Meiosis - The Continuation of Life

https://www.youtube.com/watch?v=5hVOfJ5UCM4

Fill in the Blanks:

1) All higher forms of life _____.
2) _____ reproduction begins with the mating of a male and a female.
3) Sexual reproduction starts with the release of male _____ _____ into the female reproductive tract.
4) Inside each male sperm cell's nucleus is his DNA blueprint for life.
5) Their destination is the female egg cell.
6) The egg's nucleus contains her DNA blueprint.
7) The sperm cell secretes a special enzyme to penetrate the egg cell's _____.
8) Inside the egg the sperm breaks open and releases its nucleus of _____ _____.
9) Which combines with the egg cell nucleus also containing __ chromosomes.
10) The fertilized egg now has _____ chromosomes…the correct number for humans…
11) The complete DNA blueprint for a new life…is now read by enzymes in the egg and _____.
12) Through the process of _____, the egg cell undergoes its first regular cell division. It separates its duplicated chromosomes and divides in two!
13) The fertilized egg continues _____ and undertakes its long journey of growth and development.
14) Sperm and egg cells are made by a special cell division process called _____!
15) A "parent" sperm or egg cell must divide twice to produce _____ "daughter" cells, each having only ___ the chromosome number.
16) Meiosis begins with "Interphase"
17) In the nucleus of a human parent sperm cell float __ pairs of chromosomes (46 total).
18) One set of 23 is from the males' mom, the other set of 23 is from the male's dad.
19) During interphase these two sets pair up they are now called "_____ chromosomes".
20) Each chromosome pair is then replicated.
21) The parent cell nucleus now has ___ chromosomes (46X2)

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22) To prepare for the cell division, all the chromosomes now thicken and condense.

23) In **prophase I**, two "centrosomes" form and begin to migrate to the opposite poles of the cell.

   a. In the nucleus, the four paired homologous chromosomes continue _____.

24) They are so closely touching each other that they exchange sections of DNA. It is called "Crossing Over"

25) Crossing over mixes up genes, and helps to produce _____ offspring.

26) As prophase I continues, the nuclear membranes _____, and spindle fiber from the centrosomes seek out each chromosome.

27) The spindle fibers attach to each chromosome at a central point call a "_____."

28) In **Metaphase I**, the spindle fibers position the chromosomes in the middle of the cell.

29) During **Anaphase I**, duplicated chromosome pairs are randomly pulled apart to _____ sides of the cell.

30) In **Telophase I**, nuclear membranes form around the separated chromosome pairs and the cell pinches in the _____.

   a. One parent cell has divided into _____ _____ cells.

31) These two cells each have _____ chromosomes.

32) In **Meiosis II**, the two daughter cells undergo a _____complete cell _____.

   a. The duplicated chromosomes _____ again.
   b. The result is _____ daughter cells, each containing only _____ of the parent cell's original DNA.

33) These 4 cells will grow tails and become sperm.

   a. Each contains ____ chromosomes, ready to combine with the ____ chromosomes in an _____…to form a new human life!