Test Bank for Development Across the Life Span 10th Edition by Feldman

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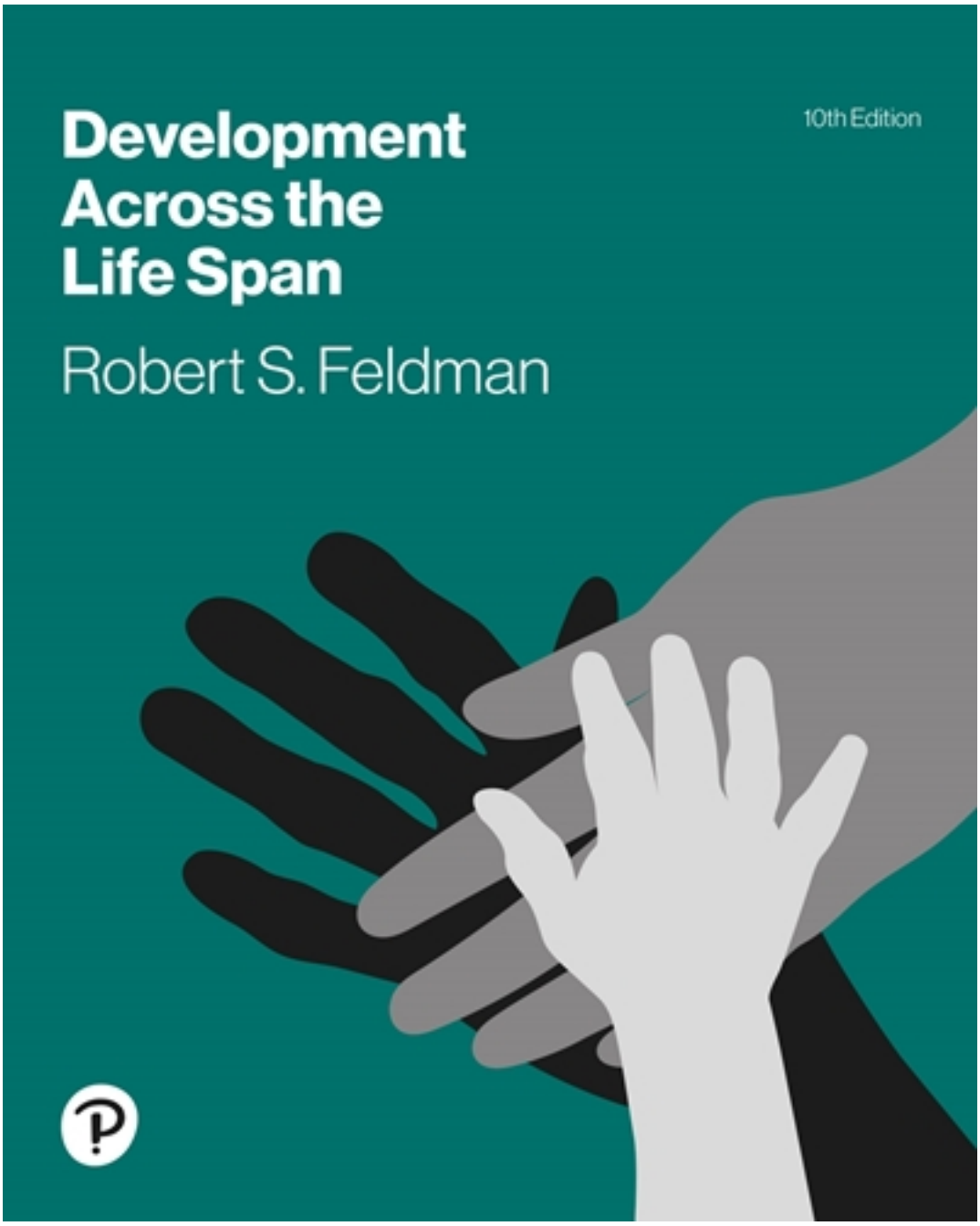

Test Bank

Chapter 2

THE START OF LIFE: PRENATAL DEVELOPMENT

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LEARNING OBJECTIVES

LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.

LO 2.2 Compare monozygotic twins with dizygotic twins.

LO 2.3 Describe how the sex of a child is determined.

LO 2.4 Explain the mechanisms by which genes transmit information.

LO 2.5 Describe the field of behavioral genetics.

LO 2.6 Describe the major inherited disorders produced by damaged or mutated genes.

LO 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

LO 2.8 Explain how the environment and genetics work together to determine human characteristics.

LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.

LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.

LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.

LO 2.12 Describe ways in which genes influence the environment.

LO 2.13 Explain the process of fertilization.

LO 2.14 Summarize the three stages of prenatal development.

LO 2.15 Describe the challenges that relate to pregnancy.

LO 2.16 Describe the threats to the fetal environment and what can be done about them.

CHAPTER OUTLINE

I. Prologue: Going with the Odds
II. Earliest Development
  A. Genes and Chromosomes: The Code of Life
    1. Humans begin life as a single cell.
    2. Our genetic code is stored and communicated in our **GENES**, *the basic units of genetic information*.
      a) Genes are composed of sequences of **DNA (deoxyribonucleic acid)**, *the substance that determines the nature of every cell in the body and how it will function.*
      b) Humans have over 25,000 genes.
      c) Genes are arranged in specific locations and in a specific order along 46 **CHROMOSOMES**, *rod-shaped portions of DNA that are organized in 23 pairs*.
        (1) One pair of chromosomes (via the gametes) is provided by each parent at fertilization.
      d) **GAMETES** (sperm and ova) are formed by a process called *meiosis*.
      e) A **ZYGOTE** *is one cell formed by fusion of the two gametes*.
      f) All other cells replicate the genetic code by a process called *mitosis*.
      g) There are tens of trillions of possible genetic combinations.
  B. Multiple Births: Two—or More—for the Genetic Price of One
    1. Less than 3 percent of all pregnancies produce twins; the odds are slimmer for three or more children.
    2. **MONOZYGOTIC TWINS**, *who are genetically identical*, form when a cluster of cells in the ovum splits off within the first two weeks following fertilization.
    3. **DIZYGOTIC TWINS**, who are produced when two separate ova are fertilized by two separate sperm, are no more genetically similar than two siblings.
    4. Other kinds of multiple births (triplets, quadruplets, etc.) can form from either mechanism.
    5. Using fertility drugs increases the chances of having a multiple birth.
      a) 1 in 10 are dizygotic.
      b) Older women are more likely to have multiple births.
      c) Racial and ethnic differences affect the rate of multiple births.
      d) White American: 1 out of 86 dizygotic.
      e) Black American: 1 out of 70 dizygotic.
  C. Male or Female? Establishing the Sex of the Child
    1. The 23rd chromosome determines the sex of the child.
      a) Females are XX.
      b) Males are XY.
      c) Sperm determines the sex of the child.
  D. The Basics of Genetics: The Mixing and Matching of Traits
    1. An Austrian monk, Gregor Mendel (1822–1884), working with peas, discovered that when two competing traits were present, only one could be expressed.
      a) *The trait that is expressed when two competing traits are present is called the* **DOMINANT TRAIT**.
      b) *The trait that is present in the organism but not expressed is called the* **RECESSIVE TRAIT**.
      c) **GENOTYPE** *is the underlying combination of genetic material present (but not outwardly visible) in an organism*.
      d) **PHENOTYPE** *is an observable trait, the trait that is actually seen*.
      e) Alleles are genes for traits that may take alternate forms.
        (1) **HOMOZYGOUS** *is inheriting from parents similar genes for a given trait*.
        (2) **HETEROZYGOUS** *is inheriting from parents different forms of a gene for a given trait.*
      f) If a child receives a *recessive* allele from each parent, the child will display the recessive characteristic.
    2. Transmission of Genetic Information
      a) Discussion of the transmission of phenylketonuria (PKU), an inherited disorder in which a child

is unable to make use of an essential amino acid present in proteins found in milk and other foods. Untreated, PKU levels will build up, causing brain damage and intellectual impairment.

3. Polygenic Traits
   a) Most traits are the result of **POLYGENIC INHERITANCE**, *in which a combination of multiple gene pairs is responsible for the production of a particular trait*.
   b) Some genes (such as those for blood type AB) are neither dominant nor recessive but are a combination.
   c) Some recessive genes are **X-LINKED GENES**, *meaning they are located on the X chromosome*.
      (1) Males have a higher risk for a variety of X-linked disorders because they lack a second X chromosome to counteract the genetic information that produces the disorder.
      (2) *Hemophilia* is a blood disorder produced by X-linked genes.

E. The Human Genome and Behavioral Genetics: Cracking the Genetic Code
   1. In 2001, molecular biologists succeeded in mapping the human genome—the specific sequence of genes on each chromosome.
      a) The number of human genes has been revised downward from 100,000 to 25,000.
      b) Humans share 99.9 percent of the gene sequence.
   2. *The most recent approach to the study of the effects of heredity on behavior and development is called* **BEHAVIORAL GENETICS**.
      a) This field merges psychology—the study of behavior—with genetics—the study of transmission of characteristics through heredity.
      b) These researchers are learning how behavioral difficulties (such as schizophrenia) may have a genetic basis.
      c) Researchers also seek to identify how genetic defects may be remedied.

F. Inherited and Genetic Disorders: When Development Deviates from the Norm
   1. Some genetic disorders are inherited (e.g., PKU).
   2. Some genetic disorders are the result of genes that become physically damaged.
      a) Sometimes genes spontaneously change their form, a process called *spontaneous mutation*.
      b) Certain environmental factors, such as exposure to X-rays, can produce malformed genetic material.
      c) Some genetic disorders include:
         (1) **DOWN SYNDROME** *is produced by the presence of an extra chromosome on the 21st chromosome pair, once referred to as mongolism.*
         (2) **FRAGILE X SYNDROME** *is produced by injury to a gene on the X chromosome, producing mild to moderate intellectual impairment.*
         (3) **SICKLE-CELL ANEMIA** *is a blood disorder that gets its name from the shape of the red blood cells in those who have it.*
         (4) **TAY-SACHS DISEASE** *is an untreatable disorder that produces blindness and muscle degeneration prior to death.*
         (5) One male out of every 400 is born with **KLINEFELTER SYNDROME**, *a disorder resulting from the presence of an extra X chromosome that produces underdeveloped genitals, extreme height, and enlarged breasts.*
         (6) **INTERSEX**: A person is born with a rare combination of chromosomes, gene patterns, and sexual organ configurations. Sometimes an intersex infant has both male and female sex organs, or their sex organs are ambiguous.

G. Genetic Counseling: Predicting the Future from the Genes of the Present
   1. Discipline focuses on helping people deal with issues related to inherited disorders.
   2. Genetic counselors use a variety of data.
      a) They can take a thorough family history, seeking any familial incidence of birth defects.
      b) The age of parents will be taken into account.
      c) Blood, skin, and urine may be used to isolate and examine specific chromosomes.
      d) Possible genetic defects can be identified by assembling a *karyotype*, a chart containing

enlarged photos of each of the chromosomes.

3. Prenatal Testing: Other tests take place after a person is already pregnant:
   a) **ULTRASOUND SONOGRAPHY** *is a process in which high-frequency sound waves scan the uterus to produce an image of the unborn baby, whose size and shape can then be assessed.*
   b) **CHORIONIC VILLUS SAMPLING (CVS)** *is a test used to find genetic defects that involves taking samples of hairlike material that surrounds the embryo.*
   c) **AMNIOCENTESIS** *is the process of identifying genetic defects by examining a small sample of fetal cells drawn by a needle inserted into the amniotic fluid surrounding the fetus.*
4. Screening for Future Problems
   a) *Huntington's disease* and more than a thousand other disorders can be predicted based on genetic testing.
   b) At home, genetic tests are joining the ranks of at-home pregnancy tests, whereby people simply collect a saliva specimen and send it to a lab to uncover their carrier status for inherited conditions.
5. Are "Designer Babies" in our future?
   a) Other advances include *germ-line gene therapy,* a process where genetic modifications can correct problems not only for unborn individuals but for future generations.
   b) Technology is making possible the feat of *cloning*—the creation of a complete human being.

III. The Interaction of Heredity and Environment

A. The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
1. Interaction of Factors
   a) An individual's **TEMPERAMENT**, the patterns of arousal and emotionality that represent consistent and enduring characteristics, may represent **MULTIFACTORIAL TRANSMISSION**, traits that are determined by a combination of both genetic and environmental factors in which a genotype provides a range within which a phenotype may be expressed.
   b) Some genotypes are not as sensitive to the environment as others are.

B. Studying Development: How Much Is Nature? How Much Is Nurture?
1. The correct question is not whether behavior is caused by nature or nurture, but *how much* by nature and *how much* by nurture.
2. Nonhuman Animal Studies: Controlling Both Genetics and Environment
   a) Scientists put laboratory animals bred to share genetic backgrounds in different environments to explore the effects of these environments.
   b) Conversely, they use genetically different animals in similar environments to determine the role of genetics.
3. Contrasting Relatedness and Behavior: Adoption, Twin, and Family Studies
   a) Scientists use human twins to study the effects of genes and the environment.
   b) Differences between monozygotic twins separated at birth are most likely but not always due to different environments.
   c) If monozygotic twins are more similar than dizygotic twins on a particular trait, then we can assume that genetics plays a role.
   d) People who are unrelated but share the same environment also tell us about environmental influences.
   e) Researchers also study biological parents and their children versus adoptive parents and their children to see the effects of heredity versus environment.
   f) Bottom line: Virtually all traits, characteristics, and behaviors are the joint result of the combination and interaction of nature and nurture.
   g) The more genetically similar two people are, the more likely they are to share physical characteristics (e.g., height, weight).
   h) Genetics plays a significant role in intelligence; however, the environment is also a significant factor.

C. Genetics and the Environment: Working Together

1. Physical Traits: Family Resemblances
   a) Twins plainly show a great deal of resemblance, but genetics also influences similarity of blood pressure, respiration, or longevity.
2. Intelligence: More Research, More Controversy
   a) The extent to which "biology is destiny," especially with regard to cognitive skills, remains hotly contested.
3. Genetic and Environmental Influences on Personality: Born to Be Outgoing?
   a) Increasing evidence supports the conclusion that at least some personality traits have at least some genetic components.
   b) *Neuroticism* refers to the degree of moodiness, touchiness, or sensitivity an individual characteristically displays.
   c) *Extroversion* is the degree to which a person seeks to be with others, to behave in an outgoing manner, and generally to be sociable.
   d) Certain traits reflect the contribution of genetics more than others.
      (1) Social potency
      (2) Traditionalism
   e) Political attitudes, religious interests and values, even attitudes toward human sexuality seem to have genetic components.

D. Psychological Disorders: The Role of Genetics and Environment
   1. Several psychological disorders have been shown to be related, at least in part, to genetic factors:
      a) Schizophrenia spectrum disorder
      b) Major depressive disorders
      c) Alcoholism
      d) Autism spectrum disorder
      e) Attention-deficit hyperactivity disorder

E. Can Genes Influence the Environment?
   1. Sandra Scarr suggested three ways a child's genetic predisposition might influence their environment:
      a) Children focus on environments that are connected with their genetically determined abilities.
         (1) Ex: Active, aggressive child toward sports
      b) Passive gene-environment influence
         (1) Ex: Sports-oriented parent, who has good coordination genes, provides many opportunities for a child to play sports.
      c) Genetically driven temperament may evoke certain environmental influences.
         (1) Infant's demanding behavior causes parents to be more attentive.

IV. Prenatal Growth and Change

A. Fertilization: The Moment of Conception
   1. **FERTILIZATION** *is the process by which a sperm and an ovum join to form a single new cell.*

B. The Stages of the Prenatal Period: The Onset of Development
   1. The Germinal Stage: Fertilization to 2 Weeks
      a) The prenatal period consists of three phases:
         (1) The **GERMINAL STAGE** is the first and shortest stage of prenatal development, which takes place during the first two weeks following conception.
         (2) It is characterized by methodical cell division and the attachment of the organism (*blastocyst*) to the wall of the uterus.
         (3) The developing child is called a *zygote* at this stage.
         (4) The cells become specialized, with some forming a protective layer around the zygote, while others create:
            (a) **PLACENTA**, *the conduit between the pregnant person and fetus, providing nourishment and oxygen via the umbilical cord.*
   2. The Embryonic Stage: 2 Weeks to 8 Weeks

a) The second stage is called the **EMBRYONIC STAGE**, the period from two to eight weeks following fertilization, during which significant growth occurs in the major organs and body systems.
   (1) At this point, the developing child is called an *embryo*.
   (2) The developing child is now composed of three layers:
      (a) The *ectoderm* is the outer layer forming the skin, hair, teeth, sense organs, brain, and spinal cord.
      (b) The *endoderm* is the inner layer producing the digestive system, liver, pancreas, and respiratory system.
      (c) The *mesoderm* is sandwiched between the inner and outer layers and forms the muscles, bones, blood, and circulatory system.

3. The Fetal Stage: 8 Weeks to Birth
   a) The **FETAL STAGE** *begins about eight weeks after conception and continues until birth.*
      (1) The developing child from eight weeks after conception until birth is called a **FETUS**.
      (2) The fetus dramatically increases in size and weight.
      (3) Organs become more differentiated and operational.
      (4) By three months, the fetus swallows and urinates.
      (5) By four months, the pregnant person will be able to feel the fetus move.

C. Pregnancy Problems

1. INFERTILITY

a) Six percent of couples experience **INFERTILITY**, the inability to conceive after 12 to 18 months of trying to become pregnant.
b) Infertility is produced by several causes:
   (1) The age of the parents
   (2) Previous use of birth control pills, illicit drugs or cigarettes, STDs
   (3) Men who have an abnormally low sperm count
   (4) The mother taking certain drugs during pregnancy
   (5) The most common cause of infertility is failure to release an egg through ovulation—possibly caused by hormonal imbalance, damage to fallopian tube or uterus, or stress.
c) There are several approaches to conception.
   (1) **ARTIFICIAL INSEMINATION** is a process of fertilization in which a man's sperm is placed directly into a woman's vagina by a physician.
   (2) **IN VITRO FERTILIZATION (IVF)** is a procedure in which a woman's ova are removed from her ovaries, and a man's sperm are used to fertilize the ova in a laboratory.
      (a) IVF Statistics
         (i) Success rates as high as 33 percent for younger women (lower rates for older women)
         (ii) Worldwide, more than 3 million babies created via IVF
      (b) Examples of IVF
         (i) Choosing sex of baby
         (ii) In rarer cases, a **SURROGATE MOTHER**, a person who agrees to carry the child to term, may be used in cases where the mother is unable to conceive; the surrogate is artificially inseminated by the biological father, and she gives up rights to the infant.
   (3) **GAMETE INTRAFALLOPIAN TRANSFER (GIFT)** and **ZYGOTE INTRAFALLOPIAN TRANSFER (ZIFT)**, procedures in which an egg and sperm or fertilized egg are implanted in the fallopian tubes.

2. Ethical Issues
   a) Ethical and legal issues, as well as emotional concerns, are present and may result in the rights of the parents, the surrogate mother, and ultimately the child being in conflict.
   b) Sex selection techniques are even more troubling, and questions arise about intervening in the reproductive process to obtain a preferred sex or other characteristics.

c) Evidence suggests that the quality of parenting in families who have used artificial means to conception may even be superior to naturally conceived children.
d) The psychological adjustment of children conceived artificially is no different than that of children conceived using natural techniques.

3. Miscarriage and Abortion
   a) A *miscarriage*—known as spontaneous abortion—occurs when pregnancy ends before the developing child is able to survive outside the womb.
      (1) 15 to 20 percent of all pregnancies end in miscarriage.
      (2) Many times, the person is not even aware they are pregnant.
      (3) Typically, miscarriages are attributable to some sort of genetic abnormality.
      (4) *Abortion* is the voluntary termination of a pregnancy.

D. The Prenatal Environment: Threats to Development
   1. Certain aspects of parents' behavior, both before and after conception, can produce lifelong consequences for the child.
      a) Some of the most profound consequences are brought about by a **TERATOGEN**, *an environmental agent such as a virus, chemical, or other factor that produces a birth defect*.
      b) At some phases of prenatal development, a teratogen may have minimal impact; at other periods, consequences can be severe.
   2. Mother's Diet
      a) A mother's diet clearly plays an important role in bolstering the development of the fetus.
      b) A woman who eats a varied diet high in nutrients is apt to have fewer complications during pregnancy, an easier labor, and a generally healthier baby.
   3. Mother's Age
      a) Research shows that mothers over 30 and adolescent mothers are at greater risk for a variety of pregnancy and birth complications:
         (1) Premature birth
         (2) Low birth weight
         (3) Down syndrome
         (4) Higher infant mortality rates for adolescent mothers
   4. Mother's Prenatal Support
      a) Many teenage moms do not have enough economic and social support.
         (1) May affect infant health
         (2) Prevents getting good prenatal care
   5. Mother's Health
      a) Illness in a pregnant woman can have devastating consequences.
         (1) *Rubella* (German measles) prior to the 11th week can cause blindness, deafness, heart defects, or brain damage.
         (2) *Chicken pox* and *mumps* may cause birth defects and miscarriage, respectively.
         (3) *Syphilis* and *gonorrhea* can be transmitted to the child.
         (4) *AIDS* (acquired immune deficiency syndrome) can affect newborns.
            (a) If a mother with AIDS takes antiviral drugs (e.g., AZT), less than 5 percent of infants are born with the disease.
            (b) Babies born with AIDS must remain on antiviral drugs their entire lives.
   6. Mother's Drug Use
      a) Mother's use of legal and illegal drugs pose serious risks to the unborn child:
         (1) Aspirin, for example, taken for a headache, can lead to fetal bleeding.
         (2) *Thalidomide* causes missing limbs.
         (3) *DES (diethylstilbestrol)* later caused cervical and vaginal cancer in daughters.
         (4) *Marijuana* restricts oxygen to the fetus.
         (5) *Cocaine* restricts blood flow and oxygen; babies are born addicted and go through withdrawal; they are shorter and weigh less; they have serious respiratory problems and birth defects or seizures; it is often impossible to soothe them.

7. Mother's Use of Alcohol and Tobacco
   a) Both alcohol and cigarettes can disrupt the development of the fetus:
   b) **FETAL ALCOHOL SPECTRUM DISORDER (FASD)** *is a disorder caused by the pregnant mother consuming substantial quantities of alcohol during pregnancy, potentially resulting in intellectual impairment, delayed growth, and facial deformities.*
      (1) Even smaller amounts of alcohol can produce **FETAL ALCOHOL EFFECTS (FAE)**, *a condition in which children display some, although not all, of the problems of FASD due to their mother's consumption of alcohol during pregnancy*.
      (2) Just two drinks a day have been associated with lower intelligence.
   c) Smoking reduces the oxygen content and increases carbon monoxide.
      (1) Mothers can miscarry or babies can be born with abnormally low birth weight.
      (2) Babies born to smokers are shorter and may be 50 percent more likely to have intellectual impairment.
8. Do Fathers Affect the Prenatal Environment?
   a) Fathers can affect the prenatal environment:
      (1) Secondhand smoke can affect the mother's health.
      (2) Alcohol and illegal drugs can lead to chromosomal damage at conception.
      (3) Stress may produce an unhealthy environment for the mother.
      (4) Sperm damage may result from father's exposure to environmental toxins in the workplace.

LECTURE LAUNCHERS

Lecture Launcher 2.1: "The Epidemic That Wasn't": Crack Babies

The findings of Barry Lester's longitudinal research on crack babies were summarized by *The New York Times* and investigated by other researchers. Although there are significant differences in IQ between babies exposed to crack prenatally and their non-exposed counterparts, the differences are smaller than even Lester expected and likely not clinically significant. Discuss with your students how something that can appear to be an obvious teratogen (and likely almost always is) can nonetheless have its effects modulated by genetic and environmental factors.

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Lecture Launcher 2.2: Fertility

Traditionally, estimates of women's fertility ranged anywhere from two days to 10 days a month. However, a study by the National Institute of Environmental Health Sciences in Research Triangle Park, North Carolina, found that women are fertile for five days before ovulation as well as on the day of ovulation. Researchers were surprised to find that having sex just one day after ovulation will not result in a pregnancy.

According to the study, the probability of conception ranges from 10 percent when intercourse occurs five days before ovulation to 33 percent when it happens on the day of ovulation. Daily intercourse results in the highest chance of pregnancy, 37 percent. The study had some other findings: There is no evidence that the timing of intercourse influences whether the baby will be a male or a female. Also, there is no sign that aging sperm is more likely to produce babies with defects, although the study was too small to support this conclusively.

On average, there is a 20 percent chance of getting a viable pregnancy each month. However, according to Dr. Allen Wilcox, who conducted the study, "even couples who are very fertile are not fertile in every cycle. We don't understand why that is." Results from another study show that women who drink three or more cups of coffee a day reduce their chances of conception by 26 percent. It is believed that caffeine disrupts the menstrual cycle and may lead to early pregnancy loss.

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Lecture Launcher 2.3: Infertility

Contrary to popular opinion, infertility rates are not on the rise. In 1965, the U.S. infertility rate was 13.3 percent; in 1988 it was 13.7 percent. The current infertility rate is about 10 percent. Although statistically the rates are low (and declining), individually that's cold comfort for someone trying to conceive a child. Share with your students some information about ways to treat infertility, such as:

- in vitro fertilization (IVF)
- gamete intrafallopian transfers (GIFT)
- intrauterine insemination (IUI)
- zygote intrafallopian transfer (ZIFT)
- intracytoplasmic sperm injection (ICSI)

There are some pros and cons associated with these reproductive technologies. For example, before the 1970s, only *donor insemination*—injection of sperm from an anonymous person into another person—was available as an infertility treatment. Today, *in vitro fertilization* is a common choice, where hormones are used to stimulate the production of several ova, which are removed. The eggs are placed in a dish of nutrients, sperm are added, and then the fertilized eggs are injected into the person wishing to become pregnant. Ova can be screened for genetic defects, and fertilized ova can also be frozen for use in the future. Sperm can also be frozen. Unfortunately, few states have legal guidelines for these procedures, and consequently, problems may arise such as:

- genetic defects
- sexually transmitted infections
- poor records of donor characteristics
- possibility that children from the same donor may eventually marry
- use of genetic selection for the "perfect child"
- use of "surrogate mothers"

Handout 2-1 reviews some common reasons for infertility and various solutions.

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Lecture Launcher 2.4: Chromosome Abnormalities

Students are typically fascinated by the intricacies of prenatal development, and rightly so. It's pretty amazing that a stew of cells can develop into . . . well, someone like them, sitting in a college classroom reading about a stew of cells. Unfortunately, this process sometimes goes awry, and the manifestations of those disruptions can take different forms.

Down syndrome, named after the British physician John Langdon Down, who first described its symptoms in 1866, is a disorder in which there is an extra chromosome within the body's cells. The particular chromosome is associated with the 21st pair, making that pair a triplet. This most common type of Down syndrome is called trisomy 21, indicating "three number 21 chromosome bodies." The risk of having a child with Down syndrome increases greatly in women over the age of 35 or under the age of 18 who give birth. Symptoms include wide-set eyes with an almond shape and intellectual impairments.

Edwards syndrome, also called trisomy 18, results from an extra chromosome on the 18th pair. Although very rare (there are fewer than 20,000 diagnosed cases a year), it can result in low birthweight, an abnormally shaped head, and clenched hands. Structural defects of the kidney, heart, intestines, and palate are also associated with the disorder. Patau syndrome (trisomy 13) is also very rare and leads to multiple organ defects. Warkany syndrome (trisomy 8), trisomy 9, trisomy 16, and trisomy 22 illustrate that extra chromosomes landing where they shouldn't can result in a range of impairments.

Other chromosome disorders include Klinefelter syndrome, in which the 23rd set of sex chromosomes is XXY, with the extra X producing a male with enlarged breasts, excessive weight, and excessive height. Another disorder is Turner syndrome. In this disorder, the 23rd pair is missing an X, so that the result is a lone X chromosome. These females tend to be very short, averaging about 4 feet 7 inches in height. They are infertile and tend not to develop the breast tissue and rounded hips typical of other females during adolescence. Many Turner syndrome females have difficulty in learning, especially in the area of mathematics.

And just to complete the alphabet soup, conditions such as XYY syndrome and triple X syndrome (trisomy X, or XXX) illustrate that the normal mixing and matching of XY and XX pairs can easily go awry. Although many of these disorders involve the addition of a chromosome, other disorders, such as cri du chat syndrome, Wolf-Hirschhorn syndrome, and other so-called *monosomies* are just as deleterious.

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Lecture Launcher 2.5: In Vitro Fertilization and Multiple Births

In 2009, a single mother named Nadya Suleman gained national attention when she gave birth to octuplets. Dubbed the "Octomom" by the press, Suleman already had six children, with all of her pregnancies resulting from *in vitro* fertilization, which can carry the consequence of multiple births. Several reality television

programs, like the once-popular "Jon and Kate Plus 8," have also made celebrities out of parents who have had multiple-birth pregnancies using assisted reproduction technologies. All of this attention has caused some people to ask whether children from multiple-birth pregnancies are at risk for developmental problems.

Concern over developmental problems with multiple births focuses on two distinct issues. First, multiple-birth pregnancies are associated with premature births, lower birth weights, and other complications from having multiple fetuses in the uterus at once. Because abnormal *in utero* development can have a long-lasting impact on brain development, multiple-birth pregnancies have the potential to cause permanent cognitive disabilities.

The other issue of concern regarding the development of children in multiple-birth families is whether the strain that so many children at the same age puts on a family interferes with the parents' abilities to provide a healthy environment. For example, parents may have little time and attention to devote to each child. Furthermore, the financial burdens may cause children to go without toys and other items. It's worth noting in this regard that "Jon and Kate" are now pretty much "Kate Only," as the Gosselins divorced in 2009, spurred in part by the pressures fame brought them. Ms. Suleman, the Octomom, subsequently made a living working as a stripper and as an actress in pornographic films.

Introduce the concept of multiple births to students, along with their increased prevalence when in vitro fertilization is used. Ask students to discuss whether they believe children from large, multiple-birth pregnancies are likely to have their development affected in a negative way. Should fertility doctors be banned from implanting more than one or two embryos at a time? Do they feel that children in large families from single births are also at risk? To extend the activity, ask students to respond to this writing prompt:

Using evidence from the textbook chapter on development, what are some developmental concerns you might have for children from large multiple births?

Sample answer: Carrying multiple fetuses at once may cause premature births, which increases the risk of learning disabilities later in life. After they are born, children may have very little individual attention. Children with inattentive parents are more likely to develop insecure attachment, which may delay their development. In extreme cases where children do not have access to their parents' affection, children can develop severe cognitive and emotional problems, as in the infamous Romanian orphanages. This, however, is very unlikely to occur unless the neglect is extreme.

Lecture Launcher 2.6: My Mother, Myself

Many people feel that their mothers are "a part of them." Recent findings suggest that there may be considerable truth to that phrase.

Many adults apparently still have cells in their bodies that they picked up from their mothers during the gestation period. Similarly, many mothers still have cells in their bodies that came from their own children during pregnancy. Technically speaking, these "guest cells" are actually the product of stem cells that got planted in the "host's" body and started reproducing decades later. And, technically speaking, there aren't too many of them. Some estimates put the number of foreign cells at less than one in a million, a comforting thought for anyone conjuring up images of parasitic offspring or alien-like entities living happily rent-free.

The meaning of these *microchimeras* is less clear. There is some evidence that these cells might contribute to autoimmune diseases, although there is also speculation that these cells might confer a health benefit. Because this area of study is relatively young, there remain more questions than answers (such as, what about people who have cells from both their mothers and their own offspring?). It's comforting to know, though, that in some small way a parent is always with us.

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STUDENT ACTIVITIES

Student Activity 2.1: The Nature-Nurture Issue: Lessons from the Pillsbury Doughboy

David B. Miller uses a cooking metaphor to describe the interactions between genetics (nature) and the environment (nurture). In his metaphor, flour represents genes. He takes four different food items, which represent four different developmental outcomes that all use flour as a base, but that have other ingredients that interact with the flour in unique ways.

1. FLOUR + SALT + WATER + FRIED IN SHORTENING = FLOUR TORTILLA
2. FLOUR + SALT + WATER + BAKED WITHOUT SHORTENING = MATZO
3. FLOUR + SALT + WATER + YEAST + BAKING = BREAD
4. FLOUR + SALT + BUTTER + COCOA + SUGAR + BAKING = BROWNIE

Depending on how adventuresome you feel, you can demonstrate this lesson in a variety of ways. You can bring in an example of each ingredient (e.g., a bag of flour, a box of salt, some water, a can of shortening, a packet of yeast, some butter, a can of cocoa, a bag of sugar, and perhaps a toy oven) and use them as props to create the "developed" results (e.g., tortilla, matzo, bread, and brownie). You could actually mix some of the ingredients and assign students to finish them at home. Finally, you could assign small groups ahead of time to make the various products and bring them to class; each group must explain how their ingredients relate to real-world human development (i.e., flour = genes, salt = culture, water = health, baking/frying = home environment). Each group must explain their results. Miller suggests that the metaphor of tortilla versus matzo shows how similar ingredients (i.e., shared genes of identical twins) can yield different developmental outcomes (i.e., different personalities, intelligence, and so on) due to different environments (i.e., baking versus frying).

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Student Activity 2.2: Conception and Pregnancy

Distribute **Handout 2-2** before you discuss conception and pregnancy. Tell students that some of the answers are in Chapter 2 and some they will have to find on their own using other sources.

This handout can be used as an assignment to be completed before your lectures on conception and pregnancy or as a review. The answers are:

Conception

1. Ovary → fallopian tube → uterus → uterine wall (fertilized) or vagina (unfertilized)
2. Penis → vagina → uterus → fallopian tube → egg (ovum)
3. Possible answers include blocked/damaged fallopian tubes, abnormal ovulation, pelvic inflammatory disease (PID), endometriosis, damaged ovaries, hostile cervical mucus, fibroid tumor.
4. Possible answers include low sperm count, dilated veins around testicle, damaged sperm ducts, hormone deficiency, sperm antibodies.
5. Possible answers include surgery, in vitro fertilization, hormone therapy, antibiotics, artificial insemination.

Pregnancy

1. Possible answers include cessation of menses, breast tenderness, nausea.
2. Stage 1: Germinal stage lasts 2 weeks (from conception till week 2), the cells divide and attach to the uterine wall, the baby is called a "zygote."
   Stage 2: Embryonic stage lasts 6 weeks (from week 2 until week 8), the cell layers (endoderm, ectoderm, mesoderm) form, the baby is called an "embryo."
   Stage 3: Fetal stage lasts 7 months (from week 8 until birth), all the child's systems are developing rapidly, the child is called a "fetus."
3. Possible answers are to see an obstetrician/midwife; eat a healthy diet, including calcium and multivitamin and mineral supplements; abstain from caffeine, alcohol, nicotine, and unnecessary drugs; get plenty of rest; avoid X-rays; exercise moderately.
4. Amniocentesis: fetal cells are taken via a needle from amniotic fluid.
   Chorionic villus sampling (CVS): samples of hair-like material taken from embryo.
   Ultrasound sonography: high-frequency sound waves produce an image of baby.
5. Possible answers include alcohol, nicotine, X-rays, prescription drugs such as thalidomide, illicit drugs such as cocaine and marijuana, illnesses of the mother such as rubella, influenza, and AIDS.

Student Activity 2.3: Hello Mother, Hello Father

Ask your students two questions: "What does it mean to father a child?" and "What does it mean to mother a child?" Chances are that responses to the first question will focus on biological aspects of reproduction; "being a sperm donor," "impregnating someone," or "having sex." Responses to the second question typically emphasize nurturance or prolonged commitment; "raising a child," "showing attention," or "being supportive" are likely offerings. Discuss with your students why they hold these views and why they responded to the questions differently. This is an opportunity to discuss sex-role stereotypes, sexual orientation, gender identity, gender roles, and some issues of early adulthood. If your students are a particularly enlightened bunch, there may be no difference in their responses to the two questions. In that case discuss what led to their egalitarian outlooks, or why other people might respond differently.

Student Activity 2.4: Buying the Ingredients of Life on the Internet

Ask students to use the Internet to explore their options for becoming parents. Have them note the prices paid for eggs, sperm, etc., by visiting several sites that offer reproductive help or reproductive services. You might be surprised—or maybe not—how easy it is to type "buy sperm" into a search engine and get 46 million results.

Pose the following question: How far is too far to go? Ask students what they would do if they wanted to have a child but could not. (Consider the following possibilities: they found out that they are infertile; they have a genetic condition that has a chance of being passed to their offspring.) You might also share **Handouts 2-3 and 2-4** in this context. Handout 2-3 lists some dominant and recessive characteristics that sometimes influence people's wishes for a "designer baby." Handout 2-4 lists some common teratogens that can affect prenatal development.

Student Activity 2.5: Sonograms

Here's an easy and interesting way to introduce the topic of prenatal development. Bring pictures of sonograms to class and see if students can identify the various anatomical parts of the fetus. You can easily find examples of sonograms on the Internet; search "sonogram" or "ultrasound" and you should find plenty of samples.

Student Activity 2.6: Reflective Journal

Ask students to interview someone about their pregnancy—ideally, a family member, but any close friend, colleague, or willing acquaintance will do. Distribute **Handout 2-5** as a starting point for their task, and emphasize that the interviewee's responses should form the basis for the student's own reflections.

SUPPLEMENTAL READING

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Handout 2-1

Fertility Problems and Solutions

FEMALES

PROBLEM	SOLUTION
Damaged fallopian tubes	Surgery, in vitro fertilization
Abnormal ovulation	Hormone therapy, antibiotics, in vitro fertilization
Pelvic inflammatory disease (PID)	Antibiotics, surgery, change in birth control methods
Endometriosis	Antibiotics, hormone therapy, surgery, artificial insemination
Damaged ovaries	Surgery, antibiotics, hormone therapy
Hostile cervical mucus	Antibiotics, artificial insemination, hormone therapy
Fibroid tumor	Surgery, antibiotics
Stress	Relaxation techniques
Tipped uterus, fibroid tumors	Surgery

MALES

PROBLEM	SOLUTION
Low sperm count	Antibiotics, hormone therapy, artificial insemination, lowered testicular temperature
Dilated veins around testicle	Surgery, lowered testicular temperature, antibiotics
Damaged sperm ducts	Surgery, antibiotics
Hormone deficiency	Hormone therapy
Sperm antibodies	Antibiotics, in vitro fertilization
Chronic illness, alcoholism, drug abuse, long-term use of marijuana	Artificial insemination
Pollutants	Artificial insemination
Stress	Relaxation techniques

Handout 2-2

Facts about Conception and Pregnancy

Review your knowledge of conception and pregnancy by answering the questions below.

Conception

1. Trace the journey of the egg in a pregnant person's body:

ovary _____ → _____ → _____ → _____ fertilized / _____ unfertilized

2. Trace the journey of sperm cells from ejaculation to conception:

penis _____ → _____ → _____ → _____ → _____ → _____

3. List three possible reasons for infertility in females.
   a. _____
   b. _____
   c. _____
4. List two possible reasons for infertility in males.
   a. _____
   b. _____
5. List and define three treatments for infertility.
   a. _____
   b. _____
   c. _____

Pregnancy

1. List three early signs and symptoms of pregnancy.
   a. _____
   b. _____
   c. _____

Handout 2-2, continued

2. Name the three stages of prenatal development. How long does each stage last? What systems have developed? What is the developing child called?

Stage 1: _____ Stage 2: _____ Stage 3: _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

3. List six important components of good prenatal care.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

4. Name and describe three prenatal tests.

a. _____

b. _____

c. _____

5. Name six teratogens.

a. _____ d. _____

b. _____ e. _____

c. _____ f. _____

Handout 2-3

Dominant and Recessive Characteristics

Characteristics in the left-hand column dominate over characteristics listed in the right-hand column.

	DOMINANT TRAITS	RECESSIVE TRAITS
eye coloring	brown eyes	gray, green, hazel, blue eyes
vision	farsightedness	normal vision
	normal vision	nearsightedness
	normal vision	night blindness
	normal vision	color blindness*
hair	dark hair	blonde, light, red hair
	non-red hair	red hair
	curly hair	straight hair
	full head of hair	baldness*
	widow's peak	normal hairline
facial features	dimples	no dimples
	unattached earlobes	attached earlobes
	freckles	no freckles
	broad lips	thin lips
appendages	normal number	extra digits
	normal digits	fused digits
	normal digits	short digits
	normal joints	fingers lack one joint
	normal proportion	limb dwarfing
	normal thumb	clubbed thumb
	normal joints	double-jointedness
other	immunity to poison ivy	susceptibility to poison ivy
	normal pigmented skin	albinism
	normal blood clotting	hemophilia*
	normal hearing	congenital deafness
	normal hearing and speaking	deaf mutism
	normal—no PKU	phenylketonuria (PKU)

**sex-linked characteristic*

Handout 2-4

Possible Teratogens

This list of suspected teratogens contains many common items. Most babies are born without defects, so the placenta may be an effective barrier to many of these substances. Additionally, the timing of the exposure to a teratogen is critical to its impact on prenatal development. Overall, more damage is likely early in the pregnancy when organ systems are developing.

DISEASES		
Chlamydia	Pneumonia	Gonorrhea
Rubella (German measles)	Herpes	Scarlet fever
HIV	Syphilis	Mumps
Toxoplasmosis	Tuberculosis	Influenza

DRUGS		
Accutane	Hexachlorophene	Alcohol
Iodides	Amphetamines	Lithium
Antibiotics	LSD	Anti-cancer drugs
Opiates	Anticoagulant drugs	Quinine
Aspirin	Sedatives	Barbiturates
Smallpox vaccination	Caffeine	Thalidomide
Nicotine	Tranquilizers	Cocaine
Vitamins in excess	Diethylstilbestrol (DES)	Marijuana

ENVIRONMENTAL FACTORS		
Cadmium	Mercury	Cat feces
Nickel	Fumes from paints, solvents,	Pesticides
Insecticides	glues, dry-cleaning fluids	Herbicides
Manganese	Radiation (X-rays, video display terminals)	
Hair dyes	Polychlorinated biphenyls (PCBs)	Lead

NONINFECTIOUS MATERNAL CONDITIONS		
Alcoholism	Chemical dependency	Phenylketonuria
Rh+ factor	Anemia	Stress
Diabetes mellitus	Young/older mother	

Handout 2-5

Reflective Journal Exercise 2

If possible, interview your parents or caregivers (if this is not possible, try an aunt, uncle, or grandparent) about your own prenatal development. Use the following questions to get started.

1. Was this a planned pregnancy?
2. Was this your first baby?
3. How did you find out you were pregnant?
4. How did you feel?
5. Were you working?
6. When did you first see a doctor?
7. Did you take vitamins?
8. What changes did your body go through?
9. What are some of the strongest memories you have of this pregnancy?
10. Did you have any prenatal tests?
11. How did your lifestyle change?
12. Did you smoke? Drink alcohol? Drink coffee or tea? Take any drugs?
13. Did you know the sex of the baby before the birth? Did you have a preference for a male or a female? How did you feel when you found out the sex of your baby?
14. When did you decide on a name for the baby?
15. Did you attend any special classes or workshops about childbirth or nursing?
16. Did you know of any preexisting conditions?
17. Where were you living?
18. Were there any features or characteristics you were hoping the baby would have? Were there any you were hoping the baby would NOT have?
19. How much of your partner's medical history did you know? In retrospect, how important would that have been?
20. What roles or expectations did you have for this child?
21. What influenced your decision to have a child at this time?
22. Did you have any trouble conceiving? Did you expect to have any trouble becoming pregnant?

Reflect on what you learned. How do you think your own pregnancy (or your partner's) will be (or was) the same or different than your parent's?

TOTAL ASSESSMENT GUIDE

Chapter 2

The Start of Life: Prenatal Development

Topic		Remember the Facts	Understand the Concepts	Apply What You Know
LO 2.1: Describe how genes and chromosomes provide our basic genetic endowment.	Multiple Choice	1-14	15-16	
	True/False			
	Fill-Ins			
	Essay			
LO 2.2: Compare monozygotic twins with dizygotic twins.	Multiple Choice	17, 20, 22-23	19	18, 21
	True/False			
	Fill-Ins			
	Essay			
LO 2.3: Describe how the sex of a child is determined.	Multiple Choice	24-26		
	True/False	154		
	Fill-Ins			
	Essay	148		
LO 2.4: Explain the mechanisms by which genes transmit information.	Multiple Choice	27-31, 33-37		32
	True/False	155-156, 158-160		157
	Fill-Ins			
	Essay			
LO 2.5: Describe the field of behavioral genetics.	Multiple Choice	38-39		
	True/False	161-163		
	Fill-Ins			
	Essay			
LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.	Multiple Choice	40, 46		41-45
	True/False	165	166	
	Fill-Ins			
	Essay			
LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.	Multiple Choice	47-48, 50-68, 70		49, 69
	True/False	167-168, 170	169	
	Fill-Ins			
	Essay			
LO 2.8: Explain how the environment and genetics work together to determine human characteristics.	Multiple Choice	71-72		
	True/False	171-174		
	Fill-Ins			
	Essay			
LO 2.9: Summarize how researchers study the interaction of genetic and environmental factors in development.	Multiple Choice	73, 74		
	True/False	176, 178	175, 177	
	Fill-Ins			
	Essay		149-150	

TOTAL ASSESSMENT GUIDE

Chapter 2

The Start of Life: Prenatal Development

Topic		Factual	Conceptual	Applied
LO 2.10: Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.	Multiple Choice	75-81		
	True/False	179, 181-185	188	180, 186
	Fill-Ins			
	Essay			
LO 2.11: Explain the role genetics and the environment play in the development of psychological disorders.	Multiple Choice	82-83		
	True/False	164, 187-188		
	Fill-Ins			
	Essay		151	
LO 2.12: Describe the way in which genes influence the environment.	Multiple Choice	84		
	True/False	189		
	Fill-Ins			
	Essay			
LO 2.13: Explain the process of fertilization.	Multiple Choice	85-88		
	True/False			
	Fill-Ins			
	Essay			
LO 2.14: Summarize the three stages of prenatal development.	Multiple Choice	89-108		
	True/False	190		
	Fill-Ins			
	Essay			
LO 2.15: Describe the challenges that relate to pregnancy.	Multiple Choice	109-112, 114-118		113
	True/False			
	Fill-Ins			
	Essay		152	
LO 2.16: Describe the threats to the fetal environment and what can be done about them.	Multiple Choice	119-133, 135-140, 142-143, 145-146	147	134, 141, 144
	True/False	194		
	Fill-Ins			
	Essay			153

Chapter 2

The Start of Life: Prenatal Development

MULTIPLE CHOICE

2.1. What are male reproductive cells called?

a) sperm
b) ovum
c) gametes
d) zygotes

Answer: A
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.2. What is a female reproductive cell called?

a) a gamete
b) a sperm
c) a zygote
d) an ovum

Answer: D
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.3. About an hour or so after a sperm enters the ovum, these two cells suddenly fuse, becoming one cell. What is this cell called?

a) a chromosome
b) DNA
c) a zygote
d) a gene

Answer: C

Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.4. What is the name of the new cell formed by the process of fertilization?

a) fetus
b) zygote
c) ovum
d) gamete

Answer: B
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.5. Male and female reproductive cells are also known as _____.

a) gametes
b) zygotes
c) genes
d) chromosomes

Answer: A
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.6. What is the basic unit of genetic information?

a) zygote
b) sperm
c) gene
d) gamete

Answer: C

Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.7. How are the blueprints for creating a person stored and communicated?

a) in the decomposition of zygotes
b) in a person's genes
c) in the 48th through 52nd chromosomes
d) through the transmission of the Golgi apparatus

Answer: B
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.8. What is the substance that genes are composed of, that determines the nature of each cell in the body and how it will function?

a) chromosomes
b) gametes
c) zygotes
d) deoxyribonucleic acid (DNA)

Answer: D
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.9. All genes are composed of specific sequences of which kind of molecules?

a) deoxyribonucleic acid (DNA)
b) calcium
c) mitochondria
d) ribonucleic acid (RNA)

Answer: A

Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.10. What is the name of the rod-shaped portions of DNA that are organized in 23 pairs?

a) genes
b) gametes
c) chromosomes
d) monochromes

Answer: C
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.11. There are _____ chromosomes along which genes are arranged in specific locations and in a specific order.

a) 54
b) 52
c) 46
d) 23

Answer: C
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.12. How many pairs of chromosomes are found in each of a typical human's non-sex cells?

a) 54
b) 52
c) 46
d) 23

Answer: D

Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.13. Which process accounts for the replication of most types of cells, resulting in nearly all the cells in the body containing the same 46 chromosomes as the zygote?

a) meiosis
b) constriction
c) mitosis
d) reproduction

Answer: C
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.14. Gametes are formed in the human body through the process of _____.

a) replication
b) meiosis
c) mitosis
d) neurogenesis

Answer: B
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.15. Which process provides the potential for the vast diversity of human beings springing from just 23 chromosomes per parent?

a) sperm competition
b) ovum timing
c) chromosomal abnormalities
d) gamete cell division

Answer: D
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Understand the Concepts
Difficulty Level: Difficult
APA LO: 2.1 Use scientific reasoning to interpret psychological phenomena.

2.16. How many genetic combinations are estimated to be possible from the processes of meiosis and other random genetic transformations?

a) tens of billions
b) tens of millions
c) two billion
d) trillions

Answer: D
Learning Objective: 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
Topic: Genes and Chromosomes: The Code of Life
Skill Level: Understand the Concepts
Difficulty Level: Difficult
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.17. Which term is used to describe genetically identical twins?

a) gamete-specific
b) monozygotic
c) dizygotic
d) zygote-enhanced

Answer: B
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.18. Marissa and Melissa are twins and are genetically identical. Which term would a geneticist use to describe them?

a) gamete-deprived twins
b) dizygotic twins
c) monozygotic twins
d) replicated twins

Answer: C
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.19. Monozygotic twins may differ from one another as they age. What causes these differences?

a) unfolding of genetic tendencies
b) chromosomal differences
c) environmental factors
d) DNA deterioration

Answer: C
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.20. Which term is used to describe twins who are produced when two separate ova are fertilized by two separate sperm at roughly the same time?

a) dizygotic
b) monozygotic
c) gamete-specific
d) zygote-depleted

Answer: A
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.21. Shane and Sia are twins, but they are not genetically identical. Which term would a geneticist use to describe them?

a) gamete-deprived twins
b) dizygotic twins
c) monozygotic twins
d) unreplicated twins

Answer: B

Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.22. What kind of twins are no more genetically similar than two siblings born at different times?

a) dizygotic twins
b) monozygotic twins
c) sperm-based twins
d) ovum-enhanced twins

Answer: A
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.23. How does the current rate of multiple births compare to the rate during the 1980s and 1990s?

a) The current rate has decreased since that time period.
b) The rate has remained the same since that time period.
c) The rate has increased since that time period.
d) The current rate is roughly 75 percent less compared to that time period.

Answer: C
Learning Objective: 2.2 Compare monozygotic twins with dizygotic twins.
Topic: Multiple Births: Two—or More—for the Genetic Price of One
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.24. Which chromosome pairing is found on the 23rd pair of chromosomes in males?

a) XX
b) XY
c) yX
d) YY

Answer: B
Learning Objective: 2.3 Describe how the sex of a child is determined.
Topic: Male or Female? Establishing the Sex of the Child

Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.25. How would a child with an XX pairing on the 23rd chromosome be genetically classified?

a) male
b) monozygotic
c) dizygotic
d) female

Answer: D
Learning Objective: 2.3 Describe how the sex of a child is determined.
Topic: Male or Female? Establishing the Sex of the Child
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.26. Which fundamental factor determines the sex of a child?

a) the ovum
b) the sperm
c) chromosome variety
d) chromosome division

Answer: B
Learning Objective: 2.3 Describe how the sex of a child is determined.
Topic: Male or Female? Establishing the Sex of the Child
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.27. What is the term used for the one trait that is expressed when two competing traits are present?

a) recessive
b) genotypic
c) dominant
d) phenotypic

Answer: C
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.28. Which term is used to describe a trait within an organism that is present but not expressed?

a) dominant
b) genotypic
c) phenotype-devoid
d) recessive

Answer: D
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.29. Which term is used to refer to an observable trait?

a) a karyotype
b) a prototype
c) a genotype
d) a phenotype

Answer: D
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.30. What do geneticists call the underlying combination of genetic material present (but not outwardly visible) in an organism?

a) a genotype
b) a phenotype
c) a dominance pattern
d) a recessive absence

Answer: A
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.31. When a child inherits similar genes for a given trait from parents, how would a geneticist describe that child?

a) monozygotic
b) homozygous
c) phenotypic
d) heterozygous

Answer: B
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.32. Eric has blue eyes. Because the gene for blue eyes is recessive, what must be true of Eric regarding this trait?

a) He is monozygotic for this trait.
b) He is homozygous for this trait.
c) He is phenozygotic for this trait.
d) He is heterozygous for this trait.

Answer: B
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.33. When a child receives different forms of a certain gene from parents, how would a geneticist describe that child?

a) monozygous
b) phenozygous
c) homozygous
d) heterozygous

Answer: D
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.34. What is the name of the inherited disorder in which a child is unable to make use of an essential amino acid present in proteins found in milk?

a) sickle cell disorder
b) phenylketonuria (PKU)
c) Prader-Willi syndrome
d) chromosome deficiency

Answer: B
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.35. What kind of inheritance results in a combination of multiple gene pairs contributing to the production of a particular trait?

a) X-linked
b) interstitial
c) polygenic
d) homozygous

Answer: C
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts

Difficulty Level: Difficult
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.36. What type of gene is considered recessive and located only on the X chromosome?

a) heterozygous
b) X-linked
c) homozygous
d) recessive

Answer: B
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.37. Which inherited blood-clotting disorder has been a problem throughout the royal families of Europe?

a) X-linked arrhythmia
b) phenylketonuria (PKU)

c) Down syndrome
d) hemophilia

Answer: D
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.38. Which term refers to studying the effects of heredity on psychological characteristics and behavior?

a) gene-mining
b) polygenic mapping
c) behavioral genetics
d) human genome partitioning

Answer: C
Learning Objective: 2.5 Describe the field of behavioral genetics.
Topic: The Human Genome and Behavioral Genetics: Cracking the Genetic Code
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.39. How many genes do humans have?

a) 100,000
b) 50,000
c) 25,000
d) 10,000

Answer: C
Learning Objective: 2.5 Describe the field of behavioral genetics.
Topic: The Human Genome and Behavioral Genetics: Cracking the Genetic Code
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.40. Sometimes genes, for no known reason, change their form. What is this process called?

a) spontaneous acceleration
b) spontaneous combustion
c) spontaneous mutation
d) spontaneous malformation

Answer: C
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Remember the Facts
Level: Moderate
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.41. Sara has an extra chromosome on her 21st pair of chromosomes. Which disorder does Sara have?

a) hemophilia
b) fragile X syndrome
c) sickle-cell anemia
d) Down syndrome

Answer: D
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.42. Emily has a disorder that is produced by an injury to a gene on the X chromosome, producing a mild to moderate mental impairment. Which disorder does Emily have?

a) Down syndrome
b) Tay-Sachs disease
c) fragile X syndrome
d) Klinefelter's syndrome

Answer: C
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.43. Carsten has a blood disorder that gets its name from the shape of his malformed red blood cells. Which disorder does Carsten have?

a) sickle-cell anemia
b) hemophilia

c) Klinefelter's syndrome
d) fragile X syndrome

Answer: A
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.44. Petrushka has a disorder that is untreatable and produces blindness and muscle degeneration prior to death. Which disorder does Petrushka have?

a) fragile X syndrome
b) Tay-Sachs disease
c) Klinefelter syndrome
d) hemophilia

Answer: B
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Apply What You Know

Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.45. Boris has the disorder that results from the presence of an extra X chromosome that produces underdeveloped genitals, extreme height, and enlarged breasts. Which disorder does Boris have?

a) Klinefelter syndrome
b) Down syndrome
c) Tay-Sachs disease
d) fragile X syndrome

Answer: A
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.46. The sickle-cell gene confers immunity against which disease commonly found in West Africa?

a) hemophilia
b) diarrhea
c) malaria
d) anemia

Answer: C
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.47. Which profession focuses on helping people deal with issues related to inherited disorders?

a) psychological counseling
b) sociological guidance
c) genetic counseling
d) family planning

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.48. What is the earliest medical test that occurs in the 11th to 13th week of pregnancy and can identify chromosomal abnormalities and other disorders, such as heart problems?

a) amniocentesis
b) chorionic villus sampling (CVS)
c) ultrasound sonography
d) first-trimester screen

Answer: D
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.49. Herlinda talks to her physician about assessing the health of her unborn child. The physician recommends a test that combines a blood test and ultrasound sonography. Which procedure did the physician recommend?

a) amniocentesis
b) sonogram
c) first-trimester screen
d) embryoscopy

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.50. What is the process in which high-frequency sound waves scan a pregnant person's uterus to produce an image of an unborn baby?

a) embryoscopy
b) ultrasound sonography
c) amniocentesis
d) chorionic villus sampling (CVS)

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.51. Which procedure involves taking samples of the hair-like material that surrounds an embryo in order to identify genetic defects?

a) karyotype
b) amniocentesis
c) ultrasound sonography
d) chorionic villus sampling (CVS)

Answer: D
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts

Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.52. Which invasive test can be used if blood tests and ultrasound have identified a potential problem with the developing fetus, or if there is a family history of inherited disorders?

a) amniocentesis
b) chorionic villus sampling (CVS)
c) ultrasound sonography
d) first-trimester screen

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.53. Which infrequently used test is performed between the 8th and 11th week of pregnancy, but produces a risk of miscarriage?

a) amniocentesis
b) ultrasound sonography
c) chorionic villus sampling (CVS)
d) first-trimester screen

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.54. Which process identifies genetic defects by examining a small sample of fetal cells drawn by a needle inserted into the amniotic fluid?

a) amniocentesis
b) karyotype
c) ultrasound sonography
d) chorionic villus sampling (CVS)

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.55. Amniocentesis is usually conducted after how many weeks of pregnancy?

a) 5 to 10
b) 8 to 12
c) 15 to 20
d) 30 to 40

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.56. Which test is carried out 15 to 20 weeks into a pregnancy and allows the analysis of fetal cells that can identify a variety of genetic defects with nearly 100 percent accuracy?

a) chorionic villus sampling (CVS)
b) ultrasound sonography
c) embryoscopy
d) amniocentesis

Answer: D
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.57. Which test can be used to determine the sex of a child prior to birth?

a) ultrasound sonography
b) amniocentesis
c) chorionic villus sampling (CVS)
d) fetal blood sampling (FBS)

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.58. Which test examines the embryo or fetus during the first 23 weeks of pregnancy by means of a fiber-optic device inserted through the cervix?

a) embryoscopy
b) amniocentesis
c) somnambulism
d) chorionic villus sampling (CVS)

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.59. Which test is performed as early as the fifth week of pregnancy and allows access to the fetal circulatory system?

a) amniocentesis
b) embryoscopy
c) chorionic villus sampling (CVS)
d) ultrasound

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.60. Which procedure is recommended if either parent carries Tay-Sachs, spina bifida, sickle-cell, Down syndrome, muscular dystrophy, or Rh disease?

a) amniocentesis
b) embryoscopy
c) chorionic villus sampling (CVS)
d) ultrasound

Answer: A

Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.61. Which test is performed after 18 weeks of pregnancy by collecting a small amount of blood from the umbilical cord for testing?

a) embryoscopy
b) amniocentesis
c) fetal blood sampling (FBS)
d) chorionic villus sampling (CVS)

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.62. Which test is used to detect Down syndrome by collecting blood from the umbilical cord after the 18th week of pregnancy?

a) fetal blood sampling (FBS)
b) embryoscopy
c) chorionic villus sampling (CVS)
d) amniocentesis

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.63. Which procedure is used to detect abnormalities in the first trimester of pregnancy and involves high-frequency transvaginal probes and digital visual processing?

a) fetal blood sampling (FBS)
b) sonoembryology
c) embryoscopy
d) first-trimester screen

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.64. Which procedure, in combination with ultrasound, can detect more than 80 percent of all malformations during the second trimester of pregnancy?

a) sonoembryology
b) fetal blood sampling (FBS)
c) embryoscopy
d) amniocentesis

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.65. Which procedure relies on sound waves?

a) sonoembryology
b) ultrasound
c) chorionic villus sampling (CVS)
d) embryoscopy

Answer: B
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.66. Which procedure uses very high-frequency sound waves to detect structural abnormalities in the developing fetus or the presence of multiple fetuses?

a) ultrasound sonography
b) sonoembryology
c) embryoscopy

d) sonogram

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.67. Which testing procedure uses high-frequency sound waves to examine the developing fetus and is typically used in addition to other procedures?

a) sonogram
b) sonoembryology
c) ultrasound sonography
d) embryoscopy

Answer: C
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.68. The symptoms of Huntington's disease typically manifest themselves when people reach which decade of life?

a) 50s
b) 20s
c) 70s
d) 40s

Answer: D
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.69. Cynthia's mother will undergo a procedure to ensure her next child will be free of Fanconi anemia. Which of the following procedures will be used?

a) preimplantation genetic diagnosis (PGD)

b) ultrasound sonography (US)
c) chorionic villus sampling (CVS)
d) genetic ovum selectivity (GOS)

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.70. Which procedure takes cells from an embryo and then replaces them after the defective genes they contain have been repaired?

a) germ line therapy
b) genetic counseling
c) preimplantation genetic diagnosis
d) fetal blood sampling

Answer: A
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.71. What do developmentalists call patterns of arousal and emotionality that represent consistent and enduring characteristics in an individual?

a) genetics
b) personality
c) temperament
d) phenotype

Answer: C
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.72. Which term refers to the determination of an individual's traits through a combination of both genetic and environmental factors?

a) multifactorial transmission
b) inheritance
c) natural selection
d) unifactorial transmission

Answer: A
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.73. Monozygotic twins who are raised in different adoptive households would provide an opportunity to disentangle the relative effects of which two developmental influences?

a) genotypes and phenotypes
b) heredity and the environment
c) monozygotic and dizygotic influences
d) isolation and sociability

Answer: B
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.74. _____ is a mechanism for transforming "nature" into "nurture."

a) neurofibromatosis
b) multitrait-multimethod matrix
c) transgenerational epigenetic inheritance
d) amniotic sonovillus transmission

Answer: C
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Difficult

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.75. Which researcher argued that as much as 80 percent of intelligence is a result of heredity?

a) Barnard Hughes
b) Florian Schneider
c) Sandra Scarr
d) Arthur Jensen

Answer: D
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.76. Which "Big Five" personality trait refers to the degree of emotional stability an individual characteristically displays?

a) openness to experience
b) neuroticism
c) shyness
d) extroversion

Answer: B
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.77. Which "Big Five" personality trait refers to the degree to which a person seeks to be with others, to behave in an outgoing manner, and generally to be sociable?

a) neuroticism
b) agreeableness
c) social potency
d) extroversion

Answer: D
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts

Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.78. How do parents in the United States and Asian cultures compare in their attitudes toward children's activity levels?

a) Parents in the United States encourage lower activity levels, whereas parents in Asian cultures encourage greater activity in their children.
b) Both parents in the United States and parents in Asian cultures encourage passivity in their children.
c) Parents in the United States encourage higher activity levels, whereas parents in Asian cultures encourage greater passivity in their children.
d) Both parents in the United States and parents in Asian cultures encourage higher activity levels in their children.

Answer: C
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.79. Which genetically linked trait reflects the tendency to be a masterful, forceful leader who enjoys being the center of attention?

a) neuroticism
b) social potency
c) extroversion
d) traditionalism

Answer: B
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.80. Which genetically linked trait reflects the tendency to endorse rules and authority?

a) traditionalism
b) neuroticism
c) social potency
d) extroversion

Answer: A
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.81. Which developmental scientist speculated that the underlying temperament of a given society, determined genetically, may predispose people in that society toward a particular philosophy?

a) T. C. Frank
b) Willard Kaiser
c) Hugo Brinkmann
d) Jerome Kagan

Answer: D
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.82. Approximately what percent chance does a monozygotic twin have of developing schizophrenia when the other twin develops the disorder?

a) 10 percent
b) 25 percent
c) 50 percent
d) 100 percent

Answer: C
Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.83. If genetics were the sole cause of a disorder, what would be the risk factor between monozygotic twins for developing that disorder?

a) 10 percent
b) 25 percent

c) 50 percent
d) 100 percent

Answer: D
Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.84. Which developmental psychologist endorsed the idea that genetic endowment provided to children by their parents not only determines their genetic characteristics, but also actively influences their environment?

a) Lee Willerman
b) Sandra Scarr
c) Edie Sedgwick
d) Horst Mahler

Answer: B
Learning Objective: 2.12 Describe way in which genes influence the environment.
Topic: Can Genes Influence the Environment?
Skill Level: Remember the Facts

Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.85. What is the process by which a sperm and an ovum join to form a single new cell?

a) fertilization
b) sex segregation
c) germinal bonding
d) prenatal determination

Answer: A
Learning Objective: 2.13 Explain the process of fertilization.
Topic: Fertilization: The Moment of Conception
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.86. How many ova are human females usually born with?

a) 100,000
b) 400,000
c) 500,000
d) 1,000,000

Answer: D
Learning Objective: 2.13 Explain the process of fertilization.
Topic: Fertilization: The Moment of Conception
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.87. During the time between puberty and menopause, females will ovulate in periods of approximately how many days?

a) 37
b) 28
c) 15
d) 60

Answer: B
Learning Objective: 2.13 Explain the process of fertilization.
Topic: Fertilization: The Moment of Conception
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.88. How many sperm does an adult male produce each day?

a) 100,000
b) 14,000
c) several hundred million
d) 8,000,000

Answer: C
Learning Objective: 2.13 Explain the process of fertilization.
Topic: Fertilization: The Moment of Conception
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.89. Three days after fertilization, how many cells constitute the developing organism?

a) 150
b) 100
c) 64
d) 32

Answer: D
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development

Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.90. What is the first and shortest stage of the prenatal period called?

a) fertilization stage
b) germinal stage
c) conception stage
d) embryonic stage

Answer: B
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.91. Which term is used to describe the fertilized egg during the germinal stage of prenatal development?

a) ovum
b) sperm
c) fetus
d) blastocyst

Answer: D
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.92. Which organ provides nourishment and oxygen to a developing fetus via the umbilical cord?

a) amniotic sac
b) ectoderm
c) placenta
d) endoderm

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.93. What is the name of the period from 2 to 8 weeks following fertilization, during which significant growth occurs in the major organs and body systems?

a) embryonic stage
b) fetal stage
c) celerity stage
d) fertilization stage

Answer: A
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.94. During the embryonic stage of prenatal development, which term refers to the layer of cells that will form skin, hair, teeth, sense organs, the brain, and the spinal cord?

a) ectoderm
b) placenta
c) endoderm
d) mesoderm

Answer: A
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.95. During the embryonic stage of prenatal development, which term refers to the layer of cells that produces the digestive system, liver, pancreas, and respiratory system?

a) ectoderm
b) placenta
c) endoderm
d) mesoderm

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.96. During the embryonic stage of prenatal development, which term refers to the layer of cells that forms the muscles, bones, blood, and circulatory system?

a) mesoderm
b) ectoderm
c) endoderm
d) placenta

Answer: A
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.97. During the embryonic stage of prenatal development, how many layers of cells eventually form every part of the human body?

a) 5
b) 3
c) 8
d) 10

Answer: B
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.98. About how long is an 8-week-old embryo?

a) 10 inches
b) 5 inches
c) 2 inches
d) 1 inch

Answer: D
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.99. During the embryonic stage of prenatal development, the head represents about how much of the total length of the embryo?

a) 10 percent
b) 25 percent
c) 50 percent
d) 75 percent

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.100. At what point in the embryonic stage of prenatal development does the nervous system begin to function?

a) 2nd week
b) 5th week
c) 4th week
d) 8th week

Answer: B
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.101. During which stage of prenatal development does the developing child become easily recognizable?

a) embryonic
b) germinal
c) fetal
d) marginal

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.102. Which stage of prenatal development formally starts when the differentiation of the major organs has occurred?

a) fetal
b) embryonic
c) germinal
d) tonsorial

Answer: A
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.103. Which stage of prenatal development begins at about 8 weeks after conception and continues until birth?

a) fertilization stage
b) zygotic stage
c) embryonic stage
d) fetal stage

Answer: D
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.104. Which term is used for a developing child during the period from 8 weeks after conception until birth?

a) embryo
b) baby
c) fetus
d) zygote

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.105. In which stage of prenatal development does the developing child undergo astoundingly rapid change, including dramatic changes in proportion and weight?

a) embryonic
b) fetal
c) germinal
d) combinatorial

Answer: B
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.106. The development of the major organs and basic anatomy takes place during which stage of prenatal development?

a) placenta
b) germinal
c) embryonic
d) fetal

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Level: Moderate
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.107. How long after conception does a fetus first swallow and urinate?

a) 5 weeks
b) 6 months
c) 7 weeks
d) 3 months

Answer: D
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.108. Which hormone do some scientists speculate may lead to differences in male and female brain structure and later variations in gender-related behavior?

a) serotonin
b) dopamine
c) androgen
d) oxytocin

Answer: C
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.109. How long a period of trying to become pregnant needs to pass before a diagnosis of infertility is made?

a) 4 to 6 months
b) 12 to 13 months
c) 6 to 12 months
d) 12 to 18 months

Answer: D
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.110. Approximately what percent of couples experience infertility?

a) 6 percent
b) 15 percent
c) 25 percent
d) 75 percent

Answer: A
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.111. What is the term for the procedure of fertilization in which sperm is placed directly into a vagina by a physician?

a) in vitro fertilization
b) intrafallopian transfer
c) artificial insemination
d) germinal insemination

Answer: C
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.112. What is the term for the procedure in which ova are removed from a person's ovaries and sperm are used to fertilize the ova in a laboratory?

a) in vitro fertilization
b) intrafallopian transfer
c) artificial insemination
d) germinal insemination

Answer: A
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems

Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.113. Abrielle and her husband want to have a child, but her husband has a medical condition that keeps him from producing adequate sperm. She will attempt a procedure in which a fertilized egg will be implanted in her fallopian tubes. Which procedure will Abrielle undergo?

a) artificial insemination
b) embryonic implant
c) fertilization
d) zygote intrafallopian transfer

Answer: D
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.114. In women younger than 35, how high is the success rate for in vitro fertilization?

a) 67 percent
b) 48 percent
c) 33 percent
d) 21 percent

Answer: B
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.115. Which other term is sometimes used to describe a spontaneous abortion?

a) infertility
b) insemination
c) stillbirth
d) miscarriage

Answer: D
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Easy

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.116. Which term describes a pregnancy that ends before the developing child is able to survive outside of the womb?

a) artificial remission
b) spontaneous abortion
c) in vitro fertilization
d) polygenic rejection

Answer: B
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.117. Statistically, approximately how many pregnancies end in miscarriage, usually in the first several months of pregnancy?

a) 10–25 percent
b) 25–50 percent

c) 50–65 percent
d) 15–20 percent

Answer: D
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.118. Which term refers to a pregnant person voluntarily terminating a pregnancy?

a) spontaneous abortion
b) stillbirth
c) miscarriage
d) abortion

Answer: D
Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.119. Which term describes an environmental factor that produces birth defects?

a) virus
b) allele
c) teratogen
d) diffuser

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.120. Which organ keeps teratogens from reaching a developing fetus?

a) umbilical cord
b) placenta
c) amniotic sac
d) uterus

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.121. Which group has the greatest risk for a variety of pregnancy and birth complications?

a) adolescents age 13 to 15
b) adolescents age 15 to 20
c) females age 20 to 25
d) females age 30 and older

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.122. Older females are considerably more likely to give birth to children with which genetic disorder?

a) Tay-Sachs disease
b) Down syndrome
c) Huntington's disease
d) sickle-cell anemia

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.123. Approximately what percent of babies born to females over the age of 40 have Down syndrome?

a) 5 out of 10
b) 1 out of 4
c) 6 out of 100
d) 1 out of 100

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.124. Approximately what percent of babies born to females over the age of 50 have Down syndrome?

a) 1 out of 4
b) 1 out of 10
c) 1 out of 2
d) 1 out of 100

Answer: A
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.125. Which group has the greatest risk for premature delivery?

a) females between the ages of 20 and 25
b) females between the ages of 35 and 40
c) adolescents
d) females over 60

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.126. Which disease, if contracted by a pregnant person prior to the 11th week of pregnancy, is likely to cause blindness, deafness, heart defects, or brain damage in the baby?

a) smallpox
b) mumps
c) gonorrhea

d) rubella

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.127. Which disease, when contracted by a pregnant person, increases the possibility that the fetus may develop a birth defect?

a) AIDS
b) chicken pox
c) psoriasis
d) mumps

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.128. Which illness, when contracted by a pregnant person, increases the risk of miscarriage?

a) chicken pox
b) mumps
c) syphilis
d) AIDS

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.129. Which sexually transmitted disease can be transmitted directly to the fetus and will cause the fetus to be born with the disease?

a) chicken pox
b) rubella

c) Tay-Sachs disease
d) syphilis

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.130. Which sexually transmitted disease can be transmitted to the child as it passes through the birth canal to be born?

a) gonorrhea
b) syphilis
c) AIDS
d) mumps

Answer: A
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.131. Which disease may be passed to the fetus (through the blood that reaches the placenta) from pregnant people who are carriers of the virus?

a) mumps
b) syphilis
c) AIDS
d) gonorrhea

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.132. If a pregnant person who carries the AIDS virus is treated with antiviral drugs during pregnancy, what percent of infants are born with AIDS?

a) about 50 percent
b) more than 25 percent
c) about 10 percent
d) less than 5 percent

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.133. Which medication was frequently prescribed to pregnant women up through the 1970s to prevent miscarriages, but was later found to cause the daughters of the women who took the medication to develop a rare form of cancer?

a) thalidomide
b) AZT
c) diethylstilbestrol (DES)
d) phenobarbital

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.134. Laurel has had difficult pregnancies and has developed a rare form of cervical cancer. Which drug might have been prescribed to Laurel's mother when she herself was pregnant?

a) thalidomide
b) AZT
c) amphetamines
d) diethylstilbestrol (DES)

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.135. Which prescription drugs, when taken by females before they are aware they are pregnant, could cause fetal damage?

a) birth control pills
b) benzodiazepines
c) diethylstilbestrol (DES)
d) thalidomide

Answer: A
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.136. Which drug, when used during pregnancy, can restrict oxygen that reaches the fetus and lead to infants who are irritable, nervous, and easily disturbed?

a) cocaine
b) marijuana
c) LSD
d) amphetamines

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.137. Which illegal substance, when used by pregnant people, led to an epidemic of thousands of “crack babies” during the early 1990s?

a) marijuana
b) amphetamines
c) cocaine
d) AZT

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy

APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.138. Which illegal substance, when used by pregnant people, produces an intense restriction of the arteries, causing a significant reduction in the flow of blood and oxygen to the fetus?

a) cocaine
b) LSD
c) thalidomide
d) amphetamines

Answer: A
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.139. Which drug, if a pregnant person is addicted to it, may produce babies who are born addicted to it and who subsequently go through withdrawal?

a) peyote
b) amphetamines
c) marijuana
d) cocaine

Answer: D
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.140. Which disorder is caused by a pregnant person consuming substantial quantities of alcohol during pregnancy, potentially resulting in intellectual impairment and delayed physical growth in the child?

a) Down syndrome
b) Parkinson’s disease
c) fetal alcohol spectrum disorder (FASD)
d) acquired immune deficiency syndrome (AIDS)

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.

Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.141. Bitsy is pregnant but continues to consume substantial quantities of alcohol. What risk is she imposing on her unborn child?

a) fetal alcohol spectrum disorder (FASD)
b) Moebius syndrome
c) Down syndrome
d) Prader-Willi syndrome

Answer: A
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Apply What You Know
Difficulty Level: Easy
APA LO: 1.3 Describe applications of psychology.

2.142. Approximately what percent of infants are born with fetal alcohol spectrum disorder (FASD)?

a) 1 out of 250
b) 1 out of 500
c) 1 out of 750
d) 1 out of 1000

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.143. Pregnant people who use small amounts of alcohol during pregnancy place their children at risk for which disorder?

a) fetal alcohol spectrum disorder (FASD)
b) macular degeneration
c) fetal alcohol effects (FAE)
d) Aarskog syndrome

Answer: C

Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.144. Ruby displays some, although not all, of the problems of fetal alcohol spectrum disorder (FASD) due to her mother's consumption of alcohol during pregnancy. Which diagnosis is Ruby most likely to receive?

a) alcohol-induced paralysis
b) fetal alcohol effects (FAE)
c) fetal alcohol deficit (FAD)
d) fetal alcohol remission markers (FARM)

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.145. How many alcoholic drinks per day would a pregnant person need to consume in order to produce adverse effects on intelligence, psychological functioning, and behavior in the developing child?

a) 1
b) 2
c) 5
d) 10

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.146. Which behavior has been shown to reduce the oxygen content and increase the carbon monoxide content of a pregnant person's blood, thereby affecting the developing child?

a) Taking LSD
b) Smoking cigarettes

c) Excessive exercise
d) Ingesting cocaine

Answer: B
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.147. How can a father's habits affect the health of an unborn child during prenatal development?

a) A father's nicotine intake produces DNA changes that are passed to the fetus on chromosome 23.
b) A father's use of barbiturates interacts with a mother's use of marijuana, resulting in missing chromosomes on a child's 8th pair.
c) A father's use of alcohol or illegal drugs can affect his sperm, which in turn may lead to chromosomal damage that affects the fetus.
d) A father's use of crack cocaine causes sperm mutations, such that two sperm are capable of fertilizing a single ovum.

Answer: C
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Understand the Concepts
Difficulty Level: Difficult
APA LO: 2.1 Use scientific reasoning to interpret psychological phenomena.

ESSAY QUESTIONS

2.148. Explain the contribution of the ovum and sperm in determining the sex of a child.

- When the ovum and sperm meet at fertilization, the ovum provides an X chromosome, whereas the sperm provides either an X or a Y chromosome.
- If the sperm contributes its X chromosome, the XX pairing will produce a female.
- If the sperm contributes its Y chromosome, the XY pairing will produce a male.

Learning Objective: 2.3 Describe how the sex of a child is determined.
Topic: Male or Female? Establishing the Sex of the Child
Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.149. Explain how adoption, twin, and family studies shed light on the contributions of genetics and the environment to a person's development.

- Monozygotic twins share 100 percent of their genes in common, whereas dizygotic twins and non-twin siblings share 50 percent of their genes, and strangers share 0 percent of their genes. These facts set the stage for investigating the roles of genetics and the environment in shaping development.
- Monozygotic twins raised in the same environment wouldn't allow for the disentangling of genetic and environmental influences, given that both genes and environment are relatively constant for this group. However, monozygotic twins raised in different adoptive environments would allow an estimation of the relative contributions of genetic and environmental factors to development; genes are identical, environment differs.
- Comparing monozygotic and dizygotic twins within a relatively same environment allows for an estimation of genetic contributions; here, genes differ (100 percent versus 50 percent), but environment stays the same.
- Comparing strangers within the same environment provides similar information; here there is no genetic overlap and constancy in the environment.
- One might imagine an "ideal" family composed of one set of monozygotic twins, one set of dizygotic twins, two non-twin siblings, two adopted siblings, and two non-sibling adoptees! All combinations of genetic and environmental experience could presumably be investigated.

Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 2.1 Use scientific reasoning to interpret psychological phenomena.

2.150. Explain how transgenerational epigenetic inheritance helps "nature" to become "nurture."

- Transgenerational epigenetic inheritance occurs when life experiences change the parts of DNA that switch individual genes on and off.
- When an environmental event such as malnourishment or drug use affects the DNA "switches" in sperm or ova, the alterations can be passed on to future generations.
- Both harmful and helpful effects may be passed along in this fashion, resulting in transmission that takes place over several generations.
- This process helps "nature" to become "nurture" in that DNA "switches" become affected by environmental processes. However, "nurture" obviously affects "nature" in a similar fashion, thereby amplifying the conclusion that a "nature *or* nurture?" approach is rarely preferable to a "nature *and* nurture" understanding of what shapes behavior.

Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?

Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 2.1 Use scientific reasoning to interpret psychological phenomena.

2.151. Explain what is meant when researchers say that the role of genetics is to produce a "tendency toward a future course of development."

- At one time it was popular to believe that "biology is destiny;" that is, a person's genetic makeup controlled everything about the subsequent unfolding developmental course.
- It was also popular, under other circumstances, to argue that "environment is all;" people of vastly different genetic propensities could equally flourish under the right environmental conditions.
- Researchers now know that when or whether a behavioral characteristic will actually be displayed depends on the nature of the environment in which the person is raised or lives.
- In other words, genes always express themselves within an environmental context, so to argue that "genes do" anything apart from recognizing the context of their expression is short-sighted.

Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Understand the Concepts
Difficulty Level: Moderate

APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.152. Explain how reproductive technologies are becoming increasingly sophisticated, permitting parents to choose the sex of a baby.

- One reproductive technology involves separating sperm carrying either the X or Y chromosome and later implanting the desired type into a uterus.
- In another technique, eggs are removed and fertilized with sperm using in vitro fertilization. Three days after fertilization, the embryos are tested to determine their sex. If they are the desired sex, they then are implanted.

Learning Objective: 2.15 Describe the challenges that relate to pregnancy.
Topic: Pregnancy Problems
Skill Level: Understand the Concepts
Difficulty Level: Difficult
APA LO: 2.1 Use scientific reasoning to interpret psychological phenomena.

2.153. Explain how a father's behavior may influence prenatal development.

- Fathers should avoid smoking because second-hand smoke may affect the pregnant person's health, and in turn, this affects the unborn child. Fathers' smoking has been linked to lower birth weight in babies.

- A father's use of alcohol and drugs may impair sperm and may lead to chromosomal damage that may affect the fetus at conception.
- Use of alcohol and drugs, as well as physical and/or emotional abuse, may increase stress in the pregnant person's (and therefore the developing child's) environment.
- A father's exposure to environmental toxins such as lead or mercury may cause toxins to bind to sperm and cause birth defects.

Learning Objective: 2.16 What are the threats to the prenatal environment, and what can be done about them?
Topic: The Prenatal Environment: Threats to Development
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

TRUE/FALSE

2.154. Sperm does not determine the sex of the child.

Answer: False
Learning Objective: 2.3 Describe how the sex of a child is determined.
Topic: Male or Female? Determining the Sex of the Child
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.155. In the mid-1800s, the Austrian monk Gregor Mendel conducted a series of simple experiments of cross-pollination of pea plants, which increased our understanding of genetics.

Answer: True
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.156. Gregor Mendel's pea plant experiments documented the existence of dominant and recessive traits.

Answer: True
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.157. Even if a child's parents both have the recessive gene for phenylketonuria (PKU), the child has only a 25 percent chance of inheriting the disorder.

Answer: True
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Apply What You Know
Difficulty Level: Difficult
APA LO: 1.3 Describe applications of psychology.

2.158. Relatively few traits are governed by a single pair of genes; most traits are the result of polygenic inheritance.

Answer: True
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.159. Genes vary in terms of their reaction range, which is the potential degree of variation in the actual expression of a trait due to environmental conditions.

Answer: True

Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.160. The blood disorder hemophilia is an example of a disease that is produced by X-linked genes.

Answer: True
Learning Objective: 2.4 Explain the mechanisms by which genes transmit information.
Topic: The Basics of Genetics: The Mixing and Matching of Traits
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.161. The field of behavioral genetics specializes in understanding the consequences of heredity on behavior.

Answer: True
Learning Objective: 2.5 Describe the field of behavioral genetics.
Topic: The Human Genome and Behavioral Genetics: Cracking the Genetic Code

Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.162. The number of human genes is thought to be 25,000; thus, humans have many more genes than other far less complex organisms.

Answer: False
Learning Objective: 2.5 Describe the field of behavioral genetics.
Topic: The Human Genome and Behavioral Genetics: Cracking the Genetic Code
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.163. Scientists have discovered that 99.9 percent of the gene sequence is shared by all humans.

Answer: True
Learning Objective: 2.5 Describe the field of behavioral genetics.
Topic: The Human Genome and Behavioral Genetics: Cracking the Genetic Code
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.164. The field of behavioral genetics extends to studying the role of hereditary factors in psychological disorders such as depression, attention deficit hyperactivity disorder (ADHD), and schizophrenia.

Answer: True
Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.165. Sometimes genes, for no known reason, spontaneously change their form, which is a process called spontaneous mutation.

Answer: True
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.166. If a disorder has a genetic origin, it means that there were no environmental factors that played a role in the manifestation of the disease.

Answer: False
Learning Objective: 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
Topic: Inherited and Genetic Disorders: When Development Deviates from the Norm
Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.167. Genetic counselors are trained to use a variety of data to help people deal with issues related to inherited disorders.

Answer: True
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.168. The newest role of genetic counselors involves testing people to identify whether they are susceptible to future disorders because of inherited genetic abnormalities.

Answer: True
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.169. Genetic testing does not raise difficult practical and ethical questions.

Answer: False
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Understand the Concepts
Difficulty Level: Easy
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.170. Genetic testing can always provide a simple yes or no answer as to whether an individual will be susceptible to a disorder.

Answer: False
Learning Objective: 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
Topic: Genetic Counseling: Predicting the Future from the Genes of the Present
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.171. As developmental research accumulates, it is becoming apparent that to view behavior as due to either genetic or environmental factors is inappropriate.

Answer: True
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Understand the Concepts
Difficulty Level: Easy
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.172. Research studying pregnant women who were severely malnourished by famines during World War II found that their children were, on average, unaffected physically or intellectually as adults.

Answer: True
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.173. If people eat a diet rich in healthy foods, it is possible for them to grow beyond their genetically imposed limitations in height.

Answer: False
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.174. It is the unique interaction of inherited and environmental factors that determines people's patterns of development.

Answer: True
Learning Objective: 2.8 Explain how the environment and genetics work together to determine human characteristics.
Topic: The Role of the Environment in Determining the Expression of Genes: From Genotypes to Phenotypes
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.175. One drawback to using nonhuman animals as research subjects is that we cannot be sure how well the obtained findings can be generalized to people.

Answer: True
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Understand the Concepts
Difficulty Level: Easy
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.176. The data from studies of identical twins raised in different environments provide indisputable evidence for the role of environmental factors in development.

Answer: False
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.177. By comparing behavior within pairs of dizygotic twins with that of pairs of monozygotic twins, researchers can determine if monozygotic twins are more similar on a particular trait, on average, than dizygotic twins.

Answer: True
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Understand the Concepts
Difficulty Level: Moderate
APA LO: 1.2 Develop a working knowledge of psychology's content domains.

2.178. The general conclusion among researchers is that virtually all traits, characteristics, and behaviors are the joint result of the combination and interaction of nature and nurture.

Answer: True
Learning Objective: 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
Topic: Studying Development: How Much Is Nature? How Much Is Nurture?
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.179. Obesity does not have a strong genetic component.

Answer: False
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.180. Physical characteristics such as blood pressure, respiration rates, and longevity are not strongly influenced by genetics.

Answer: False
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.181. A person's intelligence is the result of some combination of natural mental ability and environmental opportunity.

Answer: True
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.182. Intelligence is a central human characteristic that differentiates humans from other species, and genetics plays a significant role in determining a person's intelligence.

Answer: True
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.183. The IQ scores of dizygotic twins become increasingly similar over the course of time.

Answer: False
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.184. Psychologists have identified a core set of personality dimensions called the Great Eight.

Answer: False
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.185. Humans possess a novelty-seeking gene that affects the production of the brain chemical dopamine, which makes some people more prone to seek out novel situations and to take risks.

Answer: True
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Remember the Facts
Difficulty Level: Difficult
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.186. Researchers believe that political attitudes, religious interests, values, and attitudes toward human sexuality do not have genetic components.

Answer: False
Learning Objective: 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
Topic: Genetics and the Environment: Working Together
Skill Level: Apply What You Know
Difficulty Level: Moderate
APA LO: 1.3 Describe applications of psychology.

2.187. Schizophrenia spectrum disorder is a mental disorder that runs in families, with some families showing a significantly higher incidence than other families.

Answer: True
Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.188. Inherited genetic factors, environmental influences, structural abnormalities, and chemical imbalances are all factors that contribute to a person developing schizophrenia spectrum disorder.

Answer: True
Learning Objective: 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
Topic: Psychological Disorders: The Role of Genetics and Environment
Skill Level: Remember the Facts
Difficulty Level: Moderate
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.189. Human characteristics and behavior are a joint outcome of genetic and environmental factors.

Answer: True
Learning Objective: 2.12 Describe the ways in which genes influence the environment.
Topic: Can Genes Influence the Environment?
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.190. The brain becomes more sophisticated during the fetal stage, and the neurons become coated with an insulating material called myelin that helps speed the transmission of messages from the brain to the rest of the body.

Answer: True
Learning Objective: 2.14 Summarize the three stages of prenatal development.
Topic: The Stages of the Prenatal Period: The Onset of Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.191. A pregnant person's use of illegal drugs, but not prescription drugs, poses serious risks to the unborn child.

Answer: False
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.192. Increasing evidence suggests that ingestion of even small amounts of alcohol and nicotine by a pregnant person can disrupt the development of the fetus.

Answer: True
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.193. Research indicates that fetal alcohol spectrum disorder (FASD) is now the primary preventable cause of intellectual impairment.

Answer: True
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2.194. A father's use of alcohol and illegal drugs has no significant effect on the development of a fetus.

Answer: False
Learning Objective: 2.16 Describe the threats to the fetal environment and what can be done about them.
Topic: The Prenatal Environment: Threats to Development
Skill Level: Remember the Facts
Difficulty Level: Easy
APA LO: 1.1 Describe key concepts, principles, and overarching themes in psychology.

The following questions appear at the end of each module and at the end of the chapter in Revel for *Development Across the Life Span, Tenth Edition*.

REVEL QUIZ QUESTIONS

EOM Quiz Question 2.1.1

The human genetic code, transmitted at the moment of conception and stored in our genes, is composed of specific sequences of _____.

a) chromosomes
Consider This: Genes determine how the cells in the body will function. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
b) DNA
c) membranes
Consider This: Genes determine how the cells in the body will function. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
d) cells
Consider This: Genes determine how the cells in the body will function. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.

Answer: B
Difficulty: Easy
Topic: Earliest Development

Skill: Remember the Facts
LO 2.1: Describe how genes and chromosomes provide our basic genetic endowment.

EOM Quiz Question 2.1.2

A _____ is the underlying combination of genetic material present (but outwardly invisible) in an organism.

a) phenotype
Consider This: The correct term is sometimes confused with another term that sounds a bit like it. LO 2.4: Explain the mechanisms by which genes transmit information.
b) dominant trait
Consider This: The correct term is sometimes confused with another term that sounds a bit like it. LO 2.4: Explain the mechanisms by which genes transmit information.
c) genotype
d) recessive trait
Consider This: The correct term is sometimes confused with another term that sounds a bit like it. LO 2.4: Explain the mechanisms by which genes transmit information.

Answer: C
Difficulty: Easy
Topic: Earliest Development

Skill: Remember the Facts
LO 2.4: Explain the mechanisms by which genes transmit information.

EOM Quiz Question 2.1.3

The field of _____ studies the effects of heredity on behavior and psychological characteristics.

a) behavioral genetics
b) child development
Consider This: This field looks at how our personality and behavioral habits are affected by genetic factors. LO 2.5 Describe the field of behavioral genetics.
c) genetic counseling
Consider This: This field looks at how our personality and behavioral habits are affected by genetic factors. LO 2.5 Describe the field of behavioral genetics.
d) genome sequencing
Consider This: This field looks at how our personality and behavioral habits are affected by genetic factors. LO 2.5 Describe the field of behavioral genetics.

Answer: A
Difficulty: Easy
Topic: Earliest Development
Skill: Remember the Facts
LO 2.5: Describe the field of behavioral genetics.

EOM Quiz Question 2.1.4

Catherine has an extra chromosome on her 21st pair of chromosomes, causing her to have a disorder known as _____.

a) Down syndrome
b) fragile X syndrome
Consider This: This disorder is an example of a genetic mutation. LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.
c) sickle-cell anemia
Consider This: This disorder is an example of a genetic mutation. LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.
d) Tay-Sachs disease
Consider This: This disorder is an example of a genetic mutation. LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.

Answer: A
Difficulty: Easy
Topic: Earliest Development
Skill: Apply What You Know
LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.

EOM Quiz Question 2.1.5

Which prenatal test is carried out 15 to 20 weeks into a pregnancy and allows the analysis of fetal cells that can identify a variety of genetic defects with nearly 100 percent accuracy?

a) a sonogram
Consider This: A sample of fetal cells is drawn from the fluid surrounding the fetus. LO 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
b) chorionic villus sampling
Consider This: A sample of fetal cells is drawn from the fluid surrounding the fetus. LO 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
c) an embryoscopy
Consider This: A sample of fetal cells is drawn from the fluid surrounding the fetus. LO 2.7 Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
d) amniocentesis

Answer: D
Difficulty: Easy
Topic: Earliest Development
Skill: Understand the Concepts
LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

EOM Quiz Question 2.2.1

Many human traits are determined by a combination of genetic and environmental factors; this is referred to as _____.

a) natural selection
Consider This: A genotype provides a particular range within which a phenotype may achieve expression. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.
b) multifactorial transmission
c) joint evolution
Consider This: A genotype provides a particular range within which a phenotype may achieve expression. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.
d) binary influence
Consider This: A genotype provides a particular range within which a phenotype may achieve expression. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.

Answer: B

Difficulty: Moderate
Topic: The Interaction of Heredity and Environment
Skill: Understand the Concepts
LO 2.8: Explain how the environment and genetics work together to determine human characteristics.

EOM Quiz Question 2.2.2

Because the genetic backgrounds of _____ twins are identical, researchers can conclude that variations in their behavior must be due to environmental factors.

a) dizygotic
Consider This: Researchers can't control the genetic backgrounds or environments of humans but they can carry out various kinds of "natural experiments" with twins. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
b) homozygous
Consider This: Researchers can't control the genetic backgrounds or environments of humans but they can carry out various kinds of "natural experiments" with twins. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.
c) monozygotic
d) heterozygous
Consider This: Researchers can't control the genetic backgrounds or environments of humans but they can carry out various kinds of "natural experiments" with twins. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.

Answer: C
Difficulty: Easy
Topic: The Interaction of Heredity and Environment
Skill: Understand the Concepts
LO 2.9: Summarize how researchers study the interaction of genetic and environmental factors in development.

EOM Quiz Question 2.2.3

Which “Big Five” personality trait refers to the degree of emotional stability an individual characteristically displays?

a) neuroticism
b) shyness
Consider This: Research evidence suggests that some of our most basic personality traits have genetic roots. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
c) openness to experience

Consider This: Research evidence suggests that some of our most basic personality traits have genetic roots. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.

d) extroversion

Consider This: Research evidence suggests that some of our most basic personality traits have genetic roots. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.

Answer: A
Difficulty: Difficult
Topic: The Interaction of Heredity and Environment
Skill: Remember the Facts
LO 2.10: Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.

EOM Quiz Question 2.2.4

The severe psychological disorder known as _____ , in which a person loses touch with reality and is subject to delusions and hallucination, has been shown to have genetic roots.

a) bipolar III disorder

Consider This: This disorder runs in families, with some families showing an unusually high incidence. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.

b) autism spectrum disorder

Consider This: This disorder runs in families, with some families showing an unusually high incidence. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.

c) schizophrenia spectrum disorder

d) posttraumatic stress disorder

Consider This: This disorder runs in families, with some families showing an unusually high incidence. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.

Answer: C
Difficulty: Easy
Topic: The Interaction of Heredity and Environment
Skill: Remember the Facts
LO 2.11: Explain the role genetics and the environment play in the development of psychological disorders.

EOM Quiz Question 2.2.5

Theresa has been described as a "natural athlete." Her room at home is full of soccer balls, basketball nets, softball bats, and similar sports items. This is an example of how _____ can influence _____.

a) genes; the environment
b) the phenotype; the genotype
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.
c) the environment; genetics
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.
d) nurture; nature
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.

Answer: A
Difficulty: Difficult

Topic: The Interaction of Heredity and Environment
Skill: Apply What You Know
LO 2.12: Describe ways in which genes influence the environment.

EOM Quiz Question 2.3.1

When sperm enter the vagina, they travel through the cervix and into the fallopian tube, where _____ may take place.

a) conception
b) ovulation
Consider This: This is also known as fertilization. LO 2.13 Explain the process of fertilization.
c) ejaculation
Consider This: This is also known as fertilization. LO 2.13 Explain the process of fertilization.
d) insemination
Consider This: This is also known as fertilization. LO 2.13 Explain the process of fertilization.

Answer: A
Difficulty: Easy
Topic: Prenatal Growth and Change

Skill: Understand the Concepts
LO 2.13: Explain the process of fertilization.

EOM Quiz Question 2.3.2

The _____ stage is the shortest stage of the prenatal period.

a) zygotic
Consider This: This first stage is from fertilization to 2 weeks. LO 2.14 Summarize the three stages of prenatal development.
b) fetal
Consider This: This first stage is from fertilization to 2 weeks. LO 2.14 Summarize the three stages of prenatal development.
c) embryonic
Consider This: This first stage is from fertilization to 2 weeks. LO 2.14 Summarize the three stages of prenatal development.
d) germinal

Answer: D
Difficulty: Easy
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.14: Summarize the three stages of prenatal development.

EOM Quiz Question 2.3.3

The inability to conceive after 12 to 18 months of trying to become pregnant is classified as _____ .

a) ZIFT
Consider This: This condition is negatively correlated with age. LO 2.15 Describe the challenges that relate to pregnancy.
b) termination
Consider This: This condition is negatively correlated with age. LO 2.15 Describe the challenges that relate to pregnancy.
c) miscarriage
Consider This: This condition is negatively correlated with age. LO 2.15 Describe the challenges that relate to pregnancy.
d) infertility

Answer: D
Difficulty: Moderate
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.15: Describe the challenges that relate to pregnancy.

EOM Quiz Question 2.3.4

A spontaneous abortion is also called _____.

a) stillbirth
Consider This: Most laypeople are more likely to use this term, rather than "spontaneous abortion." LO 2.15: Describe the challenges that relate to pregnancy.
b) an ectopic pregnancy
Consider This: Most laypeople are more likely to use this term, rather than "spontaneous abortion." LO 2.15: Describe the challenges that relate to pregnancy.
c) a miscarriage
d) premature birth
Consider This: Most laypeople are more likely to use this term, rather than "spontaneous abortion." LO 2.15: Describe the challenges that relate to pregnancy.

Answer: C
Difficulty: Moderate
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.15: Describe the challenges that relate to pregnancy.

EOM Quiz Question 2.3.5

An environmental agent such as a drug, chemical, virus, or other factor that produces a birth defect is called a(n) _____.

a) teratogen
b) exposure
Consider This: Although it is the job of the placenta to keep these from reaching the fetus, the placenta is not always successful. LO 2.16 Describe the threats to the fetal environment and what can be done about them.
c) abnormality
Consider This: Although it is the job of the placenta to keep these from reaching the fetus, the placenta is not always successful. LO 2.16 Describe the threats to the fetal environment and what can be done about them.
d) pollutant
Consider This: Although it is the job of the placenta to keep these from reaching the fetus, the placenta is not always successful. LO 2.16 Describe the threats to the fetal environment and what can be done about them.

Answer: A
Difficulty: Easy
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.16: Describe the threats to the fetal environment and what can be done about them.

EOC Quiz Question 2.1

How are a typical human's chromosomes organized?

a) in rod-shaped portions of DNA
Consider This: The genes are arranged in specific locations and in a specific order. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
b) in chains of 46
Consider This: The genes are arranged in specific locations and in a specific order. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.
c) in 23 pairs
d) in Xs and Os
Consider This: The genes are arranged in specific locations and in a specific order. LO 2.1 Describe how genes and chromosomes provide our basic genetic endowment.

Answer: C
Difficulty: Moderate
Topic: Earliest Development
Skill: Understand the Concepts
LO 2.1: Describe how genes and chromosomes provide our basic genetic endowment.

EOC Quiz Question 2.2

_____ twins are identical, whereas _____ twins come from two separate ova.

a) Dizygotic; monozygotic
Consider This: Dizygotic twins are also called fraternal twins. LO 2.2 Compare monozygotic twins with dizygotic twins.
b) Monozygotic; dizygotic
c) Dizygotic; gametic
Consider This: Dizygotic twins are also called fraternal twins. LO 2.2 Compare monozygotic twins with dizygotic twins.
d) Gametic; dizygotic
Consider This: Dizygotic twins are also called fraternal twins. LO 2.2 Compare monozygotic twins with dizygotic twins.

Answer: B
Difficulty: Easy
Topic: Earliest Development
Skill: Remember the Facts
LO 2.2: Compare monozygotic twins with dizygotic twins.

EOC Quiz Question 2.3

The _____ pair of chromosomes determines the sex of the child.

a) 1st
Consider This: There are 23 matched pairs of chromosomes. LO 2.3 Describe how the sex of a child is determined.
b) 4th
Consider This: There are 23 matched pairs of chromosomes. LO 2.3 Describe how the sex of a child is determined.
c) 23rd
d) 46th
Consider This: There are 23 matched pairs of chromosomes. LO 2.3 Describe how the sex of a child is determined.

Answer: C
Difficulty: Easy
Topic: Earliest Development
Skill: Remember the Facts
LO 2.3: Describe how the sex of a child is determined.

EOC Quiz Question 2.4

How do genotype and phenotype differ?

a) Genotype characteristics are inherited from both parents; phenotype characteristics are inherited from only one parent.
Consider This: Genetic material relating to both parents is present in the offspring. LO 2.4 Explain the mechanisms by which genes transmit information.
b) Genotype characteristics are monozygotic; phenotype characteristics are trizygotic.
Consider This: Genetic material relating to both parents is present in the offspring. LO 2.4 Explain the mechanisms by which genes transmit information.
c) Genotype characteristics are transitory; phenotype characteristics are unchangeable.
Consider This: Genetic material relating to both parents is present in the offspring. LO 2.4 Explain the mechanisms by which genes transmit information.
d) Genotype characteristics are not visible; phenotype characteristics are visible.

Answer: D
Difficulty: Moderate
Topic: Earliest Development
Skill: Understand the Concepts
LO 2.4: Explain the mechanisms by which genes transmit information.

EOC Quiz Question 2.5

_____ is a field of study that investigates the effects of heredity on behavior and psychological characteristics.

a) Evolutionary science
Consider This: This is a relatively recent area of study in psychology in general, and developmental psychology in particular. LO 2.5: Describe the field of behavioral genetics.
b) Behavioral psychology
Consider This: This is a relatively recent area of study in psychology in general, and developmental psychology in particular. LO 2.5: Describe the field of behavioral genetics.
c) Behavioral genetics
d) Operant conditioning
Consider This: This is a relatively recent area of study in psychology in general, and developmental psychology in particular. LO 2.5: Describe the field of behavioral genetics.

Answer: C
Difficulty: Easy
Topic: Earliest Development

Skill: Remember the Facts
LO 2.5: Describe the field of behavioral genetics.

EOC Quiz Question 2.6

Marcel lives in Quebec and is of French-Canadian ancestry. Before he and his partner try to have a baby, he wants to take a genetic test to see if he carries the gene for _____, which is common among people with his ancestral background.

a) sickle-cell disease
Consider This: There is no treatment for this disorder, which produces blindness and muscle degeneration prior to death. LO 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
b) Huntington's disease
Consider This: There is no treatment for this disorder, which produces blindness and muscle degeneration prior to death. LO 2.6 Describe the major inherited disorders produced by damaged or mutated genes.
c) Tay-Sachs disease
d) Down syndrome
Consider This: There is no treatment for this disorder, which produces blindness and muscle degeneration prior to death. LO 2.6 Describe the major inherited disorders produced by damaged or mutated genes.

Answer: C
Difficulty: Difficult
Topic: Earliest Development
Skill: Apply What You Know
LO 2.6: Describe the major inherited disorders produced by damaged or mutated genes.

EOC Quiz Question 2.7

Which technology holds both the promise and precaution of genetically altering humans to eliminate the possibility of contracting viral diseases or genetic disorders?

a) **Alpha-1-antitrypsin**
Consider This: Technology is ever-advancing, and with it often comes tough decisions about what *can* be done compared to what *should* be done. LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
b) wHISpR
Consider This: Technology is ever-advancing, and with it often comes tough decisions about what *can* be done compared to what *should* be done. LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
c) **chorionic villus sampling**
Consider This: Technology is ever-advancing, and with it often comes tough decisions about what *can* be done compared to what *should* be done. LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.
d) CRISPR

Answer: D
Difficulty: Difficult
Topic: Earliest Development
Skill: Understand the Concepts
LO 2.7: Describe the role of genetic counselors and differentiate between different forms of prenatal testing.

EOC Quiz Question 2.8

Caleb was born with a bright and boisterous temperament. He was always laughing and was quick to engage with people. His parents belong to a very strict religious sect that forbids any overt expression of emotion in adults. How will multifactorial transmission affect Caleb?

a) He will eventually rebel against his parental environment and exhibit outlandish behavior.
Consider This: Temperament refers to patterns of arousal and emotionality that represent consistent and enduring characteristics in an individual. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.
b) His expressive demeanor will be softened by the parental environment.
c) His expressive demeanor will be eliminated by the parental environment.
Consider This: Temperament refers to patterns of arousal and emotionality that

represent consistent and enduring characteristics in an individual. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.

d) He will maintain his expressive temperament throughout his life.

Consider This: Temperament refers to patterns of arousal and emotionality that represent consistent and enduring characteristics in an individual. LO 2.8 Explain how the environment and genetics work together to determine human characteristics.

Answer: B
Difficulty: Difficult
Topic: The Interaction of Heredity and Environment
Skill: Apply What You Know
LO 2.8: Explain how the environment and genetics work together to determine human characteristics.

EOC Quiz Question 2.9

What is one way in which researchers learn about the relative contributions of nature and nurture to the course of human development?

a) through amniocentesis

Consider This: Researchers cannot control either the genetic backgrounds or the environments of humans in the way they can with nonhumans. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.

b) through ultrasound sonography

Consider This: Researchers cannot control either the genetic backgrounds or the environments of humans in the way they can with nonhumans. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.

c) by testing the temperament of newborns

Consider This: Researchers cannot control either the genetic backgrounds or the environments of humans in the way they can with nonhumans. LO 2.9 Summarize how researchers study the interaction of genetic and environmental factors in development.

d) by studying twins

Answer: D
Difficulty: Moderate
Topic: The Interaction of Heredity and Environment
Skill: Understand the Concepts
LO 2.9: Summarize how researchers study the interaction of genetic and environmental factors in development.

EOC Quiz Question 2.10

The more genetically similar two people are, the more likely it is that they will share physical characteristics. Compared to the others, which people will have the *lowest* degree of shared characteristics?

a) dizygotic twins
Consider This: Tall parents tend to have tall children, and short ones tend to have short children. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
b) monozygotic twins
Consider This: Tall parents tend to have tall children, and short ones tend to have short children. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
c) non-twin siblings of the same parents
Consider This: Tall parents tend to have tall children, and short ones tend to have short children. LO 2.10 Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.
d) two siblings born from different sperm donors

Answer: D
Difficulty: Difficult
Topic: The Interaction of Heredity and Environment
Skill: Understand the Concepts
LO 2.10: Explain how genetics and the environment jointly influence physical traits, intelligence, and personality.

EOC Quiz Question 2.11

Which factor can decrease the chance of developing schizophrenia in a person who is genetically disposed to the disorder?

a) a stress-free environment
b) genetic testing
Consider This: Data illustrate that genetics is not the only factor to influence the development of schizophrenia. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
c) a calm temperament
Consider This: Data illustrate that genetics is not the only factor to influence the development of schizophrenia. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.
d) nothing
Consider This: Data illustrate that genetics is not the only factor to influence the development of schizophrenia. LO 2.11 Explain the role genetics and the environment play in the development of psychological disorders.

Answer: A
Difficulty: Moderate
Topic: The Interaction of Heredity and Environment
Skill: Understand the Concepts
LO 2.11: Explain the role genetics and the environment play in the development of psychological disorders.

EOC Quiz Question 2.12

Gina has always been a thoughtful, sensitive child who seemed to take special joy in beautiful things. Instead of a playroom filled with toys, her parents created an arts and crafts room for her, where Gina is content to create for hours. This is an example of _____.

a) child-centered parenting
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.
b) genetics evoking an environmental influence
c) the environment influencing genetics
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.
d) active genetic manipulation of the environment
Consider This: Children tend to actively focus on those aspects of their environment that are most connected with their genetically determined abilities. LO 2.12 Describe ways in which genes influence the environment.

Answer: B
Difficulty: Difficult
Topic: The Interaction of Heredity and Environment

Skill: Apply What You Know
LO 2.12: Describe ways in which genes influence the environment.

EOC Quiz Question 2.13

The joining of sperm and ovum to create the single-celled zygote from which life begins is referred to as _____.

a) fertilization
b) ectopic pregnancy
Consider This: When sperm enter the vagina, they begin a winding journey that takes them through the cervix, the opening into the uterus, and into the fallopian tube. LO 2.13 Explain the process of fertilization.
c) gamete creation
Consider This: When sperm enter the vagina, they begin a winding journey that takes them through the cervix, the opening into the uterus, and into the fallopian tube. LO 2.13 Explain the process of fertilization.
d) the fetal stage
Consider This: When sperm enter the vagina, they begin a winding journey that takes them through the cervix, the opening into the uterus, and into the fallopian tube. LO 2.13 Explain the process of fertilization.

Answer: A
Difficulty: Easy
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.13: Explain the process of fertilization.

EOC Quiz Question 2.14

The _____ serves as a filter and conduit between the pregnant person and the fetus.

a) uterus
Consider This: This organ provides nourishment and oxygen and removes waste materials from the developing child. LO 2.14 Summarize the three stages of prenatal development.
b) reticulum
Consider This: This organ provides nourishment and oxygen and removes waste materials from the developing child. LO 2.14 Summarize the three stages of prenatal development.
c) placenta
d) cervix
Consider This: This organ provides nourishment and oxygen and removes waste materials from the developing child. LO 2.14 Summarize the three stages of prenatal development.

Answer: C
Difficulty: Easy
Topic: Prenatal Growth and Change
Skill: Understand the Concepts
LO 2.14: Summarize the three stages of prenatal development.

EOC Quiz Question 2.15

During which period of prenatal development are all fetal bodily components sensitive to teratogen exposure?

a) weeks three to four
Consider This: Prenatal development occurs over an extended period, and different threats can be present at different times, posing different potential hazards. LO 2.16: Describe the threats to the fetal environment and what can be done about them.
b) weeks five to six
Consider This: Prenatal development occurs over an extended period, and different threats can be present at different times, posing different potential hazards. LO 2.16: Describe the threats to the fetal environment and what can be done about them.

c) weeks seven to eight
d) weeks twelve to fourteen

Consider This: Prenatal development occurs over an extended period, and different threats can be present at different times, posing different potential hazards. LO 2.16: Describe the threats to the fetal environment and what can be done about them.

Answer: C
Difficulty: Difficult
Topic: Prenatal Growth and Change
Skill: Remember the Facts
LO 2.16: Describe the threats to the fetal environment and what can be done about them.