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2.DNA replication is required for cells to divide. The genetic material, regulating cell activity, must be found in each new cell. If the DNA did not replicate there would not be enough genetic material for the cell to continue to divide.

3a. DNA replication. The DNA unzips (splits into two strands) and each of these strands makes a copy of itself. You end up with two new strands of DNA, which are identical to the original.
3b. The duplication of genetic material is needed for cell division since the material must be present in both daughter cells.

5. DNA replicates by separating/unzipping the two DNA strands and then each strand creates a copy of itself matching base pairs. A (adenine) pairs with T (thymine) and C (cytosine) pairs with G (guanine).

6. DNA fingerprinting: DNA is removed from the nucleus, special chemicals cut apart the DNA, segments of DNA are placed on a gel and pulled across the surface with an electrical current making bands of DNA. The DNA is then compared to a sample.

8. Nuclear transplants occur when they take the nucleus from one cell and place it in another cell.

10. The cells of a salamander are not as specialized. Human cells are too specialized and therefore we cannot regenerate limbs. The only cells which we can regenerate are skin cells, bones and some tissue cells

11. Stem cells are embryonic cells that have the ability to divide into different types of cells. They are cells that are not yet specialized to their function.

12. Cancer cells divide faster than normal cells and they can divide on their own in isolation. Normal cells cannot divide in isolation. Cancer cells also can have more than one nucleus, normals cells only ever have one nucleus. Cancer cells also do not change shape and specialize like normal cells.

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13. Viruses, radiation, exposure to chemicals, smoking unhealthy lifestyle, UV rays etc.

14. Stop smoking, proper diet, reduce sunlight exposure.

15. Because scientists had believed that specialized cells couldn't be used for cloning and Dolly was cloned from an adult cell not an embryo.

19a.The immature cells are capable of cell division. This would permit the regeneration of cartilage in the end of long bones. Which humans are not capable of doing now.
19b. People who have cartilage problems in their knees would be able to make new cartilage.

24. Answers will vary based on opinion. However some of the points of view

AGAINST: Clones could be used for evil instead of good. Could create humans with no heads just to use their organs. Could have the clone commit crimes for you. Could try to use clones to create the ideal race. Clones could be used as human guinea pigs etc.

FOR: Cloning could be a good source for blood, organ and bone marrow transplants. Scientists could gather information about how human personalities are developed by studying twins produced from cloning. Animals from endangered species could be cloned to prevent extinction. Cloning livestock animals could be beneficial to farmers to help them make more money etc.