

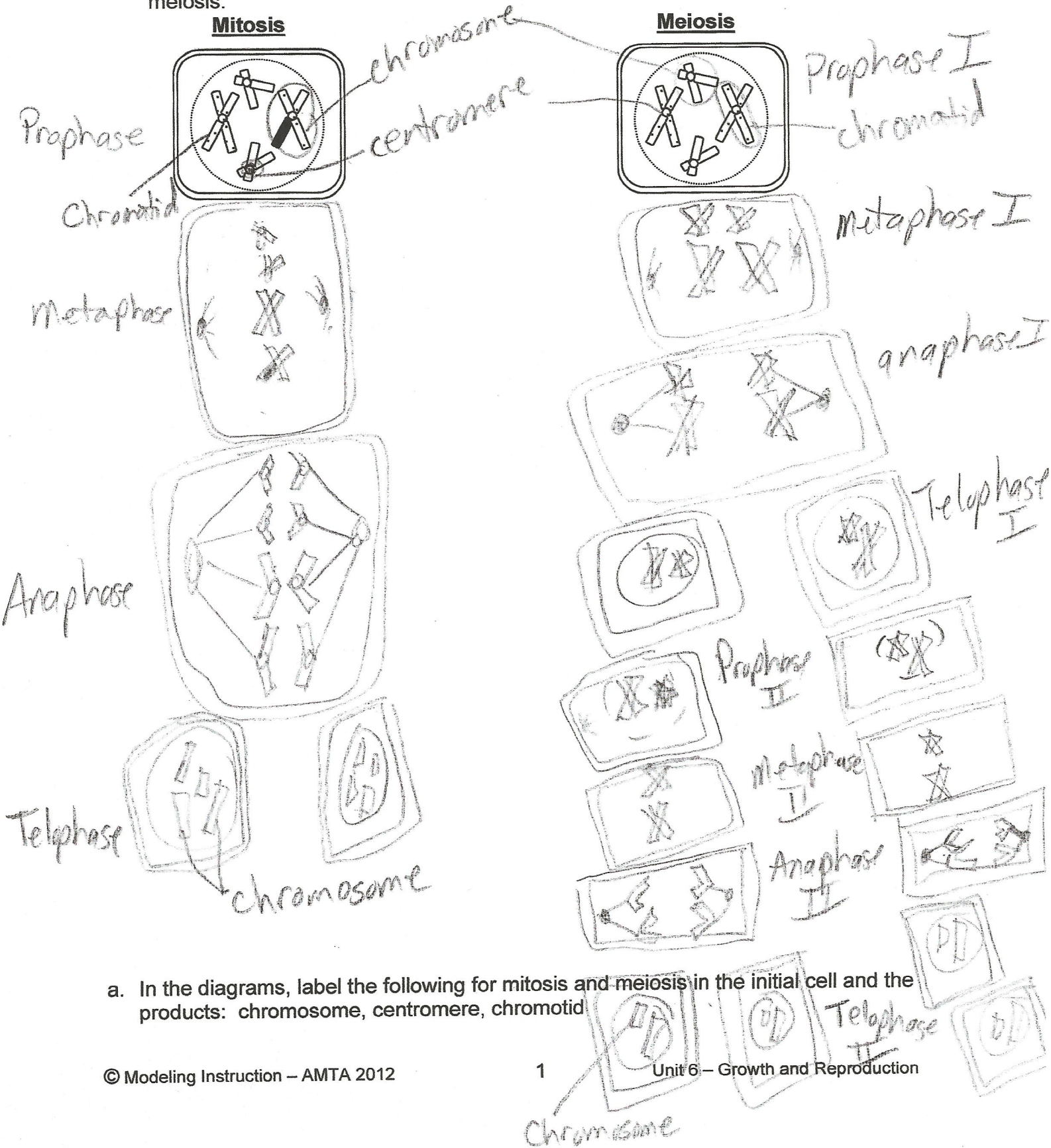
Unit 6 – Growth and Reproduction

Exercise 5

1) Starting with the two cells shown below, draw side-by-side diagrams of mitosis and meiosis.

**Mitosis**

**Meiosis**



a. In the diagrams, label the following for mitosis and meiosis in the initial cell and the products: chromosome, centromere, chromatid

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b. For the diagrams on page 1, complete the following table:

	Haploid or diploid?	2n or n? n = number of chromosomes sets	Chromosome number How many sets of chromosomes?	Number of cells
Mitosis, initial cell	diploid	2n	4	1
Meiosis, initial cell	diploid	2n	4	1
Products mitosis	diploid	2n	4	2
Products meiosis	haploid	n	2	4

2) It has been said that meiosis is mitosis done twice. Do you agree or disagree with this statement? Justify your answer.

Yes - the 4 stages of mitosis are repeated in meiosis

No - the end is different

3) Compare mitosis and meiosis on the similarities and differences chart shown below.

Similarities	Differences
each start with same thing (i. diploid cells)  each go through prophase metaphase anaphase teleophase	end is different mitosis - 2 cells meiosis - 4 cells  mitosis does 1 set of phases meiosis does 2 sets of phases  mitosis - ends with exact copy of both mother & father DNA in cell meiosis - ends with have of DNA in cells, mother and father DNA mixed up among the 4 cells