HOW CELLS COPY THEMSELVES

Background:

We have seen that animal and plant cells divide by one of two processes.

1. Mitosis is the process where an organism divides or replaces damaged cells.
2. Meiosis is a different process that happens only in our sex organs.

In this activity it is your job to put the process of mitosis into correct order. Stick the diagrams with their correct description on the blank sheet provided. There are some arrows below for you to use in your flow chart. The pictures are on the next page.

- The cell prepares for division. The chromosomes become visible as “thread”-like structures in the cell. The nuclear membrane is still visible, but begins to dissolve.
- Each chromosome splits in half and the halves move to opposite ends (dragged by the spindle). The cell then starts to narrow in the middle.
- The cell pinches off to make two identical cells. Each cell has an exact copy of each other’s chromosomes.
- Secondly, the chromosomes become more visible and can be seen as two “threads” joined at the middle. String-like threads appear across the cell, and the chromosomes line up in the middle of the cell.
- The new fully-grown cell is ready to divide again. This could take minutes or it could take days. The chromosomes are still in “threads”, but are too small to be seen under the microscope.
- Each of the two cells grow.