

What is Human Reproduction and Development?

Worksheet

Human reproduction is the biological process where sperm and egg unite to form a zygote; development is the series of changes that transform this single cell into a fully formed baby. Key stages: fertilization, cell division, implantation, embryonic development (weeks 1-8), fetal development (weeks 9-40), and birth.

Questions

1. How many days after fertilization does implantation typically begin?
 - A) 2 days
 - B) 6 days
 - C) 14 days
 - D) 21 days
2. Which stage is called the 'embryonic period'?
 - A) Weeks 1-4
 - B) Weeks 1-8
 - C) Weeks 9-20
 - D) Weeks 21-40
3. What does the umbilical cord do?
 - A) Provides immune cells only
 - B) Carries blood between fetus and placenta
 - C) Filters waste in the liver
 - D) Produces hormones
4. When does the neural tube form?
 - A) Week 1
 - B) Week 2-3
 - C) Week 8
 - D) Week 12
5. How many cell divisions occur from zygote to 8-cell stage?
6. A zygote is formed on Day 0. On which day does implantation typically complete?
7. How many weeks does the embryonic stage last?
8. Define: What is a zygote?
9. Define: What is the blastocyst?
10. Define: When does the heart start beating?

Answer Key

1. B) 6 days - Implantation begins around day 6-8, when the blastocyst attaches to the uterine lining.
2. B) Weeks 1-8 - The embryonic period spans weeks 1-8, during which all major organs form.
3. B) Carries blood between fetus and placenta - The umbilical cord delivers oxygenated blood and nutrients to the fetus and removes waste.
4. B) Week 2-3 - The neural tube (which becomes the brain and spinal cord) forms during weeks 2-3 of embryonic development.
5. Zygote = 1 cell 1st division 2 cells 2nd division 4 cells 3rd division 8 cells Answer: 3 divisions
6. Implantation begins around Day 6 Implantation completes around Day 12 Answer: Day 12
7. Embryonic stage = Weeks 1-8 Duration = $8 - 1 + 1 = 8$ weeks Answer: 8 weeks
8. A single cell formed by the fusion of sperm and egg; the first stage of human development.
9. A hollow ball of ~128 cells that forms 5-6 days after fertilization; ready to implant in the uterus.
10. Around week 4-5 of embryonic development, within the first trimester.

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