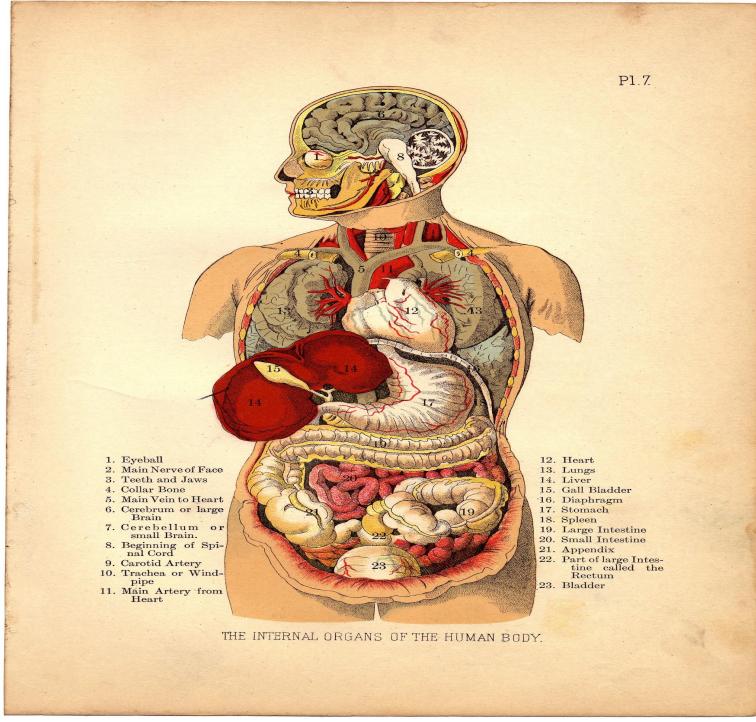




Science, Engineering,  
Technology & Math

*What are you made of?*



Learning about the anatomy and physiology that makes us what and who we are

# **Class Structure**

**Week #1: cells**

**Week #2: blood**

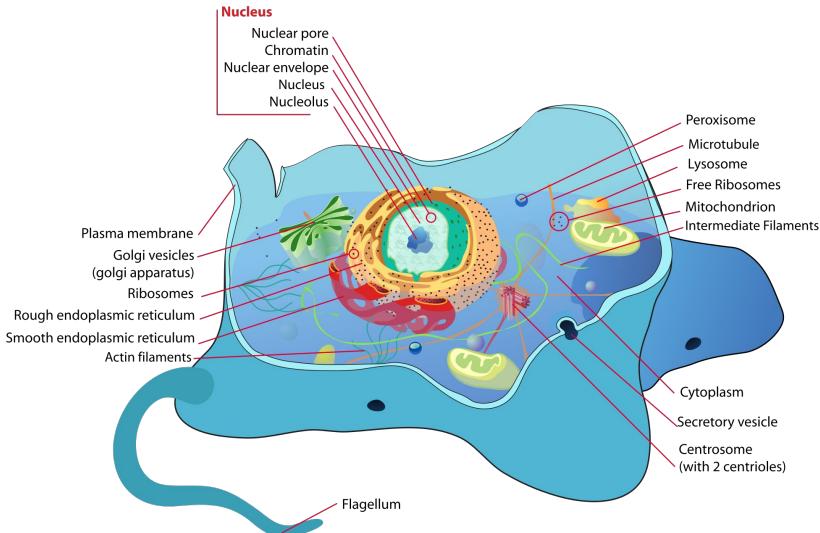
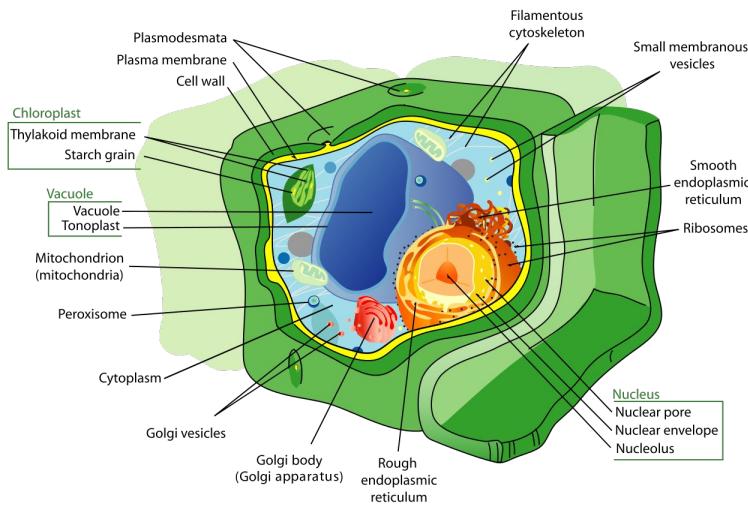
**Week #3: skin**

**Week #4: bones**

**Week #5: muscles**

**Week #6: Finish-up  
all projects**

# Week #1: Cells



Cells: the smallest structural and functional unit of an organism, typically microscopic. Cells make up all living things

Here is the video that we watched to learn about the different parts of the cell



We watched *The Magic School Bus* Season 4 episode 5 “Goes Cellular” to learn about cells and cell life. The full episode is on Netflix





### Jello Cells

*Supplies:*

*Jello*

*Paper bowls*

*Gum balls*

*Nerds*

*Jelly beans*

*Fruit roll ups*

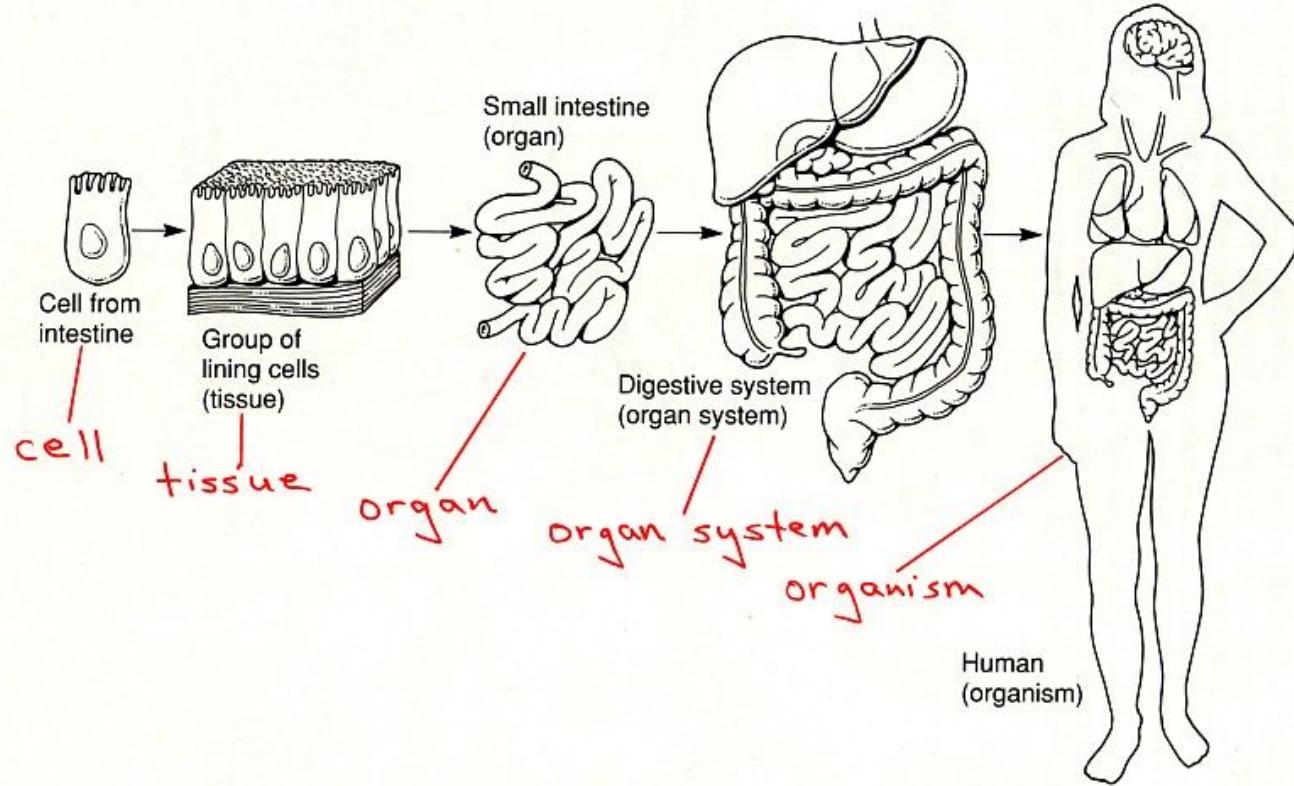
*Instructions:*

*Make the jello and divide it into individual bowls in advance so that they jello will set up before class*

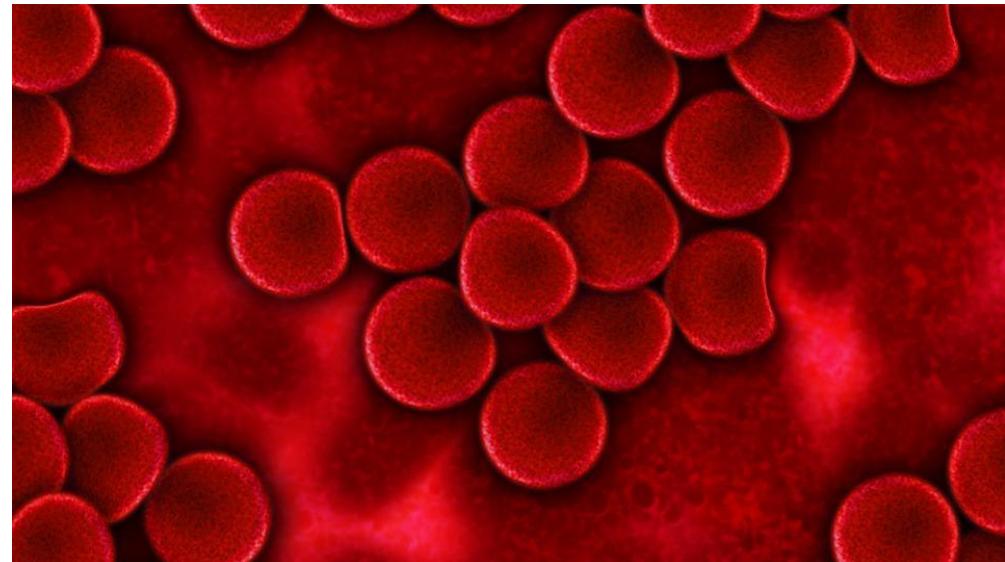
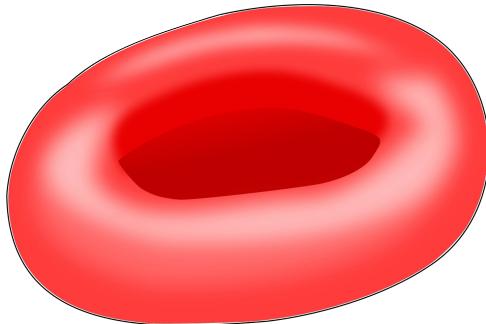
*Give each child their own bowl of jello*

*Assign each type of candy an organelle and discuss the functions of each of the organelles*

*As you discuss the “organelles” place them in the cell membrane (jello)*



## Week #2: Blood



Blood: The red liquid that circulates in the arteries and veins of humans and other vertebrate animals, carrying oxygen to and carbon dioxide from the tissues of the body.



*We Watched the Magic School Bus Season 1 Episode 3 “Inside Ralphie” to learn about blood and the functions of the different types of blood cells. Full episode on Netflix*

# what is **blood** made of?



## Blood in a bag

Red water beads

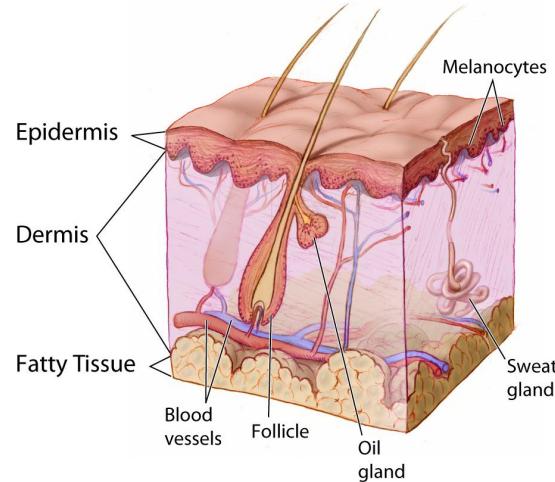
White marbles or stones

Foam sheets

Ziploc baggies

*Talk about each of the different types of cells. In the  
baggie put red water beads (red blood cells), white  
marbles (white blood cells) and cut the foam sheets into  
strips (platelets). Add a little bit of water (plasma).*

# Week #3: Skin



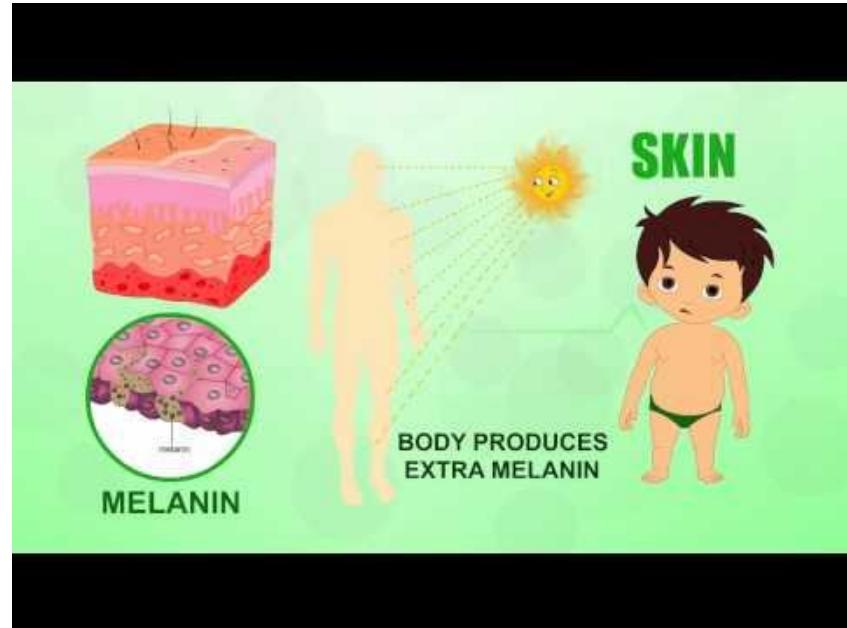
Skin: the thin layer of tissue forming the natural outer covering of the body of a person or animal. The largest organ in the body

## Body Sculpture

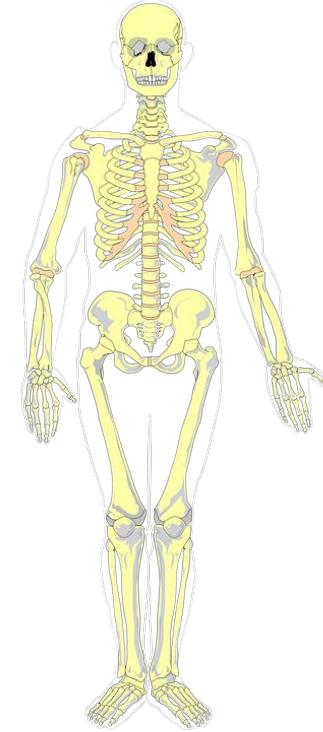
### Packing tape

Select one of the kids in the class to use as the model. Wrap the tape with the sticky side facing out around the arms, legs and torso. Go back over it with the sticky side of the tape facing in, so that the two layers of tape stick together. Slide off the tape off.

\*\*\*Make sure that the tape is loose when putting it on so that circulation is not cut off and so that it can be easily slid off or cut off.



# Week #4: Bones



Bones: any of the pieces of hard, whitish tissue making up the skeleton in humans and other vertebrates.

PEEK  
a  
BOO



# BONES



*We watched an introductory video about bones. Then we looked at pictures of bones and learned some of the names and locations of different bones.*

# YOUR SUPER SKELETON!

skit  
kids!





## Candy Spines

### Supplies:

*Hard life savers*

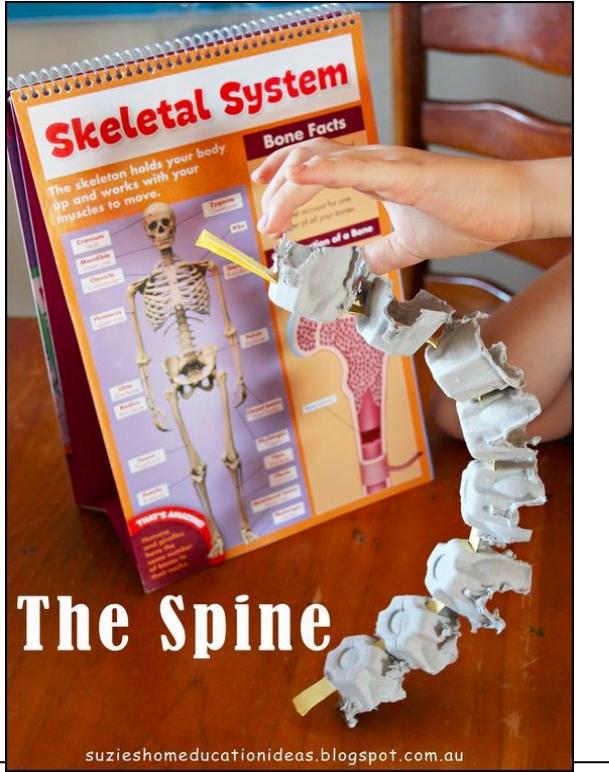
*Gummy life savers*

*String*

*Peel apart licorice or sour straws*

### Instructions:

*Tie the end of the string to one of the hard life savers. Alternate between hard and gummy life savers. After every few tie the licorice. The hard candies are the vertebrae, the soft gummies are the intervertebral disks and the licorice are the peripheral nerves*



## Egg carton spine

### Supplies:

Egg carton

String

Pool noodle (cut into small disks)

Pipe cleaners

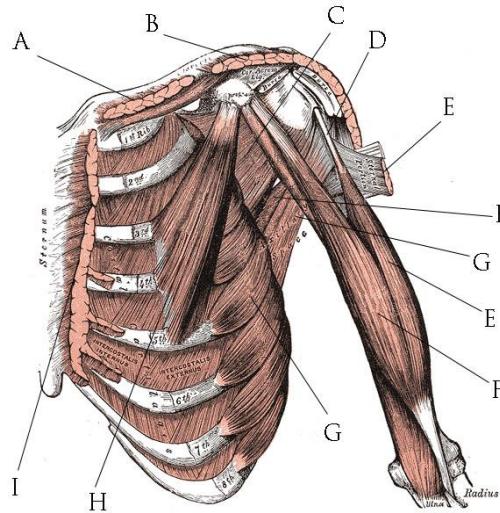
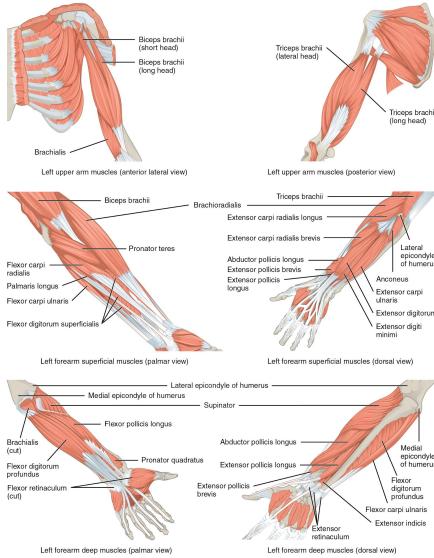
### Instructions:

Cut the egg carton into individual pieces. Cut a hole in each piece put the string through one piece and tie a knot. Alternate between pieces of egg carton and pool noodle disks. Every few tie a pipe cleaner. The egg carton is the vertebrae, the pool noodle is the intervertebral disks and the pipe cleaners are the peripheral nerves.



*We Watched the Magic School Bus Season 2 Episode 2 “Flexes its muscles” to learn about bones and muscles. Full episode on Netflix*

# Week #5: Muscles



Muscles: a band or bundle of fibrous tissue in a human or animal body that has the ability to contract, producing movement in or maintaining the position of parts of the body.



# Materials & Supplies

*Candy*

*String*

*Egg cartons*

*Pipe cleaners*

*Ziploc baggies*

*Water beads*

*White marbles*

*Foam sheets*

*Jello*

*Paper bowls*

*Ipad or projector to show videos*

*Packing tape*

# Pro Tips by Jordan Greenhalgh

- *Introduce each topic and a little about the topic before watching videos*
- *After each video discuss what they learned*
- *Review the previous topics at the beginning of each new topic*
- *When make the skin sculpture make sure the tape is applied loosely*
- *Alternate between information heavy activities (ex. videos) with fun activities that demonstrate or reiterate the information (ex. Candy models)*