

New York State Guidelines		
Guide Line Number	Guide Line	POP!World Module Meeting Guideline
Core Curriculum 5-8		
Performance Indicator 2.1e	In sexual reproduction typically half of the genes come from each parent. Sexually produced offspring are not identical to either parent.	Crosses
Performance Indicator 2.2a-b	In all organisms, genetic traits are passed on from generation to generation. Some genes are dominant and some are recessive. Some traits are inherited by mechanisms other than dominance and recessiveness.	Basic, Migration, Drift. NRM, Mutation, Selection, M+S, Crosses
Performance Indicator 2.2c	The probability of traits being expressed can be determined using models of genetic inheritance. Some models of prediction are pedigree charts and Punnett squares.	Crosses
Performance Indicator 3.1a-b	The processes of sexual reproduction and mutation have given rise to a variety of traits within a species. Changes in environmental conditions can affect the survival of individual organisms with a particular trait. Small differences between parents and offspring can accumulate in successive generations so that descendants are very different from their ancestors. Individual organisms with certain traits are more likely to survive and have offspring than individuals without those traits.	Mutation, M+S, Crosses
Core Curriculum		
Performance Indicator 3.1e-f	Natural selection and its evolutionary consequences provide a scientific explanation for the fossil record of ancient life-forms, as well as for the molecular and structural similarities observed among the diverse species of living organisms.	Basic, Migration, Drift. NRM, Mutation, Selection, M+S, Crosses

	Species evolve over time. Evolution is the consequence of the interactions of (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring.	
Performance Indicator 3.1g	Some characteristics give individuals an advantage over others in surviving and reproducing, and the advantaged offspring, in turn, are more likely than others to survive and reproduce. The proportion of individuals that have advantageous characteristics will increase.	Mutation, Selection, M+S
Performance Indicator 4.1c	The processes of meiosis and fertilization are key to sexual reproduction in a wide variety of organisms. The process of meiosis results in the production of eggs and sperm which each contain half of the genetic information. During fertilization, gametes unite to form a zygote, which contains the complete genetic information for the offspring.	Crosses