271 **Each molecule of DNA is called a(n):**

- **chromosome. (*True Answer*)Correct**
- **RNA. Incorrect**
- **gene. Incorrect**
- **zygote. Incorrect**

---

272 **Each human body cell contains:**

- **46 pairs of chromosomes. Incorrect**
- **46 chromosomes. (*True Answer*)Correct**
- **23 chromosomes. Incorrect**
- **20 pairs of chromosomes. Incorrect**

---

273 **Each reproductive cell contains:**

- **46 pairs of chromosomes. Incorrect**
- **46 chromosomes. Incorrect**
- **23 chromosomes. (*True Answer*)Correct**
- **20 pairs of chromosomes. Incorrect**

---

274 **Reproductive cells are called:**

- **chromosomes. Incorrect**
- **zygotes. Incorrect**
- **DNA. Incorrect**
- **gametes. (*True Answer*)Correct**

---

275 **The total collection of genes that an individual has is called his or her:**

- **phenotype. Incorrect**
- **allele. Incorrect**
- **genotype. (*True Answer*)Correct**
- **gamete. Incorrect**

---

276 **Each individual inherits 23 chromosomes from their mother and 23 chromosomes from their father. In addition, epigenetic effects create an individual's appearance and behavior to create a:**

- **phenotype. (*True Answer*)Correct**
- **allele. Incorrect**
- **genotype. Incorrect**
- **gamete. Incorrect**

---

277 **Timur and Juan are playing basketball. Timur shoots the ball and Juan blocks the shot. Timur says, “Wow, I didn't realize how tall you were until you did that!” Timur's comment refers to Juan's:**

- **phenotype. (*True Answer*)Correct**
- **allele. Incorrect**
- **genotype. Incorrect**
- **gamete. Incorrect**

---

278 **Brothers and sisters from the same parents share only half the same genes, making the possible combinations:**

- **in the hundreds. Incorrect**
- **in the thousands. Incorrect**
- **in the tens of thousands. Incorrect**
- **in the millions. (*True Answer*)Correct**

---

279 **Genetic _____ distinguishes each person and allows for adaptation.**

- **mapping Incorrect**
- **diversity (*True Answer*)Correct**
- **similarities Incorrect**
- **testing Incorrect**

---

280 **The name of the full set of genes that provide the instructions for making living organisms is the:**

- **phenotype. Incorrect**
- **genotype. Incorrect**
- **genome. (*True Answer*)Correct**
- **allele. Incorrect**

---

281 **Each human has a total of about _____ genes.**

- **10,000-13,000 Incorrect**
- **20,000-23,000 (*True Answer*)Correct**
- **30,000-33,000 Incorrect**
- **40,000-43,000 Incorrect**

---

282 **On the 23rd set of chromosomes, males have:**

- **two X chromosomes. Incorrect**
- **two Y chromosomes. Incorrect**
- **an X and a Y chromosome. (*True Answer*)Correct**
- **just a Y chromosome. Incorrect**

---

283 **On the 23rd set of chromosomes, females have:**

- **two X chromosomes. (*True Answer*)Correct**
- **two Y chromosomes Incorrect**
- **an X and a Y chromosome. Incorrect**
- **just a Y chromosome. Incorrect**

---

284 **Michelle and Greg are having a baby and are hoping for a boy. Who is responsible for the determining the sex of the baby?**

- **Michelle Incorrect**
- **Greg (*True Answer*)Correct**
- **both of them Incorrect**
- **neither of them Incorrect**

---

285 **Which statement is true?**

- **Male embryos are more vulnerable than female embryos therefore less likely to survive prenatally. (*True Answer*)Correct**
- **Female embryos are more vulnerable than male embryos therefore less likely to survive prenatally. Incorrect**
- **Male and female embryos are equally vulnerable prenatally making them equally likely to survive prenatally. Incorrect**
- **X sperm swim faster and reach the ovum first while the Y sperm is more resistant to genetic disorders. Incorrect**

---

286 **Identical twins are also called _____ twins.**

- **monozygotic (*True Answer*)Correct**
- **dizygotic Incorrect**
- **zygotic Incorrect**
- **gamete Incorrect**

---

287 **Fraternal twins are also called _____ twins.**

- **monozygotic Incorrect**
- **dizygotic (*True Answer*)Correct**
- **zygotic Incorrect**
- **gamete Incorrect**

---

288 **Harold and Heather are twins. They are the result of:**

- **One ovum fertilized by one sperm that split into two zygotes. Incorrect**
- **Two separate ova that were fertilized by two different sperms. (*True Answer*)Correct**
- **One ovum that was fertilized by two sperms. Incorrect**
- **Two ova that were fertilized by one sperm. Incorrect**

---

289 **Justin and Jacob are identical twins. They are the result of:**

- **One ovum fertilized by one sperm that split into two zygotes. (*True Answer*)Correct**
- **Two separate ova that were fertilized by two different sperms. Incorrect**
- **One ovum that was fertilized by two sperms. Incorrect**
- **Two ova that were fertilized by one sperm. Incorrect**

---

290 **The _____ is a worldwide effort to map all human genes.**

- **Hap Map Incorrect**
- **Apgar scale Incorrect**
- **Human Genome Project (*True Answer*)Correct**
- **Brazelton Assessment Incorrect**

---

291 **Historically, who was blamed for not producing an offspring of a particular gender?**

- **mothers only (*True Answer*)Correct**
- **fathers only Incorrect**
- **both mothers and fathers Incorrect**
- **fathers only if a girl was desired and a boy was born Incorrect**

---

292 **Due to understanding more about the role of genes in determining the sex of a child, couples can select the sex of a child by all methods EXCEPT:**

- **inactivating X or Y sperm before conception. Incorrect**
- **selecting only X eggs for fertilization. (*True Answer*)Correct**
- **aborting XX or XY fetuses. Incorrect**
- **undergoing in vitro fertilization and then inserting only male or female embryos. Incorrect**

---

293 **When the effects of genes add up to make the phenotype, they are called _____ genes.**

- **dominant Incorrect**

- **recessive Incorrect**
- **additive (*True Answer*)Correct**
- **nonadditive Incorrect**

---

294 **Holly learned from her science teacher that her height resulted from about 180 genes, each contributing a tiny amount of genetic information. Holly learned that her height was due to:**

- **additive genes. (*True Answer*)Correct**
- **dominant genes. Incorrect**
- **recessive genes. Incorrect**
- **nonadditive genes. Incorrect**

---

295 **Brown-eyed Alma has a blue-eyed mother and a brown-eyed father. In this case, her brown eyes were determined by a _____ allele.**

- **dominant (*True Answer*)Correct**
- **recessive Incorrect**
- **dominant-recessive Incorrect**
- **dizygotic Incorrect**

---

296 **Lacy has a recessive gene in her genotype that is not expressed in her phenotype. She is a(n) _____ of that gene.**

- **recipient Incorrect**
- **carrier (*True Answer*)Correct**
- **expressor Incorrect**
- **reactor Incorrect**

---

297 **Michael is color-blind. His gene for color blindness is most likely a:**

- **dominant gene on his X chromosome. Incorrect**
- **dominant gene on his Y chromosome. Incorrect**
- **recessive gene on his X chromosome. (*True Answer*)Correct**
- **recessive gene on his Y chromosome. Incorrect**

---

298 **Almost every trait is _____, which means it is affected by many genes.**

- **polygenic (*True Answer*)Correct**
- **nonadditive Incorrect**
- **X-linked Incorrect**
- **monozygotic Incorrect**

---

299 **Cindy is doing a presentation on prenatal development and wants to present the three main periods of prenatal development in order from conception to birth. Cindy's presentation uses the following order:**

- **embryonic, germinal, and fetal. Incorrect**
- **fetal, embryonic, and germinal. Incorrect**
- **germinal, embryonic, and fetal. (*True Answer*)Correct**
- **germinal, fetal, and embryonic. Incorrect**

---

300 **Many obstetricians date the onset of pregnancy from the date:**

- **of conception. Incorrect**
- **of the woman's last menstrual period. (*True Answer*)Correct**
- **of implantation. Incorrect**
- **when the woman had intercourse. Incorrect**

---

301 **Before differentiation begins, the first cells of the zygote are called _____ cells.**

- **germinal Incorrect**
- **stem (*True Answer*)Correct**
- **zygotic Incorrect**
- **reproduction Incorrect**

---

302 **During the germinal period of prenatal development, some cells become part of the brain, some become part of the leg, and some become part of the stomach, etc. The term for this process is:**

- **duplication. Incorrect**
- **division. Incorrect**
- **differentiation. (*True Answer*)Correct**
- **specialization. Incorrect**

---

303 **During the germinal period, the first task of the zygote's outer cells is:**

- **differentiation. Incorrect**
- **duplication. Incorrect**
- **germination. Incorrect**
- **implantation. (*True Answer*)Correct**

---

304 **The germinal period ends approximately _____ after conception.**

- **2 days Incorrect**
- **3 months Incorrect**
- **2 weeks (*True Answer*)Correct**
- **12 weeks Incorrect**

---

305 **About a week after conception, the outer layer of the multiplying cells forms a protective circle, or shell, that will become the:**

- **placenta. (*True Answer*)Correct**
- **umbilical cord. Incorrect**
- **vernix. Incorrect**
- **infant. Incorrect**

---

306 **What is the main function of the placenta?**

- **screening out potentially harmful substances Incorrect**
- **exchanging blood between the mother and the developing embryo Incorrect**
- **protecting and surrounding the developing fetus (*True Answer*)Correct**
- **creating antibodies for the developing fetus Incorrect**

---

307 **Around day 14 of the embryonic period, the _____ appears. It will eventually become the neural tube.**

- **the stem cells Incorrect**
- **the spinal cord Incorrect**
- **the primitive streak (*True Answer*)Correct**
- **the placenta Incorrect**

---

308 **The neural tube will become the:**

- **reproductive organs. Incorrect**
- **intestinal tract. Incorrect**
- **backbone, legs, and arms. Incorrect**
- **brain and spinal cord. (*True Answer*)Correct**

---

309 **The head begins to take shape in the _____ week after conception.**

- **fourth (*True Answer*)Correct**
- **fifth Incorrect**
- **sixth Incorrect**
- **seventh Incorrect**

---

310 **In the fourth week after conception, a miniscule blood vessel that is the start of the _____ system begins to pulsate.**

- **respiratory Incorrect**
- **digestive Incorrect**
- **skeletal Incorrect**
- **cardiovascular (*True Answer*)Correct**

---

311 **A woman who is pregnant is having an ultrasound done eight weeks into prenatal development. She is surprised by the size of the embryo's head when she sees the image on the screen. The doctor reassures her that this is typical and due to the _____ pattern of development.**

- **proximodistal Incorrect**
- **cephalocaudal (*True Answer*)Correct**
- **neurogenesis Incorrect**
- **synaptogenesis Incorrect**

---

312 **Prenatally, development happens in a "near to far" pattern known as:**

- **proximodistal. (*True Answer*)Correct**
- **cephalocaudal. Incorrect**
- **neurogenesis. Incorrect**
- **synaptogenesis. Incorrect**

---

313 **The longest period of prenatal development is the _____ period.**

- **embryonic Incorrect**
- **fetal (*True Answer*)Correct**
- **proximodistal Incorrect**
- **germinal Incorrect**

---

314 **The third period of gestation is the _____ period.**

- **zygotic Incorrect**
- **embryonic Incorrect**
- **germinal Incorrect**
- **fetal (*True Answer*)Correct**

---

315 **In the _____ after conception, sex organs develop and are soon visible via ultrasound.**

- **fourth week Incorrect**
- **ninth week (*True Answer*)Correct**
- **twelfth week Incorrect**
- **twentieth week Incorrect**

---

316 **What happens to the brain during the fetal period of development?**

- **It goes through a process of regeneration. Incorrect**
- **It begins to form and function. Incorrect**
- **It increases in size and begins to wrinkle. (*True Answer*)Correct**
- **The number of neurons decreases sixfold. Incorrect**

---

317 **The age of viability is the time when the preterm newborn:**

- **might survive outside the uterus. (*True Answer*)Correct**
- **begins to move. Incorrect**
- **will be born without defects. Incorrect**
- **has developed all its major organs. Incorrect**

---

318 **Harry was a preterm newborn who was born after 26 weeks of prenatal development. He now is a healthy, happy 2-year-old. Harry's ability to survive after being born so early was due in part to his reaching the:**

- **term of postnatal development. Incorrect**
- **germinal period. Incorrect**
- **neurogenesis point. Incorrect**
- **age of viability. (*True Answer*)Correct**

---

319 **On average, fetuses gain about _____ pounds during the last trimester of pregnancy, which brings the average birth weight to about 7.5 pounds.**

- **1.5 pound Incorrect**
- **2.5 pounds Incorrect**
- **4.5 pounds (*True Answer*)Correct**
- **6.5 pounds Incorrect**

---

320 **The critical factor in attaining the age of viability is:**

- **weighing at least 5 pounds (2.3 kg). Incorrect**
- **having adequate brain development. (*True Answer*)Correct**
- **having functioning digestive and respiratory systems. Incorrect**
- **surviving at least 28 weeks past conception. Incorrect**

---

321 **The _____ starts the sequence of events that prepares the fetus for delivery and starts labor.**

- **fetal brain (*True Answer*)Correct**
- **maternal brain Incorrect**
- **placenta Incorrect**
- **germinal period Incorrect**

---

322 **Full-term pregnancies typically last _____ from the date of conception.**

- **32 weeks Incorrect**
- **34 weeks Incorrect**

- **36 weeks Incorrect**
- **38 weeks (*True Answer*)Correct**

---

323 **In a first birth, the average length of active labor is:**

- **several days. Incorrect**
- **about 12 hours. (*True Answer*)Correct**
- **about 8 hours. Incorrect**
- **a few minutes. Incorrect**

---

324 **The Apgar scale is used at one minute and five minutes after birth to:**

- **evaluate the newborn's sensory abilities. Incorrect**
- **evaluate the health of the new mother. Incorrect**
- **help the mother recover from childbirth. Incorrect**
- **evaluate the health of the newborn. (*True Answer*)Correct**

---

325 **A baby is assessed at one minute after birth according to the Apgar scale. Three of the five vital signs are good, but the baby is weak and inactive and grimaces. The two vital signs the medical team is concerned about are:**

- **muscle tone and heartbeat. Incorrect**
- **respiratory effect and color. Incorrect**
- **muscle tone and reflex irritability. (*True Answer*)Correct**
- **reflex irritability and respiratory effect. Incorrect**

---

326 **Virginia Apgar was a(n):**

- **anesthesiologist. (*True Answer*)Correct**
- **labor and delivery nurse. Incorrect**
- **surgeon. Incorrect**
- **obstetrician. Incorrect**

---

327 **In the third stage of labor, the:**

- **cervix begins to dilate. Incorrect**
- **baby's head moves into the birth canal. Incorrect**
- **mother experiences intense contractions. Incorrect**
- **placenta is delivered. (*True Answer*)Correct**

---

328 **In the United States, more than _____ of births occur via C-section.**

- **1/3 (*True Answer*)Correct**

- **1/2 Incorrect**
- **2/3 Incorrect**
- **3/4 Incorrect**

---

329 **Compared to vaginal births, C-section births:**

- **are less expensive. Incorrect**
- **increase the risk of complications. (*True Answer*)Correct**
- **usually take longer. Incorrect**
- **are less safe for the baby. Incorrect**

---

330 **Epidurals, often used in hospital births to manage pain during childbirth, have been shown to:**

- **help prevent unnecessary C-sections. Incorrect**
- **encourage breast-feeding from the beginning. Incorrect**
- **inhibit the newborn's readiness to suck. (*True Answer*)Correct**
- **induce labor. Incorrect**

---

331 **Which country has the highest rate of C-section births in the world?**

- **Egypt Incorrect**
- **China (*True Answer*)Correct**
- **Chile Incorrect**
- **the United States Incorrect**

---

332 **An alternative to giving birth in a hospital is to arrange to give birth at home. This option is especially popular in Europe, where home births appear to have:**

- **more complications than those in hospitals. Incorrect**
- **fewer complications than those in hospitals. (*True Answer*)Correct**
- **an equal number of complications as those in hospitals. Incorrect**
- **an unknown number of complications, because no records are kept on home births. Incorrect**

---

333 **Parents of newborn Renata are amazed at their daughter's responsiveness and reflexes when a professional administers the:**

- **Brazelton Neonatal Behavioral Assessment Scale. (*True Answer*)Correct**
- **Apgar scale. Incorrect**
- **Child Behavioral Checklist. Incorrect**

- **Strange Situation. Incorrect**

---

334 **When infants turn their heads and suck in response to a touch on the cheek, they are demonstrating the:**

- **Moro reflex. Incorrect**
- **rooting reflex. (*True Answer*)Correct**
- **sucking reflex. Incorrect**
- **thrashing reflex. Incorrect**

---

335 **Newborn babies do NOT have reflexes designed to:**

- **maintain oxygen supply. Incorrect**
- **maintain a constant body temperature. Incorrect**
- **adjust to the difference between day and night. (*True Answer*)Correct**
- **manage feeding. Incorrect**

---

336 **The phenomenon in which fathers experience symptoms of pregnancy and birth is known as:**

- **postpartum depression. Incorrect**
- **couvade. (*True Answer*)Correct**
- **false labor. Incorrect**
- **the Moro reflex. Incorrect**

---

337 **Maternal depression:**

- **is normal and does not usually require any treatment. Incorrect**
- **is usually not noticed by the father. Incorrect**
- **does not seem to affect an infant. Incorrect**
- **can have a long-term impact on the newborn. (*True Answer*)Correct**

---

338 **Julia had a baby 3 weeks ago. She has been feeling sad and inadequate as a mother, which has made caring for her newborn difficult. Julia may be experiencing:**

- **post-traumatic stress disorder. Incorrect**
- **maternal depression. (*True Answer*)Correct**
- **generalized anxiety disorder. Incorrect**
- **separation anxiety. Incorrect**

---

339 **Kelley just had a baby and now is experiencing a sense of inadequacy and sadness. She may have:**

- **couvade. Incorrect**
- **behavioral teratogens Incorrect**
- **kangaroo care. Incorrect**

- **postpartum depression. (*True Answer*)Correct**

---

340 **Studies indicate that _____ may mitigate maternal depression by in part by increasing levels of the bonding hormone oxytocin.**

- **breast-feeding (*True Answer*)Correct**
- **having a home birth Incorrect**
- **couvade Incorrect**
- **epidurals Incorrect**

---

341 **Rumasia places her baby on her chest so that they are skin to skin. This is called:**

- **couvade. Incorrect**
- **a doula. Incorrect**
- **kangaroo care. (*True Answer*)Correct**
- **parent-infant bond. Incorrect**

---

342 **Approximately once in every _____ births, an infant is born with 45, 47, or even 48 or 49 chromosomes instead of the usual 46.**

- **50 Incorrect**
- **200 (*True Answer*)Correct**
- **500 Incorrect**
- **1,000 Incorrect**

---

343 **Down syndrome is also called:**

- **trisomy-12. Incorrect**
- **trisomy-13. Incorrect**
- **trisomy-21. (*True Answer*)Correct**
- **trisomy-31. Incorrect**

---

344 **Most of the known single-gene disorders are:**

- **recessive. Incorrect**
- **dominant. (*True Answer*)Correct**
- **difficult to identify. Incorrect**
- **additive. Incorrect**

---

345 **Jeremy inherited _____, a genetic disorder characterized by uncontrollable tics and explosive verbal outbursts.**

- **Alzheimer disease Incorrect**
- **Huntington disease Incorrect**
- **Tourette syndrome (*True Answer*)Correct**
- **major depression Incorrect**

---

346 **A teratogen is any agent or condition that increases the risk for:**

- **prenatal abnormalities. Incorrect**
- **damage to the placenta. (*True Answer*)Correct**
- **extra chromosomes. Incorrect**
- **male infertility. Incorrect**

---

347 **Jill is 3 years old. She is hyperactive and learning-disabled. Her doctor suggests that Jill's problems could be the result of prenatal exposure to _____, though he stresses that the link is not straightforward at this time.**

- **chromosomal abnormalities Incorrect**
- **genetic abnormalities Incorrect**
- **cell differentiation Incorrect**
- **behavioral teratogens (*True Answer*)Correct**

---

348 **Chantal and Larry are considering having a baby. Chantal's doctor recommends that they stop using recreational drugs and update their immunizations:**

- **before Chantal gets pregnant. (*True Answer*)Correct**
- **as soon as Chantal knows she is pregnant. Incorrect**
- **anytime during the first trimester of pregnancy. Incorrect**
- **as soon as the baby is born. Incorrect**

---

349 **The first days and weeks after conception (the germinal and embryonic periods) are _____ for body formation, but the entire fetal period is a _____ period for brain development.**

- **sensitive; sensitive Incorrect**
- **critical; critical Incorrect**
- **sensitive; critical Incorrect**
- **critical; sensitive (*True Answer*)Correct**

---

350 **Anoxia refers to:**

- **cerebral hemorrhaging. Incorrect**
- **signs of cerebral palsy. Incorrect**
- **a lack of oxygen. (*True Answer*)Correct**
- **toxic substances in the bloodstream. Incorrect**

---

351 **Thresholds, as they relate to harm from any teratogen, are difficult to set because one teratogen may _____ the harm from another teratogen.**

- **decrease Incorrect**
- **increase (*True Answer*)Correct**

- **cancel Incorrect**
- **improve Incorrect**

---

352 **Some teratogens have a threshold effect, which means that they are:**

- **harmful no matter what the level:. Incorrect**
- **rarely harmful. Incorrect**
- **harmless up to a certain level:. (*True Answer*)Correct**
- **always harmless. Incorrect**

---

353 **Mandy is pregnant yet she still smokes cigarettes, drinks alcohol, and does not eat well. Her baby may be at increased risk for the development of:**

- **fetal alcohol syndrome. (*True Answer*)Correct**
- **fetal anoxia syndrome. Incorrect**
- **fetal alcohol situation. Incorrect**
- **functional alcohol syndrome. Incorrect**

---

354 **One reason male fetuses are more vulnerable than female fetuses may be that the:**

- **X chromosome seems to have a protective effect. (*True Answer*)Correct**
- **Y chromosome seems to have a protective effect. Incorrect**
- **Y chromosome seems to have a hazardous effect. Incorrect**
- **X chromosome seems to have no protective effect. Incorrect**

---

355 **Low folic acid in during pregnancy can result in:**

- **heart defects. Incorrect**
- **lung defects. Incorrect**
- **limb deformities. Incorrect**
- **neural-tube defects. (*True Answer*)Correct**

---

356 **What percentage of all serious defects occurs for unknown reasons?**

- **10 percent Incorrect**
- **20 percent (*True Answer*)Correct**
- **30 percent Incorrect**
- **40 percent Incorrect**

---

357 **Early prenatal care can help decrease the risk of prenatal abnormalities. However, it CANNOT provide pregnant women with information about:**

- **substances to avoid. Incorrect**
- **proper nutrition. Incorrect**
- **exact thresholds for teratogens. (*True Answer*)Correct**
- **treatments for preexisting conditions. Incorrect**

---

358 **Babies born under 1,000 grams (2 pounds 3 ounces) are considered:**

- **low birthweight. Incorrect**
- **very low birthweight. Incorrect**
- **extremely low birthweight. (*True Answer*)Correct**
- **ultra low birthweight. Incorrect**

---

359 **Babies born slightly under 1,500 grams (3 pounds 5 ounces) are considered:**

- **low birthweight. Incorrect**
- **very low birthweight. (*True Answer*)Correct**
- **extremely low birthweight. Incorrect**
- **ultra low birthweight. Incorrect**

---

360 **Babies born slightly under 2,500 grams (5 pounds 8 ounces) are considered:**

- **low birthweight. (*True Answer*)Correct**
- **very low birthweight. Incorrect**
- **extremely low birthweight. Incorrect**
- **ultra low birthweight. Incorrect**

---

361 **A baby born three or more weeks early is called:**

- **premature. Incorrect**
- **preterm. (*True Answer*)Correct**
- **low birthweight. Incorrect**
- **small for gestational age. Incorrect**

---

362 **Babies considered small for gestational age:**

- **can be full-term or preterm babies. (*True Answer*)Correct**
- **have major structural deformities. Incorrect**
- **are born buttocks or legs first. Incorrect**
- **are addicted to drugs. Incorrect**

---

363 **Cigarette smoking is implicated in _____ percent of all low-birthweight births worldwide.**

- **10 Incorrect**

- **15 Incorrect**
- **20 Incorrect**
- **25 (*True Answer*)Correct**

---

364 **Bruno and Juliana moved to the United States from Mexico 2 years ago and just had their first baby. Although Bruno and Juliana's SES is lower than their native-born peers, their baby was born at a healthy weight, due in part, to the support of their social network. This phenomenon is called the:**

- **immigrant paradox. Incorrect**
- **Hispanic paradox. (*True Answer*)Correct**
- **native-born paradox. Incorrect**
- **SES paradox. Incorrect**

---

365 **Adults who were low-birthweight babies have higher rates of:**

- **diabetes. (*True Answer*)Correct**
- **malnutrition. Incorrect**
- **normal-range weight. Incorrect**
- **obesity. Incorrect**

---

366 **Which is NOT a possible consequence of low birthweight?**

- **early death Incorrect**
- **delayed walking Incorrect**
- **hearing impairment Incorrect**
- **speech impediment (*True Answer*)Correct**

---

367 **The frequency of LBW in the United States _____ throughout most of the twentieth century, and then _____ in the 1990s and early 2000s.**

- **decreased; increased (*True Answer*)Correct**
- **increased; decreased Incorrect**
- **decreased; remained stable Incorrect**
- **increased; remained stable Incorrect**

---

368 **Statistically, which woman is MOST apt to have a baby with LBW?**

- **Ashley, who is 27 years old and middle class SES Incorrect**
- **Jody, who has been diagnosed with diabetes Incorrect**
- **Kate, who regularly misses meals (*True Answer*)Correct**
- **Delfina, who is a Hispanic immigrant Incorrect**

---

369 **In the United States, which is NOT a potential reason for the rise in the frequency of LBW babies?**

- **food insecurity Incorrect**
- **drug use Incorrect**
- **cigarette use Incorrect**
- **genetic factors (*True Answer*)Correct**

---

370 **As of 2008, the rate of low-birthweight babies in the United States babies is _____ percent.**

- **7.0 Incorrect**
- **8.2 (*True Answer*)Correct**
- **9.5 Incorrect**
- **10.2 Incorrect**

---

371 **Greg and Allen are at bar watching a football game. Over the course of the game, each one drinks three beers. Greg is sweating and red-faced while Allen is not. A likely reason for the difference in their physiological reactions to the alcohol is that:**

- **Greg's and Allen's bodies metabolize the alcohol differently. (*True Answer*)Correct**
- **Greg and Allen have had diverse cultural experiences. Incorrect**
- **Greg is significantly younger than Allen. Incorrect**
- **Greg could not control his physiological reaction to the alcohol, but Allen could control his reaction. Incorrect**

---

372 **Age impacts alcoholism in that _____ get drunk more often and experience more pleasure and less pain from drinking.**

- **adolescents (*True Answer*)Correct**
- **geriatric adults Incorrect**
- **young parents Incorrect**
- **middle-aged adults Incorrect**

---

373 **Research indicates that alcoholism may be caused by:**

- **just nature. Incorrect**
- **just nurture. Incorrect**
- **a combination of nature and nurture. (*True Answer*)Correct**
- **poor moral character. Incorrect**

---

374 **Eyeballs change shape at typical stages of development, including puberty and middle adulthood. This makes it more likely that _____ will increase at puberty, and**

_____ will decrease during middle adulthood.

- **nearsightedness; farsightedness Incorrect**
- **farsightedness; nearsightedness Incorrect**
- **nearsightedness; nearsightedness (*True Answer*)Correct**
- **farsightedness; farsightedness Incorrect**

---

375 **The statistic that indicates how much of the variation in a particular trait can be traced to genes is called:**

- **a correlation. Incorrect**
- **heritability. (*True Answer*)Correct**
- **the mean. Incorrect**
- **probability. Incorrect**

---

376 **Eight-year-old Joe has no difficulty seeing things near him but sometimes struggles to see things in the distance. Joe gets his eyes checked and is told that he does not yet need corrective lenses for nearsightedness. Instead, drawing on current research, the ophthalmologist advises that he:**

- **do homework in a very brightly lit room. Incorrect**
- **watch television on a larger screen. Incorrect**
- **play outside more. (*True Answer*)Correct**
- **avoid reading small print. Incorrect**

---

377 **Risks to development at apparent at conception, pregnancy, and birth but the risks can be _____ if mothers and fathers, professionals, and the community work to promote healthy prenatal development.**

- **eliminated Incorrect**
- **minimized (*True Answer*)Correct**
- **enhanced Incorrect**
- **exaggerated Incorrect**

---

378 **Genes are located on chromosomes.**

- **True (*True Answer*)**
- **False**

---

379 **With just one exception, each body cell in a human being has 23 single chromosomes.**

- **True**
- **False (*True Answer*)**

---

380 **An individual's collection of genes is called a phenotype.**

- **True**
- **False (*True Answer*)**

---

381 **Any two individuals share 99.5 percent of their genetic code.**

- **True (*True Answer*)**
- **False**

---

382 **All humans have about 100,000 genes.**

- **True**
- **False (*True Answer*)**

---

383 **If the 23rd pair of chromosomes contains two X chromosomes than that individual is a male.**

- **True**
- **False (*True Answer*)**

---

384 **Every ovum a woman creates contains an X chromosome.**

- **True (*True Answer*)**
- **False**

---

385 **It is the mother's ovum that determines whether the developing baby will become a boy or a girl.**

- **True**
- **False (*True Answer*)**

---

386 **Dizygotic twins originate from the same zygote; therefore, they have the same genotype.**

- **True**
- **False (*True Answer*)**

---

387 **When a person inherits a recessive gene that is not expressed in the phenotype, that person is a carrier of the gene.**

- **True (*True Answer*)**
- **False**

---

388 **Every person starts life as a single cell called a stem cell.**

- **True**
- **False (*True Answer*)**

389 **The first two weeks of prenatal development are called the fetal period.**

- **True**
- **False (*True Answer*)**

390 **Couvade is when the zygote embeds itself into the lining of the uterus.**

- **True**
- **False (*True Answer*)**

391 **Fetal development follows a cephalocaudal and a proximodistal pattern.**

- **True (*True Answer*)**
- **False**

392 **The fetus gains about 2 pounds in the third trimester.**

- **True**
- **False (*True Answer*)**

393 **Birth takes place around 266 days after conception.**

- **True (*True Answer*)**
- **False**

394 **The Apgar scale refers to the age at which a fetus might survive if born.**

- **True**
- **False (*True Answer*)**

395 **The newborn's cry can earn a 2 for respiratory effort on the Apgar scale.**

- **True (*True Answer*)**
- **False**

396 **The Apgar scale measures color, heart rate, cry, muscle tone, and breathing.**

- **True (*True Answer*)**
- **False**

397 **The rate of both cesarean sections and induced labor is declining worldwide.**

- **True**

- **False (*True Answer*)**

---

398 **Home births are more common in European nations than in the United States.**

- **True (*True Answer*)**
- **False**

---

399 **Doulas have been shown to have little benefit in helping women during the birth process.**

- **True**
- **False (*True Answer*)**

---

400 **The rooting reflex helps a newborn infant find a nipple.**

- **True (*True Answer*)**
- **False**

---

401 **Birth-related complications are more likely when there is a father listed on the birth record.**

- **True**
- **False (*True Answer*)**

---

402 **Between 8 and 15 percent of all women experience postpartum depression in the days and weeks after giving birth.**

- **True (*True Answer*)**
- **False**

---

403 **The strong, loving bond that forms as parents hold and feed their newborn is known as couvade.**

- **True**
- **False (*True Answer*)**

---

404 **About 20 percent of all children have difficulties that could be connected to behavioral teratogens.**

- **True (*True Answer*)**
- **False**

---

405 **The term for a temporary lack of oxygen is anoxia.**

- **True (*True Answer*)**
- **False**

---

406 **Alcohol is one teratogen that results in dose-related damage.**

- **True (*True Answer*)**
- **False**

---

407 **Some teratogens are virtually harmless until exposure reaches a certain level.**

- **True (*True Answer*)**
- **False**

---

408 **Taking even one drink of alcohol during pregnancy will result in a baby with fetal alcohol syndrome.**

- **True**
- **False (*True Answer*)**

---

409 **Embryos exposed to large amounts of alcohol may develop distorted facial features.**

- **True (*True Answer*)**
- **False**

---

410 **A small for gestational age baby means the same as an underweight preterm newborn.**

- **True**
- **False (*True Answer*)**

---

411 **Low-birthweight is defined as a newborn that weighs less than 2,500 grams.**

- **True (*True Answer*)**
- **False**

---

412 **Fathers do not seem to have any impact on birth outcomes.**

- **True**
- **False (*True Answer*)**

---

413 **The nations of sub-Sahara Africa have low rates of low birthweight babies.**

- **True**
- **False (*True Answer*)**

---

414 **Genes and alleles for alcoholism have been found exclusively on the Y chromosome.**

- **True**
- **False (*True Answer*)**

---

415 **Heritability indicates how much of the variation of a trait can be traced to genes.**

- **True (*True Answer*)**
- **False**

---

416 **Genes affect disorders such as alcoholism and nearsightedness, but research indicates that the environment plays a role as well.**

- **True (*True Answer*)**
- **False**

---

417 **_____ are units of instructions for cells located on chromosomes.**

- **Genes (*True Answer*)**
- *****

---

418 **Every human body cell contains _____ chromosomes, with the exception of the gametes.**

- **46 (*True Answer*)**
- *****

---

419 **Each variation of a gene is called a(n) _____.**

- **allele (*True Answer*)**
- *****

---

420 **A person's collection of genes is referred to as his or her _____.**

- **genotype (*True Answer*)**
- *****

---

421 **An individual's genotype plus the epigenetic effects results in his or her _____.**

- **phenotype (*True Answer*)**
- *****

---

422 **If the 23rd pair of chromosomes is a(n) _____, the individual will be female.**

- **XX (*True Answer*)**
- *****

---

423 **If the 23rd pair of chromosomes is a(n) _____, the individual will be male.**

- **XY (*True Answer*)**
- *****

424 **Identical twins are also called _____ twins.**

- **monozygotic (*True Answer*)**
- *****

425 **Fraternal twins are also called _____ twins.**

- **dizygotic (*True Answer*)**
- *****

426 **When the effects of genes combine to form the phenotype, they are called _____ genes.**

- **additive (*True Answer*)**
- *****

427 **When someone inherits a recessive gene that is not expressed, that person is a(n) _____ of that gene.**

- **carrier (*True Answer*)**
- *****

428 **_____ is the process in which the developing organism embeds itself into the lining of the uterus.**

- **Implantation (*True Answer*)**
- *****

429 **A(n) _____ uses sound waves to generate an image of a fetus in utero.**

- **ultrasound (*True Answer*)**
- *****

430 **The age at which a fetus may survive if born is known as the _____.**

- **age of viability (*True Answer*)**
- *****

431 **The fetus usually gains at least _____ pounds in the third trimester.**

-

4.5

432 **On average, a first baby is born after _____ hours of active labor.**

- **12 (*True Answer*)**

- *

---

433 **Violeta is in labor and has requested a pain reliever known as a(n) _____, which is an injection given in the spine to alleviate pain.**

- **epidural (*True Answer*)**
- *

---

434 **The _____ is used to assess the newborn's health at one minute and five minutes.**

- **Apgar scale (*True Answer*)**
- *

---

435 **A newborn's involuntary response to a particular stimulus is a(n) _____.**

- **reflex (*True Answer*)**
- *

---

436 **_____ refers to the practice of a newborn lying skin-to-skin between the mother's breasts.**

- **Kangaroo care (*True Answer*)**
- *

---

437 **Risk of fetal neural-tube defects may be substantially reduced by a maternal diet adequate in _____.**

- **folic acid (*True Answer*)**
- *

---

438 **A newborn that weighs less than 1,000 grams would be considered _____.**

- **extremely low birthweight (*True Answer*)**
- *

---

439 **_____ is the primary reason teenage girls often have small babies.**

- **Malnutrition (*True Answer*)**
- *

---

440 **_____ is the statistic that indicates how much of a variation in a particular trait can be traced to genes.**

- **Heritability (*True Answer*)**
- *

---

441 **As urbanization, video games, homework, and fear of strangers has kept more American children indoors,**

the rate of _____ has increased.

- **nearsightedness (myopia) (*True Answer*)**
- *****

---

442 **Define genotype and phenotype and explain the impact of both on an individual's traits.**

- **Genotype refers to the collection of genes a person carries in his or her DNA. Phenotype is a person's actual appearance and behavior. The genes a person inherits, epigenetic factors, and the interaction among genes determine the actual traits expressed in each person.**

---

443 **Describe at least two of the surprises revealed upon the completion of the Human Genome Project.**

- **Answers will vary but should highlight surprising findings including that any two people share 99.5 percent of their genetic code; humans and chimpanzees share 98 percent of their genetic code; genomes for humans and other mammals are at least 90 percent the same; humans only have about 20,000-23,000 genes; and dogs and mice have more genes than humans.**

---

444 **Explain how the sex of an infant is determined and which parent is responsible for gender.**

- **Sex is determined by the 23rd set of chromosomes. If the set contains two X chromosomes, then the infant is female. If it contains an X and a Y, then the infant is a boy. The father's sperm determines the sex of the infant since the sperm can carrier either and X or a Y chromosome.**

---

445 **Describe the difference between monozygotic and dizygotic twins.**

- **Monozygotic twins result when one ovum is fertilized by one sperm and the zygote splits apart after duplication. This results in two identical zygotes (identical twins). Dizygotic (fraternal) twins result when two ova are fertilized by two separate sperm.**

---

446 **Explain how color blindness is inherited and why it is much more common in boys than in girls.**

- **Color blindness is an X-linked recessive gene. This means that it is passed down to a son from a mother on the X chromosome. Since boys have one X and one Y chromosome, they inherit one recessive gene on the X chromosome and have no dominant chromosome to overpower it on the Y chromosome. Girls, who have two X chromosomes, will usually have a dominant gene on the other X chromosome so they may carry the trait but will not express it.**

---

447 **Describe kangaroo care and its benefits.**

- **In kangaroo care, mothers hold their infants to their chests skin-to-skin, allowing them to feel their body heat. Infants who benefit from kangaroo care experience deeper sleep, more time alert, and more responsiveness to their mothers.**

---

448 **Describe the symptoms of postpartum depression. What are possible outcomes of prolonged postpartum depression for the mother and the baby?**

- **Symptoms of postpartum depression include deep sadness and feelings of inadequacy. Possible outcomes for the baby include inadequate food and care, behavior problems later on, lack of social stimulation, and possible abuse or neglect.**

---

449 **Define reflexes. Describe the three kinds of reflexes that are necessary for newborn survival and give an example of each.**

- **Reflexes are unlearned actions that are involuntary responses to particular stimuli. Those that are necessary for newborn survival are ones that maintain oxygen supply (such as the breathing, hiccupping, or sneezing), maintain constant body temperature (such as crying, shivering, or pushing off blankets), and those that manage feedings (such as the sucking and rooting reflexes).**

---

450 **Explain the procedure known as a cesarean section, and discuss the benefits and risks associated with this kind of delivery.**

- **A cesarean section (C-section) is also known as a surgical birth, in which incisions through the mother's abdomen and uterus allow the fetus to be removed quickly, instead of being delivered through the vagina. Generally, cesareans are safe for mother and baby; advantages for hospitals include ease in scheduling, quicker than vaginal deliveries, and more expensive than vaginal deliveries; drawbacks are a longer recovery period after delivery for the mother, complications after birth, and a reduction in breast-feeding.**

---

451 **What are behavioral teratogens, and what are the potential consequences of exposure to them?**

- **Behavioral teratogens are substances and conditions that increase the risk of harm to the developing brain in a fetus. Consequences of exposure to behavioral teratogens include hyperactivity, learning disabilities, and antisocial behavior.**

---

452 **What are four of the factors that contribute to low birthweight?**

- **Answers will vary from the following: genetic vulnerability, maternal drug use, low pregnancy weight, low maternal body fat, low total maternal weight gain, inadequate vitamins, and poor nutrition.**

---

453 **Explain two of the hypotheses developed to explain the increase in low birthweight in the United States.**

- **Answers will vary from the following: 1) increasing rates of assisted reproduction that lead to twins and triplets (multiple babies always weigh less than one infant); 2) a lack of adequate maternal nutrition; 3) an increase in food insecurity; and 4) increased maternal drug use.**

---

454 **Explain how nature and nurture can interact to result in alcoholism.**

- **In some individuals, genes can create the addictive desire to drink to excess. In addition, each body metabolizes alcohol differently. Other inherited personality traits make alcoholism more likely. The cultural context is also important in that some**

environments encourage alcohol use (while others discourage it).

---

455  **How do genes affect each individual?**

- **For each individual, the collection of his or her genes is called the genotype. The genes and the interaction of genes with the environment determine the phenotype, which is a person's actual appearance and behavior.**

---

456  **What birth practices are best for father, mother, and newborn?**

- **The specifics of birth depend on the parents' preparation, the position and size of the fetus, and the customs of the culture. Some practices can save lives – as with cesarean sections – but can also be overused. While the potential overuse of medical technology and the appropriate location and attendant for birth continues to be debated, almost everyone agrees that laboring women benefit from the support of others. To that end, studies show that births attended by doulas require fewer interventions.**

---

457  **How can serious birth disorders be avoided?**

- **Women are advised to get early prenatal care, maintain good nutrition and avoid teratogens, especially drugs and chemicals, even before they conceive. When complications arise, early recognition increases the chance of a healthy birth.**

---

458  **Is alcoholism genetic or cultural?**

- **Genetic and cultural influences are “inexorably intertwined;” alcoholism has been shown to be the result of both nature and nurture.**

---

459  **What is the relationship among DNA, chromosomes, and genes?**

- **Each molecule of DNA is called a chromosome. Chromosomes contain units of instructions called genes, with each gene located on a particular**

chromosome.

---

460 **Use the concept of gametes to explain why your parents could have given you millions of different siblings.**

- **Each gamete—sperm in a man and ovum in a woman—has 23 chromosomes, one from each of a person's 23 pairs of chromosomes. Since each gamete has only one of each person's pair of chromosomes, each man or woman can produce 223 different gametes—more than 8 million versions of their chromosomes. When a sperm and an ovum combine, they create a new cell in which one of those over-8 million possible gametes from the father interacts with one of the over-8 million possible gametes from the mother.**

---

461 **What surprises came from the Human Genome Project?**

- **One of the surprises was that humans have far fewer than 100,000 genes, the number everyone believed throughout the twentieth century. Another surprise is that all living creatures share many genes.**

---

462 **How is the sex of a zygote determined?**

- **The sex of the zygote is determined by the sperm, which carries either an X or Y chromosome. The ovum always contains an X chromosome.**

---

463 **What are the difference among monozygotic twins, dizygotic twins, and other siblings?**

- **If the zygote not only duplicates but splits apart completely and creates two separate zygotes, each genetically identical to that first single cell, the result is monozygotic, or identical, twins from one (mono) zygote. Dizygotic twins, also called fraternal twins, begin life as two zygotes created by two ova fertilized by two sperm. Dizygotic twins, like any other siblings, have half their genes in common, but they grow within the uterus at the same time.**

---

464 **When talking about genes, what is meant by a "dominant-recessive pattern"?**

- **A dominant–recessive pattern occurs when one allele, the dominant gene, is far more influential than the other, the recessive gene.**

---

465 **What are three major developments in the germinal period?**

- **Within hours after conception, the zygote begins duplication and division. After about the eight-cell stage, duplication and division continue and a third process, differentiation begins. Soon cells specialize, taking different forms and reproducing at various rates, depending on where they are located.**

---

466 **What body parts develop during the embryonic period?**

- **At about day 14, a thin line appears down the middle of the embryo; that line becomes the neural tube about 22 days after conception; it eventually develops into the central nervous system, brain, and spinal column. The head appears in the fourth week, as eyes, ears, nose, and mouth start to form. Also in the fourth week, the blood vessel that will become the heart begins to beat. By the fifth week, buds that will become arms and legs emerge. The upper arms and then forearms, palms, and webbed fingers grow. Legs, knees, feet, and webbed toes, in that order, are apparent a few days later, each having the beginning of a skeletal structure.**

---

467 **What major milestone is reached about halfway through the fetal period?**

- **At about 22 weeks, the fetus reaches the age of viability, or the age at which a preterm newborn might survive outside the uterus.**

---

468 **What role does the hormone oxytocin play in birth?**

- **Oxytocin prepares the fetus for delivery and starts labor.**

---

469 **What five vital signs does the Apgar scale measure?**

- **The Apgar scale measures color, heart rate, cry, muscle tone, and breathing.**

470 **What are some advantages and disadvantages of cesarean sections?**

- **Advantages of cesarean sections include that they are easier to schedule and quicker than a vaginal birth, but cesarean sections are more expensive than vaginal deliveries, may bring more complications after birth, and can inhibit breast-feeding.**

471 **In what ways do doulas support women before, during, and after labor?**

- **Before and during labor, a doula provides practical as well as emotional support for the laboring mother, suggesting positions and offering massage, and providing support to other family members awaiting delivery. After birth, a doula can assist with the start of breast-feeding.**

472 **What three sets of protective reflexes are typically seen in newborns? Give three examples of reflexes from each set.**

- **Reflexes that maintain oxygen supply: The breathing reflex, reflexive hiccups, and sneezes. Reflexes that maintain constant body temperature: Crying, shivering when cold, pushing away blankets when hot. Reflexes that manage feeding: The sucking reflex, the rooting reflex, and swallowing.**

473 **How do fathers experience pregnancy?**

- **Many fathers experience biological symptoms of pregnancy and birth along with their partner. For example, levels of stress hormones correlate between expectant fathers and mothers. Many fathers experience weight gain and indigestion during pregnancy and pain during labor. Paternal experiences of pregnancy and birth are called couvade.**

474 **What are the signs of postpartum depression?**

- **Sometimes the first sign is that the new mother seems euphoric after birth – unable to sleep, or stop talking, or keep from worrying. A crash might follow the high.**

Overwhelmed by sadness and feelings of inadequacy, a mother suffering from postpartum depression may have trouble caring for her newborn.

---

475 **What are the results of kangaroo care?**

- **Many studies find that kangaroo-care newborns sleep more deeply, gain weight more quickly, and spend more time alert than do infants with standard care. Infants who experience kangaroo care may adjust to life outside the womb better, and parents who use the method may have increased sensitivity and effectiveness.**

---

476 **What are the consequences if an infant is born with trisomy-21?**

- **No individual born with trisomy-21, or Down syndrome, is identical to another, but most have specific facial characteristics including a thick tongue, round face, slanted eyes. Many infants with trisomy-21 also have hearing problems, heart abnormalities, muscles weakness, and short stature. They are usually slower to develop intellectually, especially in language, though their eventual intellect varies, in part because of epigenetics and partly because of family support.**

---

477 **Why are a few recessive traits (such as sickle-cell) quite common?**

- **The reason is evolutionary – carriers of certain recessive disorders were protected from deadly diseases. For example, sickle-cell carriers are unlikely to die from malaria.**

---

478 **What teratogens harm the developing baby, and what types of harm can they cause?**

- **Teratogen such as drugs, viruses, pollutants, malnutrition, and stress increase the risk of prenatal abnormalities. Some teratogens cause physical defects and others can affect the brain, making a child hyperactive, antisocial, or learning-disabled.**

---

479 **How does the timing of exposure to a teratogen affect the risk of harm to the fetus?**

- **Some teratogens cause damage only during a critical period of development. For example, rubella can cause blindness and deafness if the exposure occurs during the embryonic period; if later in the first or in the second trimester, exposure can cause brain damage.**

---

480  **What are the potential consequences of drinking alcohol during pregnancy?**

- **Early in pregnancy, an embryo exposed to heavy drinking can develop fetal alcohol syndrome (FAS), which distorts the facial features (especially the eyes, ears, and upper lip). Later in pregnancy, alcohol is a behavioral teratogen, the cause of fetal alcohol effects (FAE), leading to hyperactivity, poor concentration, impaired spatial reasoning, and slow learning. However, some pregnant women drink alcohol with no evident harm to the fetus.**

---

481  **What factors increase or decrease the risk of spina bifida?**

- **One maternal allele results in low levels of folic acid during pregnancy and that can produce neural-tube defects such as spina bifida, in which the tail of the spine is not enclosed properly. Neural-tube defects are more common in certain ethnic groups (Irish, English, and Egyptian) than in others. Currently folic acid supplements before and during pregnancy are strongly recommended.**

---

482  **What are the benefits of prenatal care?**

- **The benefits of early prenatal care are many. Women can be told which substances to avoid, they can learn what to eat and what to do, and they may be diagnosed and treated for some conditions (syphilis and HIV among them) that harm the fetus only if early treatment does not occur. Prenatal tests (of blood, urine, and fetal heart rate, as well as ultrasound) and even preconception tests can identify many disorders. When possible complications (such as twins, gestational diabetes, infections) arise, early recognition increases the chance of a healthy birth. Early prenatal care also lowers the risk of low birthweight.**

---

483 **What are the differences among LBW, VLBW, and ELBW?**

- **Low birthweight (LBW) is defined as weight under 2,500 grams. LBW babies are further grouped into very low birthweight (VLBW), under 1,500 grams (3 pounds, 5 ounces), and extremely low birthweight (ELBW), under 1,000 grams (2 pounds, 3 ounces).**

---

484 **List at least four reasons why a baby might be born LBW.**

- **Being born preterm, maternal or fetal illness, maternal psychoactive drug use, and maternal malnutrition all can cause a baby to be born LBW.**

---

485 **What are some potential consequences of low birthweight?**

- **Early death is the most obvious hazard of low birthweight. For those that survive, they are later to smile, to hold a bottle, to walk, and to talk. In addition cognitive, visual, and hearing impairments may emerge. As infants and children they may cry more, pay attention less, disobey, and experience language delays.**

---

486 **In what ways do biology, psychology, and culture influence the risk of alcoholism?**

- **Alcoholism begins with genes. Each person's biochemistry reacts differently to alcohol, causing sleep, nausea, aggression, joy, relaxation, forgetfulness, sexual urges, or tears. Differences in metabolism allow some people to “hold their liquor” better and therefore drink too much, whereas others sweat and become red-faced after just a few sips. Inherited psychological traits affect alcoholism as much as biological ones. A quick temper, sensation seeking, or high anxiety encourage drinking. Some cultural contexts (such as fraternity parties) make it hard to avoid alcohol; other contexts (a church social in a “dry” county) make it difficult to drink it.**

---

487 **In what ways do age, genes, and culture affect vision?**

-

Age, genes, and the environment all impact vision. Vision improves steadily until about age 10, but then at puberty the eyeball changes shape, increasing nearsightedness. Eyeball shape changes again in middle age, decreasing nearsightedness but increasing farsightedness. A study of British twins found that the gene that governs eye formation (Pax6) has many alleles that increase nearsightedness. This research found heritability of almost 90 percent. But the environment also appears to play a role. In some African nations, heritability of vision is close to zero because severe vitamin A deficiency is the main reason some children see less well than others.

---

488  **How might an awareness of genetic risks influence parents' behavior before, during, and after pregnancy?**

- **Awareness of genetic risks alerts parents to set priorities and act on them, and it helps professionals advise pregnant women. Some recommendations should be routine (e.g., to take prenatal vitamins including folic acid) because it is impossible to know who is at risk. Others can be tailored to the individual, such as recommending weight gain for underweight women.**