

## HUMAN BIOLOGY UNIT 2

### EXERCISING DURING PREGNANCY INVESTIGATION

NAME: \_\_\_\_\_

DUE DATE: \_\_\_\_\_

WEIGHTING: 4%

MARK: \_\_\_\_\_ / 34 = \_\_\_\_\_ %

#### BACKGROUND

Some scientific investigations require surveys to be conducted so data collected can be analysed to determine if there is a link between two variables.

Some observations have indicated that mothers who exercise during pregnancy seem more likely to avoid a premature birth than those who do little or no exercise.

Recent studies have indicated that babies born to mothers who were physically active during pregnancy had brains that developed more rapidly than those babies born to mothers who were inactive.

#### TASKS

##### Part 1 [5 Marks]

Propose a hypothesis that states a relationship between the two variables – exercise during pregnancy and time of birth.

##### Part 2 [20 Marks]

Design, compile and produce a questionnaire leaflet that could be given to mothers after the birth of their babies. The questions should be designed so that the answers will either support or disprove your hypothesis. The questionnaire must contain at least 15 questions. When designing your questions, keep the following points in mind:

- The questions need to be concise and clear, the mothers should not have to try to guess or interpret what the question means.
- Frame the questions to include a variety of answers, i.e., yes/no,

multiple choice, and short answer. .

- Ensure that your survey would be able to obtain enough information from your questionnaire to support or disprove your hypothesis. There are many websites that give advice on making up questionnaires – use a search engine to look for ‘questionnaire design’. Much of the advice is concerned with marketing surveys but the principles can be applied to your questionnaire. .
- Some of your questions may be used to eliminate other variables from being the cause of premature births e.g. age of mother.

### **Part 3 [9 Marks]**

Once you have produced your questionnaire, the following questions must be answered to ensure that the answers to your questionnaire can be interpreted and are reliable and valid. Some research on how to organise valid public surveys would need to be conducted.

- a. What pattern of answers to your questions would support your hypothesis?
- b. How would you go about conducting your survey? In particular, how would you select participants?
- c. How many participants would be necessary to enable you to decide whether your hypothesis was supported or disproved?