D3.1 Reproduction (HL)

What the Cell · DP Biology · worksheet · HL statements D3.1.13–20

Name _____ **Date** _____ **Total** _____ / 40

About 40 minutes, or one section at a time. The number of marks shows how many separate points to make.

Section A: Recall

8 marks

1 **Name** the hormone from the hypothalamus whose rise triggers puberty. D3.1.13 **[1]**

2 **State** how many sperm develop from one primary spermatocyte. D3.1.14 **[1]**

3 **Name** the glycoprotein coat that surrounds the egg. D3.1.15 **[1]**

4 **Name** the hormone detected by a pregnancy test. D3.1.17 **[1]**

5 **Name** the hollow ball of cells that implants in the endometrium. D3.1.16 **[1]**

6 **State** two substances that pass from the mother to the foetus across the placenta. D3.1.18 **[2]**

7 **Name** the hormone that stimulates contractions of the uterus in childbirth. D3.1.19 **[1]**

Section B: Understanding

15 marks

8 **Compare** spermatogenesis and oogenesis. D3.1.14 **[4]**

9 **Explain** how polyspermy is prevented. D3.1.15 **[3]**

10 **Explain** how a pregnancy test shows that a woman is pregnant. D3.1.17 **[3]**

11 **Explain** the role of progesterone during pregnancy. D3.1.19 **[2]**

12 **Explain** why the control of childbirth is an example of positive feedback. D3.1.19 **[3]**

Section C: Working with evidence

11 marks

All data in this section are invented for practice. The pattern matches real findings.

13 D3.1.20

Two studies looked at hormone replacement therapy (HRT) and coronary heart disease (CHD) in women aged 50 to 70.

Study	Group	CHD cases per 1000 women per year	Women with a university degree / %
A: observational (women chose)	Took HRT	3.0	62
	No HRT	4.5	35
B: randomized trial, 8000 per group	Given HRT	3.9	48
	Given placebo	3.4	48

a **Calculate** the percentage by which the CHD rate was lower in HRT users in study A. **[2]**

b **Compare** the conclusions that could be drawn from the two studies. **[2]**

c **Explain**, using the data, why the result of study A may be misleading. **[3]**

d **Explain** why random allocation gives more reliable evidence. **[2]**

e **Suggest** why study B needed thousands of women in each group. **[2]**

Section D: Longer answer

6 marks

14 **Describe** oogenesis, from the ovary of a female foetus to fertilization. D3.1.14 **[6]**