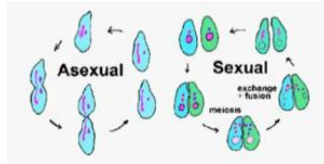


Asexual vs. Sexual Reproduction

Name: _____



Asexual Reproduction

1. Outline the advantages and disadvantages

Advantages	Disadvantages
Don't need to mate Very rapid	Identical offspring Little ability to adapt if conditions change

2. For the types of Asexual Reproduction, come up with a way to remember it and differentiate it from the others.

	Binary Fission	Budding	Fragmentation	Parthenogenesis
Quick Summary	To break in half	A small amount separates off	Spontaneously divides into fragments	Female makes eggs by mitosis
What makes it different	Two identical size offspring	Grows after to adult size Can stay in a colony	All different sizes	Only involves females
How will you remember it	Binary – means 2 Fission – means to break in half	Bud – sounds little and friendly (like a cute buddy)	Fragments – like pieces	Genesis – to make

Sexual Reproduction

3. Outline the advantages and disadvantages

Advantages	Disadvantages
Genetic diversity Creates new and different individuals More adaptable	Need mates Takes longer

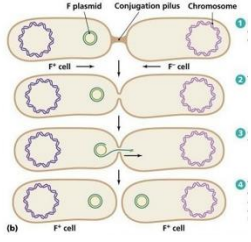
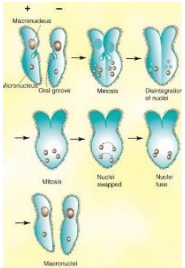
4. Complete the following chart:

	External Fertilization & development	Internal Fertilization & External development	Internal fertilization & development	Hermaphroditism
Who?	Aquatic inverts and fish	Other inverts, reptiles, insects, sharks, birds + mammals	Mammals	Earthworms, flatworms and mollusks
How?	Egg and sperm released into water	Copulation Male into female (egg internal) but lay eggs after	Copulation Male into female (egg internal) develops inside	Organism has both male and female organs – reciprocal transfer or self-fertilization
Benefits/ Advantages	At the same time Spray and pray Requires little energy	Increased chance of fertilization Shell for protection Yolk sac – nourishes egg	Nourishment and protection inside the body of the female	Don't always need a mate

Comparison of Asexual and Sexual Reproduction

5.

a. Conjugation – describe the two scenarios below:

Bacteria	Ciliates/protists
<p>Bridge between two bacteria, genes exchanged Increase diversity</p> 	<p>Meiosis of diploid micronuclei produces 4 haploid nuclei – 3 of the nuclei degenerate Mitosis of the 4th nucleus - creating 2 micronuclei Exchange 1 of the micronuclei and those merge into a macronucleus</p> 

b. Is conjugation sexual or asexual reproduction or neither – explain.

Neither – genes are exchanged so it increases genetic diversity but no new daughter cells are formed – so it is not reproduction at all.

6. Comparison of Asexual and Sexual Reproduction

Asexual Reproduction - Differences	Similarities	Sexual Reproduction - Differences
<p>Genetically identical No mating needed Less Energy</p>	<p>Creates new life</p>	<p>Genetic diversity Mating required More energy</p>