Answer Key

Characteristics to Compare	Items to be Compared (# 3 Description)		Similarities and/or Differences
	Asexual Reproduction	Sexual Reproduction	
Process Description	*Mitotic division, requiring only one parent. Offspring are identical replicas of parent. Cell divides after DNA is replicated. No gametes are formed, can also occur by fragmentation (a piece of the organism breaking off)*	*Meiotic division. 2 parents are required. Each parent contributes ½ of the genetic material for the offspring. Each gamete is haploid. Gametes fertilize to make a diploid offspring.*	*Both are methods of reproduction, in asexual one parent is needed and offspring are identical in sexual 2 parents are needed and offspring are genetically unique*
Disadvantages	*All offspring are genetic replicas, there is no genetic variation except from mutation, does not allow organisms to adapt to changing environment*	*2 parents are required, process is longer the population cannot grow as quickly*	*No similarities, differences as listed in descriptions*
Advantages	*Only one parent is needed, usually can increase number of organisms quickly, this can allow the population an advantage under desirable environmental conditions*	*Offspring are all different, organisms are able to adapt and evolve to a changing environment, sexual reproduction is advantageous in a less desirable environment*	*No similarities, differences as listed in descriptions*
Genetic Variation	*Little or none, mutations are the only source of variation, otherwise offspring are identical*	*Highly diverse, offspring are a genetic recombination of 2 parents, there is also opportunity for many mutations in meiosis*	*Mutation is a source of variation in both, asexual offspring are otherwise identical to parent, sexual offspring are genetic recombinations of parents.*

Summary: What do I know now that I didn't know before?

Answers will vary.