CD 1
Worksheet for Chapters 1,3 and 4

1) **From a Piagetian perspective, what do the concepts of Assimilation and Accommodation mean and how to they relate to Adaptation and Equilibrium?**

When a person encounters something new it might put them in a state of disequilibrium. In order to achieve equilibrium, the organism needs to adapt. The person can adapt either through assimilation or accommodation.

Assimilation *Use of existing schemata to incorporate external stimuli, Organism's attempt to deal with stimuli using present cognitive structures, Assimilation is the goal of all adaptation.*
Accomodation *Transformation of cognitive structures in response to external stimuli which do NOT fit available schemata. Includes modification of existing schemata. Includes development of NEW schemata, A complementary process along with assimilation*
Adaptation *Tendency of all organisms to change in response to the environment.* Just as structure of the body are adapted to fit with the environment, so structures of the mind develop to better fit with, or represent the external world
Equilibrium - State of cognitive balance or harmony between incoming stimuli (information they encounter in the everyday world) and the individual's cognitive structures. When an organism is in equilibrium, it is more effective in dealing with its environment. All organisms strive for equilibrium.
Organization *The tendency of organisms to make processes into a system.*
Schema (pl. schemata) *Cognitive structures of an individual used for processing incoming sensory information*
Piaget believed that children understood things different from adults (e.g. no object permanence in babies) but as children's gained more experience, their way of thinking changed

2) **What are the differences between Piaget's Concrete and Formal Operations stages?**

Concrete Operations (7 – 11) Children's reasoning becomes more logical and better organized. Can organize objects into hierarchies but not yet abstract
Formal Operations (11 onwards) The capacity for abstract, systematic thinking enables teenagers to start with a hypothesis, make inferences and allow them to evaluate logic of verbal statements without referring to real world examples.

Sensorimotor (Birth – 2 years) Infants act on the world with their senses.
Preoperational (2 – 7 years) Children use symbols to represent sensorimotor discoveries. Development of language and make believe take place. But lacks logic

3) **Ali is currently a fifth grader at Andrews Middle School in Medford, MA. In addition to attending school, he also plays soccer in a local soccer league, plays viola, and goes to the local mosque with his family. His mother is a bank executive, and father is a writer and works from home. Ali goes home after school (or practice) each day and his dad takes care of him. From Bronfenbrenner's perspective, what is the developmental context that Ali is living in (what are the systems)? Be sure to specify which elements in the description belong where (perhaps draw a picture). (*This is a made-up example!)**

Individual

Microsystem – concerns relations between the child and the immediate environment
Ali – Dad - Mom
Ali – teacher at Andrew Middle School
Ali – soccer league team mates
Ali – people who attend mosque services
Ali – Viola teacher

Mesosystem – connections among immediate settings
Home and school
home and soccer league association
home and mosque (religious setting)
home and music school

Exosystem – social settings that affect but do not contain the child
Mom's workplace
School board
Local government
Religious authorities

Macrosystem – values, laws, customs and resources of the culture that affect activities and interactions at all inner layers
Dominant beliefs and ideologies

Chronosystem – is not a specified context but refers to the dynamic, ever changing nature of the person's environment. Important life events, birth of a sibling, moving to a new neighborhood, parent's divorce, beginning in a new school. Timing of these things also matter

Child and environment both products and producers of their environment

Ali himself (individual)
Microsystem: (activities and interaction patterns in the child's immediate surroundings) relationships between Ali himself and his parents (e.g. his dad as

the main caregiver), people at his school, his soccer team, his viola instructor, and the people in his mosque.
Mesosystem: (connections between microsystems) interactions between, say, Ali's school and his parents, his parents and his soccer team, his viola instructor and his school, his school and his mosque, etc.
Exosystem: (social settings that do not contain children but that nevertheless affect children's experiences in immediate settings) Ali's mother's workplace (the bank), extended family, friends and neighbors, community services, etc.
Macrosystem: cultural values, laws, customs, and resources.
Chronosystem: the generation/time period that Ali is being raised in matters (e.g. he will be far more technologically advanced than his parents were when they were growing up).

4) **Define genotype and phenotype.**
Genotype is your genetic inheritance, or make up. **Phenotype** is how this genetic make up is expressed. It is the directly observable characteristics that make individuals unique. Phenotype can be behavioral, physical and psychological characteristics. They are also affected by environmental influences.

5) George's dad has brown eyes (Bb) and his mom has brown eyes (Bb). They were sure George would also have brown eyes, but he has blue eyes. What is his genotype and what is his phenotype? Explain.

Two forms of each gene occur at the same place on the chromosomes, one from mom and one from dad. Each form of a gene is called an allele. Alleles from both parents alike: child is homozygous and will display inherited trait. Alleles differ: child is heterozygous; relationships between the alleles determine the trait that will appear.

In many heterozygous pairings, only one allele affects child's characteristics (the dominant one). This is known as dominant-recessive inheritance. But heterozygous individuals with just one recessive allele (Bb) can pass the recessive trait to their children. They are called carriers of the trait.