



## UNIT FIVE TEACHER GLOSSARY

**Adenovirus** – A reprogrammed DNA virus that does not insert its genetic material into the host cell's DNA, instead it inserts a specifically created strand of recombinant DNA or protein.

**Blastocyst** – An early stage embryo characterized by a round, largely hollow structure. The outer layer is destined to become the placenta while the inner cell mass is destined to become the organism. The cells of the inner layer mass are pluripotent.

**Chimera** - Animals that have cells of two or more genetic origins, created by injecting embryonic or iPS cells into a developing blastocyst.

**Differentiation** – The process where an immature cell becomes specialized and transforms into a mature somatic cell.

**Fibroblast** – The most common cell type in connective tissue - forms the structural framework of tissues. In the context of iPS cells it is usually isolated from the skin.

**Germ Layers** – The groups of cells found in early embryos that are destined to become specific regions of the body. The three layers are the ectoderm, mesoderm and endoderm.

**Glial cells** – A diverse group of cells in the nervous system that perform a variety of support functions, such as insulating nerve fibers and providing nutrients and structural support

**Graft Versus Host Disease** – A dangerous possible side affect of bone marrow transplantation where the immune cells generated from the transplanted stem cells recognize the recipient's body as foreign and mount an immune response.

**Hematopoietic stem cells** – Adult stem cells located in bone marrow that produce blood and immune cells.

**Heterozygous** – An individual organism having two differing copies of the same gene, often one normal and one mutated gene.

**Homozygous** – An individual organism having the two identical copies of the same gene, usually either both normal or both mutated.



Plasmids – Small circular pieces of DNA that are separate from chromosomal DNA.

Pluripotency – The ability of a stem cell to differentiate into all the mature adult cells in the body.