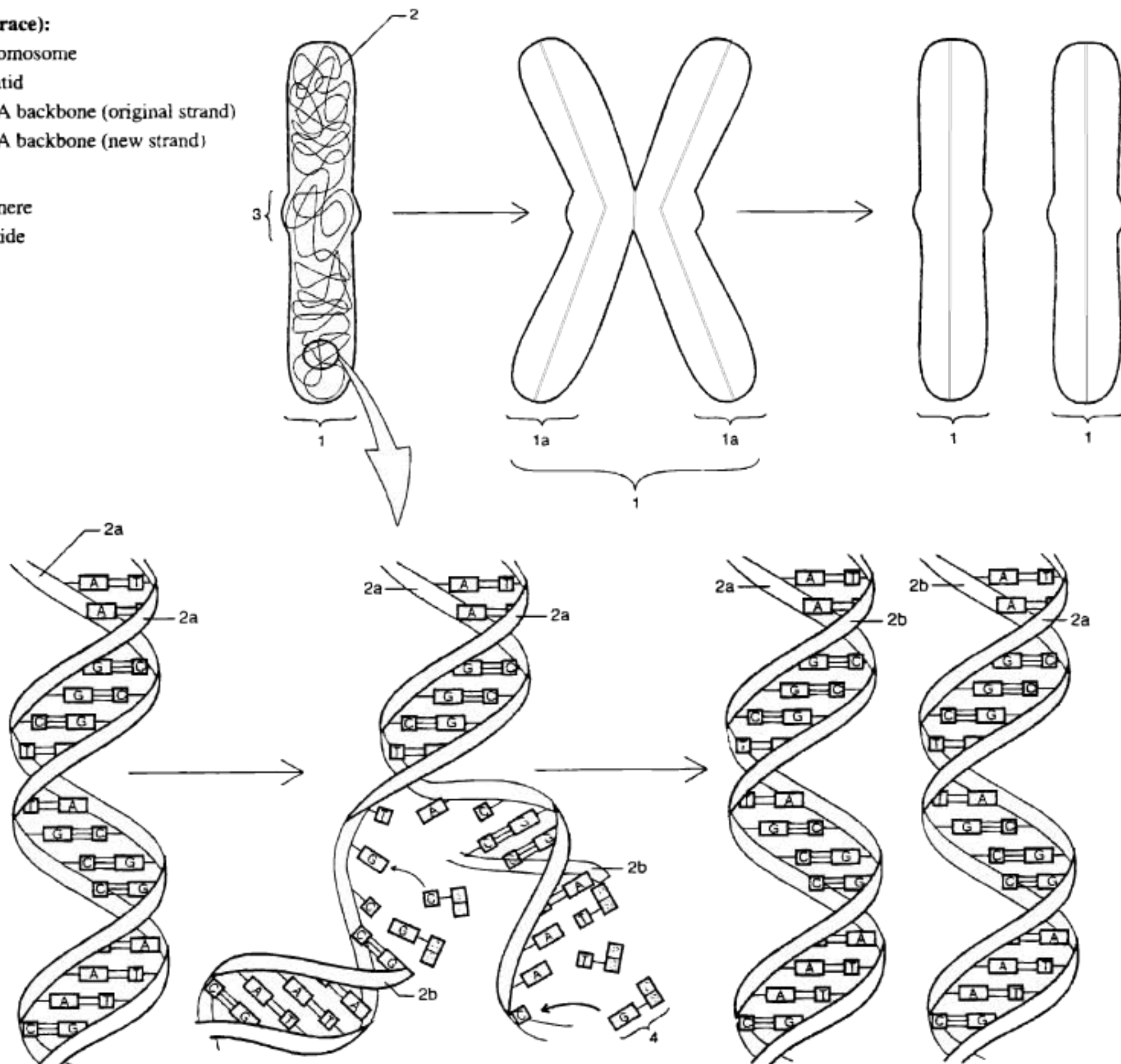


**Color (or trace):**

- 1. ○ chromosome
- 1a. chromatid
- 2a. ○ DNA backbone (original strand)
- 2b. ○ DNA backbone (new strand)

**Label:**

- 3. centromere
- 4. nucleotide



- \_\_\_\_\_ 1. The genetic material in our cells is \_\_\_\_\_ and is found in \_\_\_\_\_ (cell structure).
  - \_\_\_\_\_ a. When a chromosome replicates, it forms two \_\_\_\_\_ that are held together at their \_\_\_\_\_.
  - \_\_\_\_\_ b. When the centromeres separate, the two chromatids become two \_\_\_\_\_.
- \_\_\_\_\_ 2. Are both strands of DNA needed to make new DNA?
- \_\_\_\_\_ 3. In order for DNA replication to occur, what bonds must break?
- \_\_\_\_\_ 4. How are the bases in the new DNA strands determined?
- \_\_\_\_\_ 5. Does DNA replication occur along the entire length of DNA?
- \_\_\_\_\_ 6. What is the distribution of original and new DNA in each chromatid that forms?
- \_\_\_\_\_ 7. What is the distribution of old and new DNA in each new chromosome that forms?
- \_\_\_\_\_ 8. Is the genetic material in each new chromosome identical to the genetic material in the original chromosome?
- \_\_\_\_\_ 9. What is the fate of the two new chromosomes?