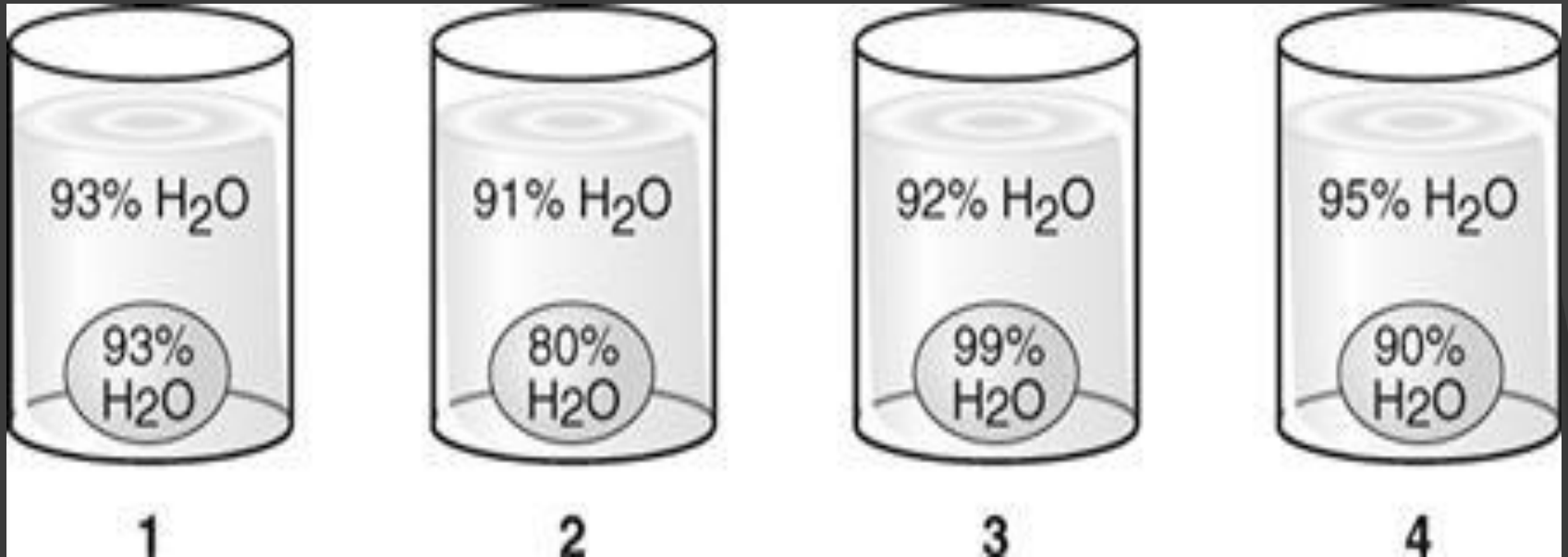


Warm-up: Sheet (blue) on front counter – get started!

Warm-up: Answers



1. Which of these beakers contains an egg that would shrink? **#3**
2. What kind of solution is beaker #3?
 - **Hypertonic (water leaving the cell)**

Warm-up: Answers

Row	Movement of Molecule X	ATP
(1)	high concentration → low concentration	used
(2)	high concentration → low concentration	not used
(3)	low concentration → high concentration	used
(4)	low concentration → high concentration	not used

3. Which row in the chart below best describes the active transport of Molecule X across a cell membrane?
3 - LOW TO HIGH, uses ENERGY
4. Which row in the chart below best describes the diffusion of Molecule X across a cell membrane?
#2 – HIGH TO LOW, energy NOT required

Cell Birthdate

- Goal – put all Cell's birthdate in order from youngest to oldest

Cell 1: can move but not talk

Cell 2: can talk but not move

Cell 3: cannot move or talk other than to tell other cells its birthdate

CELL SPECIALIZATION

Throwback...

- ① Unicellular: single-celled organisms
- ① Multi-cellular: organisms made up of many cells

Levels of Organization in a Multi-cellular Organism

cells (smallest unit in an organism)



tissues



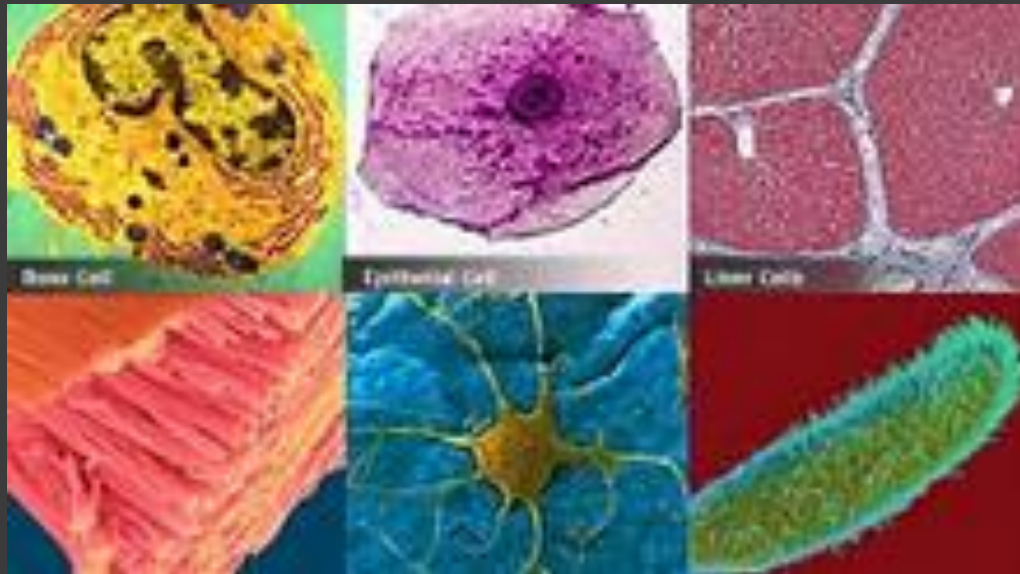
organs



systems (largest unit in an organism)

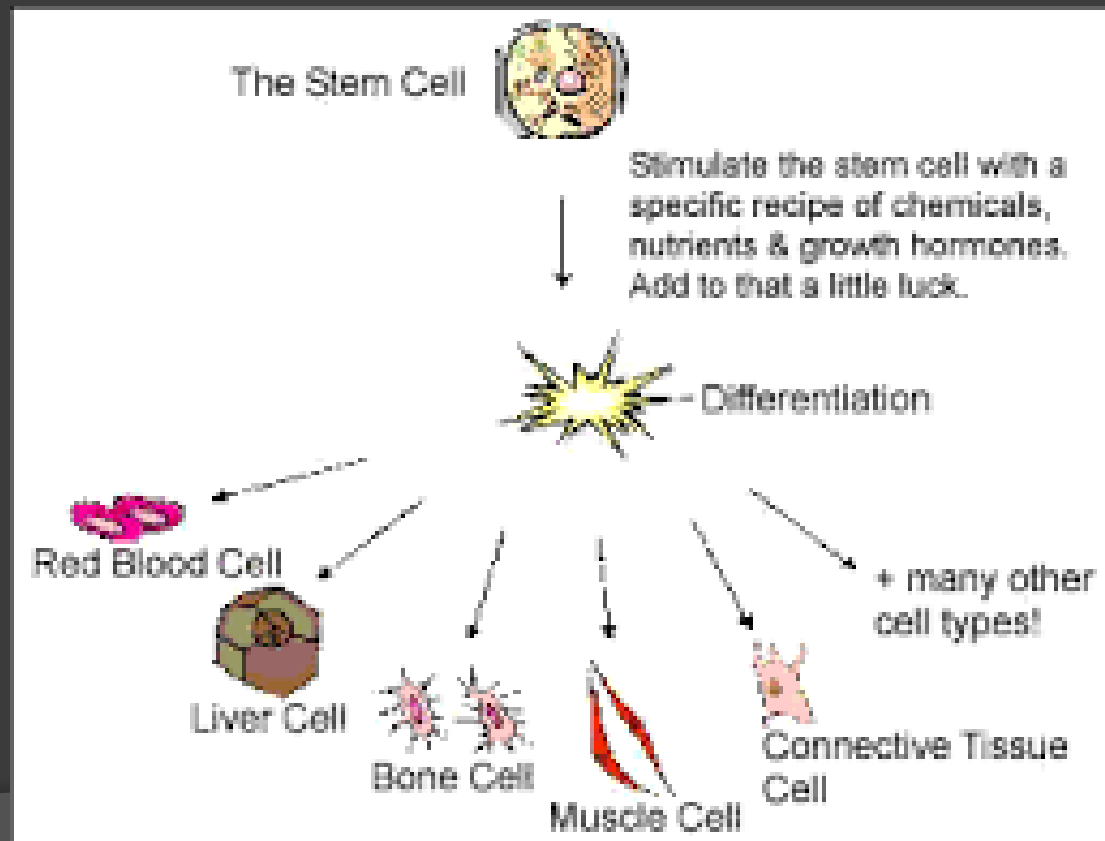
Cell Specialization

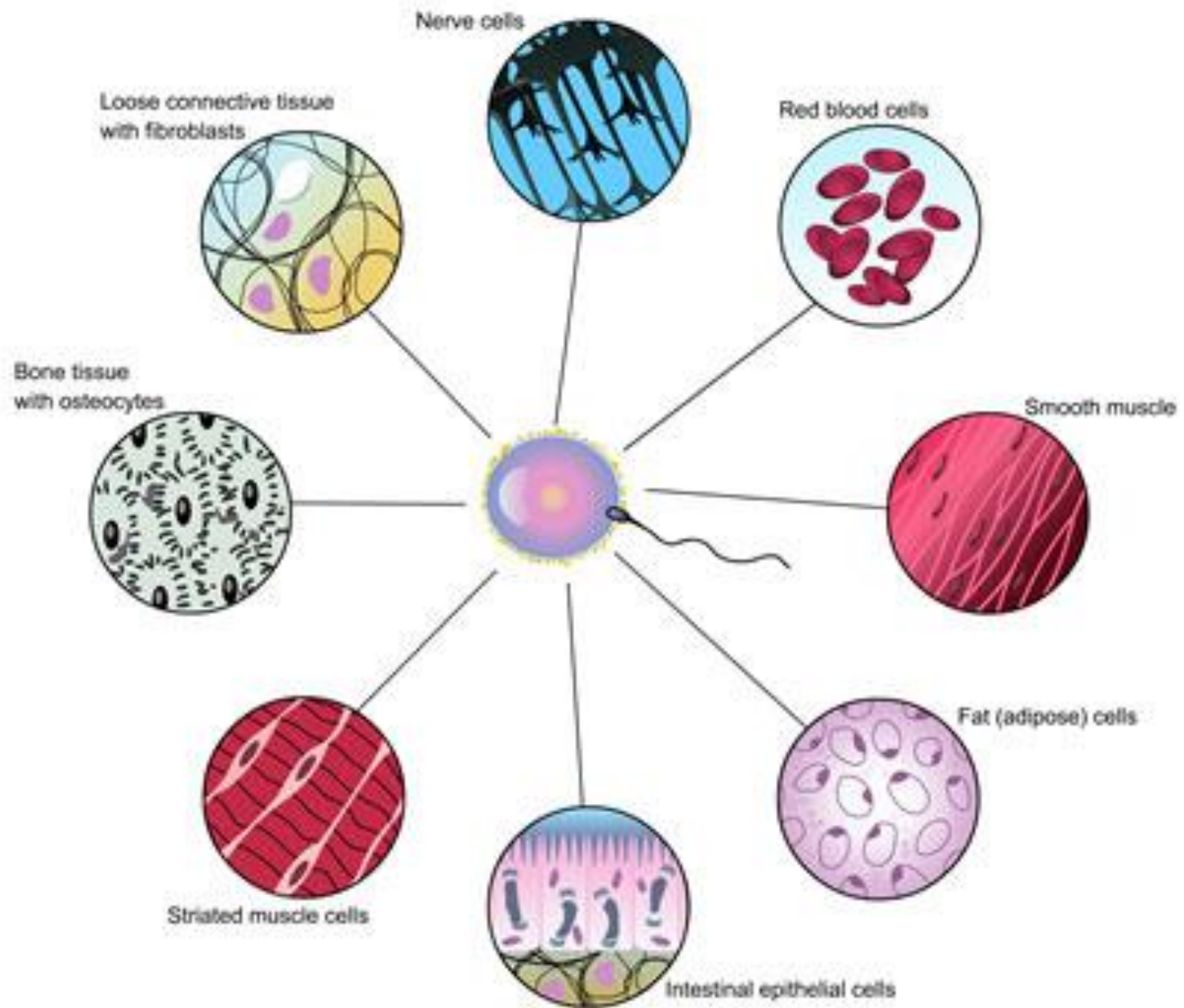
- Cells throughout an organism can develop in different ways to perform different tasks



Cell Differentiation

- Process by which a cell changes from one cell type to another
- All cells start as a 'generic' cell called a stem cell





Cell Differentiation

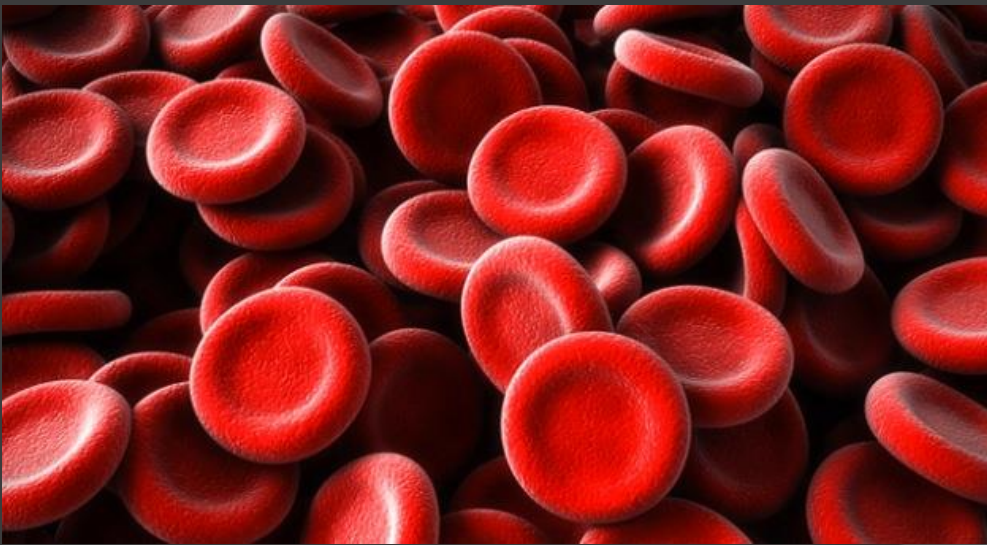
<http://www.pbslearningmedia.org/resource/tdc02.sci.life.stru.different/cell-differentiation/>

How does Cell Differentiation occur?

- ⦿ During differentiation, only certain parts of the DNA are activated
 - These parts determine the function and specialized structure of a cell
- ⦿ All cells contain the same DNA – so all cells initially have the potential to become any type of cell

Cell Differentiation produces Cell Specialization!

- E.g. Red Blood Cells are specialized to transport oxygen
- E.g. Muscle cells are specialized to give us the ability to move



Next Steps...

1. Create a Cell Specialization foldable:
 - 6 cell types – Muscle, Nerve, Red Blood Cell, Sperm, Xylem, and Phloem
 - Must include: drawing, name of cell, functions, and specialized structures that help the cell perform its functions