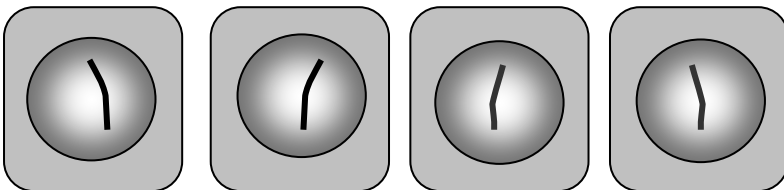
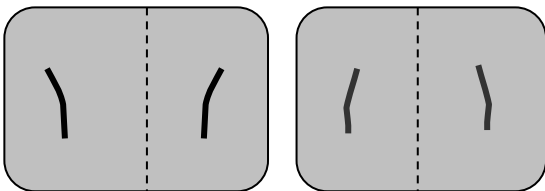
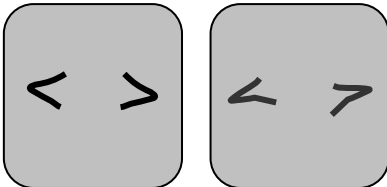
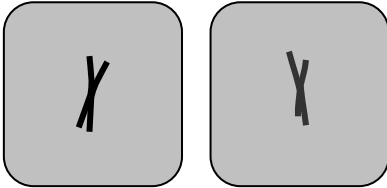
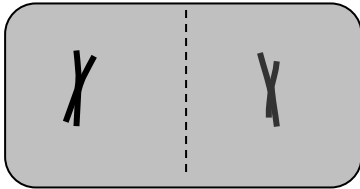
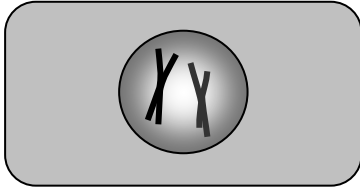
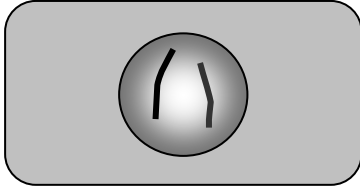


SCIENCE 1.9
WORKSHEET FOUR

ANSWERS
MEIOSIS

1. Meiosis occurs in the testes in the males and in the ovaries in the females.
2. Meiosis is needed to produce sex cells so that fertilisation can occur for reproduction.
3. Meiosis ensures that offspring produced are a random mixture of their parents' genes. So each offspring (baby) produced differs slightly in their characteristics. This means that if disease strikes the family, some of the children should have a greater chance of survival than others as none of them are identical.
4. Chromosomes firstly copy themselves. Then these copied chromosomes come together. As they come together parts of them cross over and swap. This makes sure that there are different genes on the chromosomes from the original ones.
5. The gametes contain half the number of chromosomes compared to the parent cell.

6.



The parent cell containing one pair of chromosomes

The chromosomes replicate forming identical chromatids

The chromosome pairs are pulled to opposite ends of the cell and a membrane forms

The cell divides into two daughter cells

The chromatids in each cell are pulled apart

The cytoplasm divides and new membrane is formed

Four daughter cells produced which have half the number of chromosomes as the parent cell