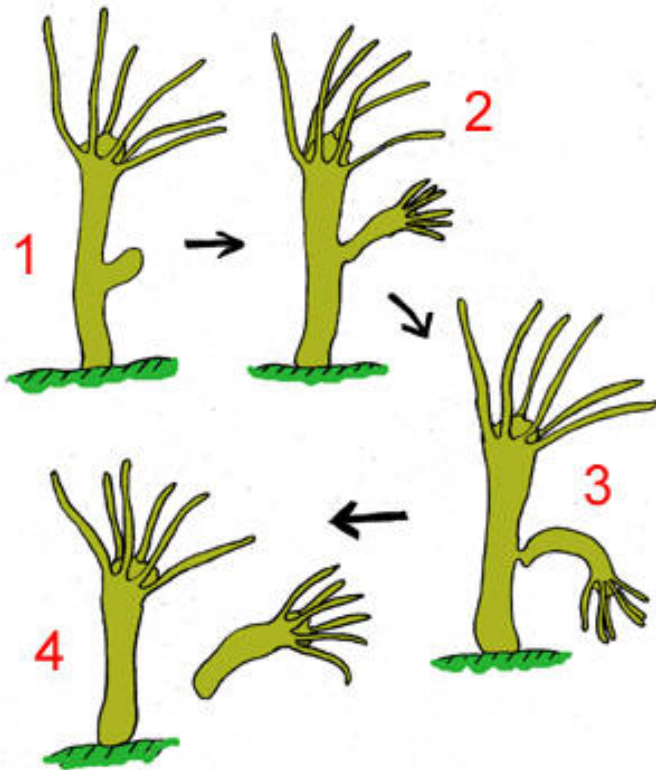


- Similar idea to MITOSIS. DAUGHTER cells are GENETICALLY IDENTICAL to the PARENT.

Types of Asexual Reproduction...

2. BUDDING

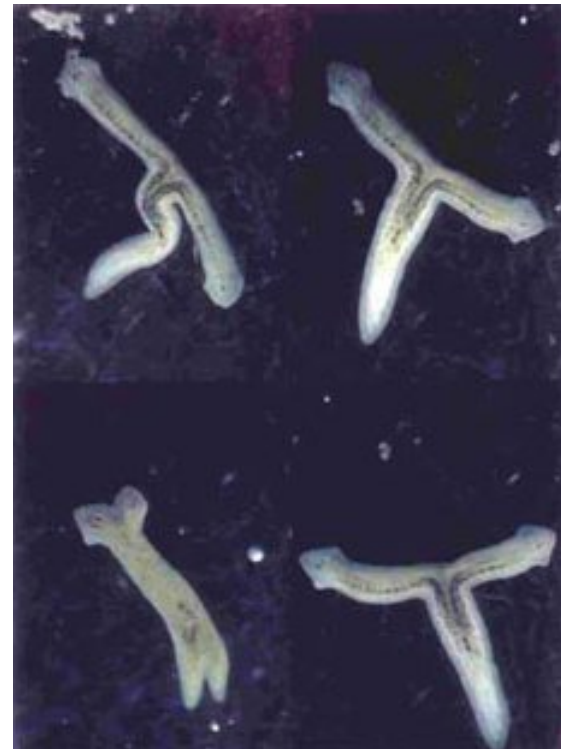
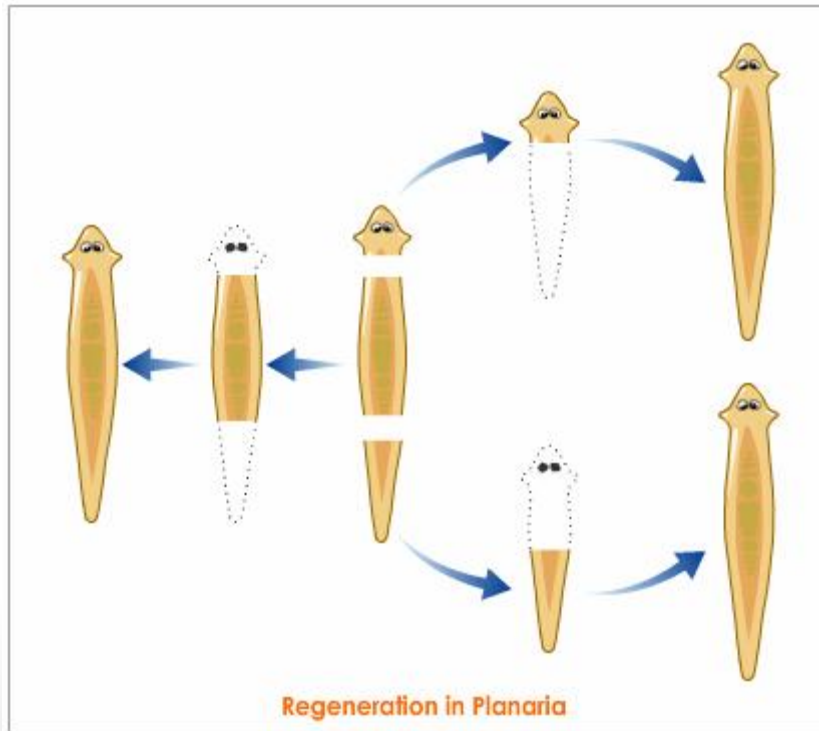
- The offspring GROWS OFF of the PARENT, then the "BUD" BREAKS away when MATURE.
- Occurs in both SINGLE and MULTI-CELLULAR organisms like YEAST and HYDRA.



Types of Asexual Reproduction...

3. FRAGMENTATION

- A PART of the organism BREAKS off, and a NEW ORGANISM grows from the FRAGMENT.
- Occurs in ALGAE, FLATWORMS, and STARFISH for example.



Types of Asexual Reproduction...

4. SPORE FORMATION

- Cells in the organism undergo FREQUENT DIVISION, producing many smaller IDENTICAL cells called SPORES.
- The SPORES are RELEASED, and can GROW into a new INDIVIDUAL.
- Occurs in MOLDS like PENICILLIN.



Types of Asexual Reproduction...

5. VEGETATIVE REPRODUCTION

- Organism produces RUNNERS that can grow into a new individual.
- Occurs in many plants like STRAWBERRY BUSHES.

