

# *Stem Cell Review Worksheet*

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

As you listen to the presentation, fill in the definitions below.

## **Four main components of mammalian cells:**

1. Nucleus:
2. Membrane:
3. Organelles:
4. Cytoplasm:

Levels of organization in the body:

DNA:

Cell:

Tissue:

Organ:

Organism:

**What are Stem Cells:** what does it mean to **differentiate** and **self-renew**, unlike other somatic cells?

Differentiate:

Self-renewal:

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## **What do stem-cells do?**

The healing process:

1. Fibrosis
2. Inflammatory
3. Proliferation
4. Remodeling

## **Other examples of stem-cells in the body:**

Broken bone:

Heart attack:

Hair regrowth:

Intestinal lining:

## **Types of stem-cells:**

### **EMBRYONIC stem cells:**

What are they?

Where do we find these cells?

Pros:

Cons:

### **ADULT stem cells:**

What are they?

Where do we find these cells?

Pros:

Cons:

### **Adult stem cell types:**

Neural:

Epithelial:

Hematopoietic:

Mesenchymal:

### **Induced Pluripotent stem cells:**

What are they?

Where do we find these cells?

How are they reprogrammed?

What cells can they become?

Pros:

Cons:

### **Why do we care in medicine?**

What do stem cells do in the body?

### **Stem cell therapies:**

Alzheimer's:

Blindness:

Cancer:

Diabetes:

Heart Attack:

Vascular Grafts: