Developmental biology notes assignment

Gastrula Mesoderm: -Dorsal-Notched- derived from cells of mesoderm, primary axis of the embryo – Paraxial (central axis of the body, situated alongside or each side of)- Bone Tissue – Intermediate (occurring or situated between two points, extremes, places, etc. ; in between)- tubule of the kidney -Lateral-Red blood cells -Head- Facial muscle Gastrula Endoderm and Germ Layers: Endoderm- Digestive tube/Stomach cell, Parathyroid cells, Respiratory tube/lung cells (alveolar cells). Germ cells- Male/female gametes, Sperm and egg MET: Mechanical and Epithelial transition Mechanical Cells Condensation causes the Mechanical cells to morph into epithelium cells and allowing the formation of Mechanical cartilage.

Cell division causes mitosis, which makes more cells (also known as hyperplasia) and allows the Mechanical cells to morph into limb Messengers. Cell death causes cell to obviously die and in turn causes the formation of interlarding Messengers. This means the cells individualize and some die in order to create the digits (Interlarding tissue degenerates and as a result digits individualize). Migration allows the cells to move at particular times and places, which allow the Mechanical cells to form into heart Messengers. Matrix secretion and degradation allow the synthesis or removal of the extracurricular layers, which encourages the formation of cartilage Messengers.

Growth causes hypertrophy (cells get larger), which allows the formation of fat cells. (SEE LECTURE 2, Slide 11- Mechanical cells & Epithelial if confused) Epithelial Cells -Dispersal causes the epithelium to become Messengers on a whole structural basis, which allows the formation of the Millenarian duct degeneration- Ducts that are art of the embryo but are only useful for

females and become fallopian tubes, uterus, or cervix, for males they are lost (Obviously made of Mechanical tissue which is why epithelium becomes Messengers). -Delimitation causes the same thing as dispersal, Pep. 0 Mess, except in this case it is only partial structure, this allows chick hyperbolas to occur. Shape change or growth causes cells are intact and stick together while morphology is altered, which allows enumeration (neural tube is transformed into the primitive structures that will later develop into the CANS). See Chart for summary (Table 1. 1) Fate mapping: A method of understanding the embryonic origin of various tissues by establishing the correspondence between the individual cells at one stage of development. 9/3/13 Pancreas- contains 2 classes of cells: Exocrine and Endocrine cells. Silencers (turn down expression)- ensures that expression occurs in specific places During development, you express different globing genes. Change in Hemoglobin affinity that allows the change from before your born to after.

Binding protein start of all messenger Rona’s Four types tot collagen -Type AAA, Type 2 Mature Constricted have more elasticity then precursor constricted Fifes- Fibroblast growth factor-helps cells grow- in order for it to function it has to bind too cell; it is a protein. Question: Gene alternative? 9/10/13 -Certain specific genes or patterns define axis orientations. -Genes that we characterize are called maternal effect genes- before egg fertilization and they help determine polarity -The control of RNA was by cytoplasm localization. -Localization is what puts it in contact with other areas. -There’s a mechanism that protects the localized area from degradation-protection is not uniformly distributed. -How are marina’s transported w/in the cell- Dyne helps move things along Oscar: -Oscar is

important in the formation of germ cells. -The positive activity is being blocked.

Chap 3: Cell-Cell interactions -Ability of individual cells to know where they are- in this experiment -Take cells from part of presumptive epidermal cells- dissociate them using enzymes w/o killing the cells- Also take cells from neural plate cells (in this expo)- dissociate them as well and then let them associate- spontaneously come together. Catherine -These specific cells are constructed by these series of domains -Hemoglobin is impressed of a series of repeating domains (dc) -One form of adhesion where you have the same type of adhesion molecule on both cells. -They work using surface tension, affinity. -Catherine also direct morphogenesis -Transcription factors are also things that regulate other processes. FOG: -Fibroblast Growth Factor -Not specific to any one cell type TGIF: -Transforming Growth factor- discovered in cancer cells- from normal to cancerous tissue -BUMP- Bone morphogenesis protein -Decapitating – Tyrosine Kinas receptor-regulates proliferation(I think)