

Do Now (5 min)

4-6-11

- Please order the following terms from smallest size to largest size

Organism
System
Organ
Tissue

Cell
Organelle
Macromolecule
Molecule
Atom

Levels of Organization: From Atoms
to Organisms
and
Major Body Cavities/Organs

4-6-11

Two-Day Agenda

1. Do Now (5 min)
2. Objectives (3 min)
3. Levels of Organization (30 min)
4. Major Body Cavities/Organs (60)
5. Closing (5 min)
6. Exit Slip (5 min)
7. Participation Grades (5 min)

Objectives (3 min)

- Content (The objectives you'll master today)
- **SWBAT:**
 1. *Arrange the materials that make up the human body from smallest to largest*
 2. *Define each of the bodily materials*
 3. *Label the major body cavities*
- Language (How you will master the objectives)
- **By:**
 1. *By manipulating paper cut-outs*
 2. *Writing notes from the PowerPoint*
 3. *Reading about each cavity and writing the appropriate names on a worksheet*
 1. *Making a group poster*

Levels of Organization (15 min)

Objective: SWBAT: *Arrange the materials that make up the human body from smallest to largest by manipulating paper cut-outs.*

- The human body is made of chemicals
- All chemicals are made of atoms

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Unq	Unp	Unh	Uns	Uno	Une	Unn								

hydrogen

alkali metals

alkali earth metals

transition metals

poor metals

nonmetals

noble gases

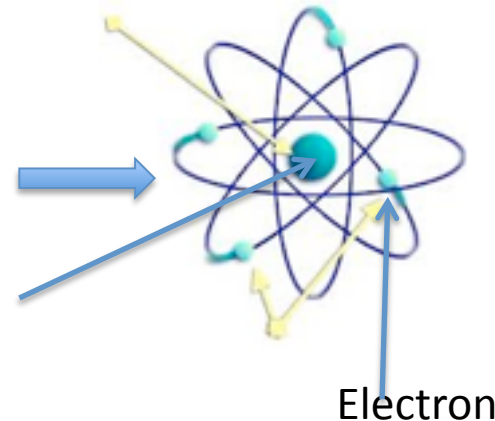
rare earth metals

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

A Hydrogen Atom

Proton

Electron



Levels of Organization (15 min)

Objective: SWBAT: *Arrange the materials that make up the human body from smallest to largest by manipulating paper cut-outs.*

- Using the paper cut outs...arrange them on your desk from:

Smallest and least
complex



Largest and most
complex

Once we have reviewed them in class...tape them into your notes! (make sure to leave room for the definitions)

Levels of Organization (15 min)

Objective: SWBAT: *Define each of the bodily materials by writing notes from the PowerPoint*



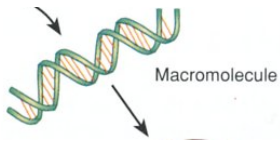
Atom

A tiny invisible particle, the “ingredients” of chemicals



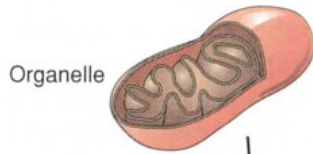
Molecule

An organized group of atoms



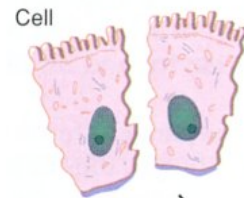
Macromolecule

An organized group of molecules



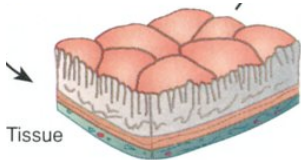
Organelle

-A part of a cell that has a specific job (Mitochondria = makes energy for cell)
-An “organ” of a cell



Cell

-The smallest functional unit of an organism

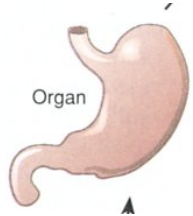


Tissue

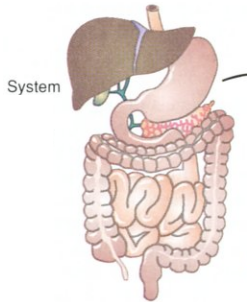
-Organized layers of cells

Levels of Organization (15 min)

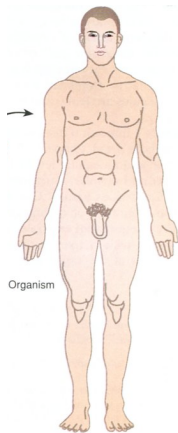
Objective: SWBAT: *Define each of the bodily materials by writing notes from the PowerPoint*



-A group of different tissues that perform a specialized function
An organized group of atoms



-A group of organs that function closely together



-An individual living thing (all of the organ systems working together to maintain _____)

Major Body Cavities Posters

SWBAT: (Content) Create a diagram of all the major body cavities and the major organs in each **(Language)** by reading information from p. 8-9 in *Essentials of Human Anatomy & Physiology*, drawing a poster, and writing labels.

Here's the assignment:

Part of Poster	2	1	0
1. Group Members	<u>All</u> group members work together to help create the poster.	<u>Some</u> group members work together to create the poster	<u>No</u> group members work together to create the poster
2. Overall Presentation	Your posters design is <u>neat, easy to read from afar</u> and <u>well organized</u>	Your posters design is <u>messy, challenging to read from afar</u> and <u>disorganized</u>	Your posters design is <u>sloppy, impossible to read from afar</u> and is <u>chaotic</u>
3. Labels	<u>All 20 cavities and organs</u> are correctly and clearly labeled	<u>15 cavities and/or organs</u> are correctly and clearly labeled	<u>Less than 15 cavities and/or organs</u> are clearly and correctly labeled
4. Poster Title	The title "Major Body Cavities: The Organs Within" is <u>clearly written at the top of the poster</u>	The title "Major Body Cavities: The Organs Within" is <u>clearly written</u>	The title "Major Body Cavities: The Organs Within" is <u>not clearly written</u>
5. Body Cavities	<u>All 8</u> major cavities (based on the in-class handout) are correctly drawn on the poster	<u>5-7</u> major cavities (based on the in-class handout) are correctly drawn on the poster	<u>Less than 5</u> major cavities (based on the in-class handout) are correctly drawn on the poster
6. Organs	Your poster includes <u>printed pictures of all 12</u> of the following: brain, heart, spinal cord, lungs, stomach, liver, spleen, gallbladder, small intestine, large intestine, urinary bladder, <u>located in the correct cavities</u>	Your poster includes <u>printed pictures of 6-11</u> of the following: brain, heart, spinal cord, lungs, stomach, liver, spleen, gallbladder, small intestine, large intestine, urinary bladder, <u>located in the correct cavities</u>	Your poster includes <u>printed and/or hand drawn pictures of less than 6</u> of the following: brain, heart, spinal cord, lungs, stomach, liver, spleen, gallbladder, small intestine, large intestine, urinary bladder, <u>some of which are located in</u>

Body Cavities/Organs (15 min)

Objective: SWBAT: *Label the major body cavities by reading about each cavity and writing the appropriate names on a worksheet*

Cavity: an empty space within a solid object

ORGANIZATION OF THE HUMAN BODY

The human organism is a complex structure composed of many parts. Its major features include several body cavities, layers of membranes within these cavities, and a variety of organ systems.

BODY CAVITIES

The human organism can be divided into an **axial portion**, which includes the head, neck, and trunk, and an **appendicular portion**, which includes the arms and legs. Within the axial portion there are two major cavities—a **dorsal cavity** and a larger **ventral cavity** (fig. 1.6). The organs within such a cavity are called *visceral organs*. The dorsal cavity can be subdivided into two parts—the **cranial cavity** within the skull, which houses the brain; and the **spinal cavity**, which contains the spinal cord and is surrounded by sections of the backbone (vertebrae). The ventral cavity consists of a **thoracic cavity** and an **abdominopelvic cavity**.

The thoracic cavity is separated from the lower abdominopelvic cavity by a broad, thin muscle, called the *diaphragm*. The wall of the thoracic cavity is composed of skin, skeletal muscles, and various bones. The viscera within it include the lungs.

The abdominopelvic cavity, which includes an upper abdominal portion and a lower pelvic portion, extends from the diaphragm to the floor of the pelvis. Its wall consists primarily of skin, skeletal muscles, and bones. The visceral organs within the *abdominal cavity* include the stomach, liver, spleen, gallbladder, and most of the small and large intestines.

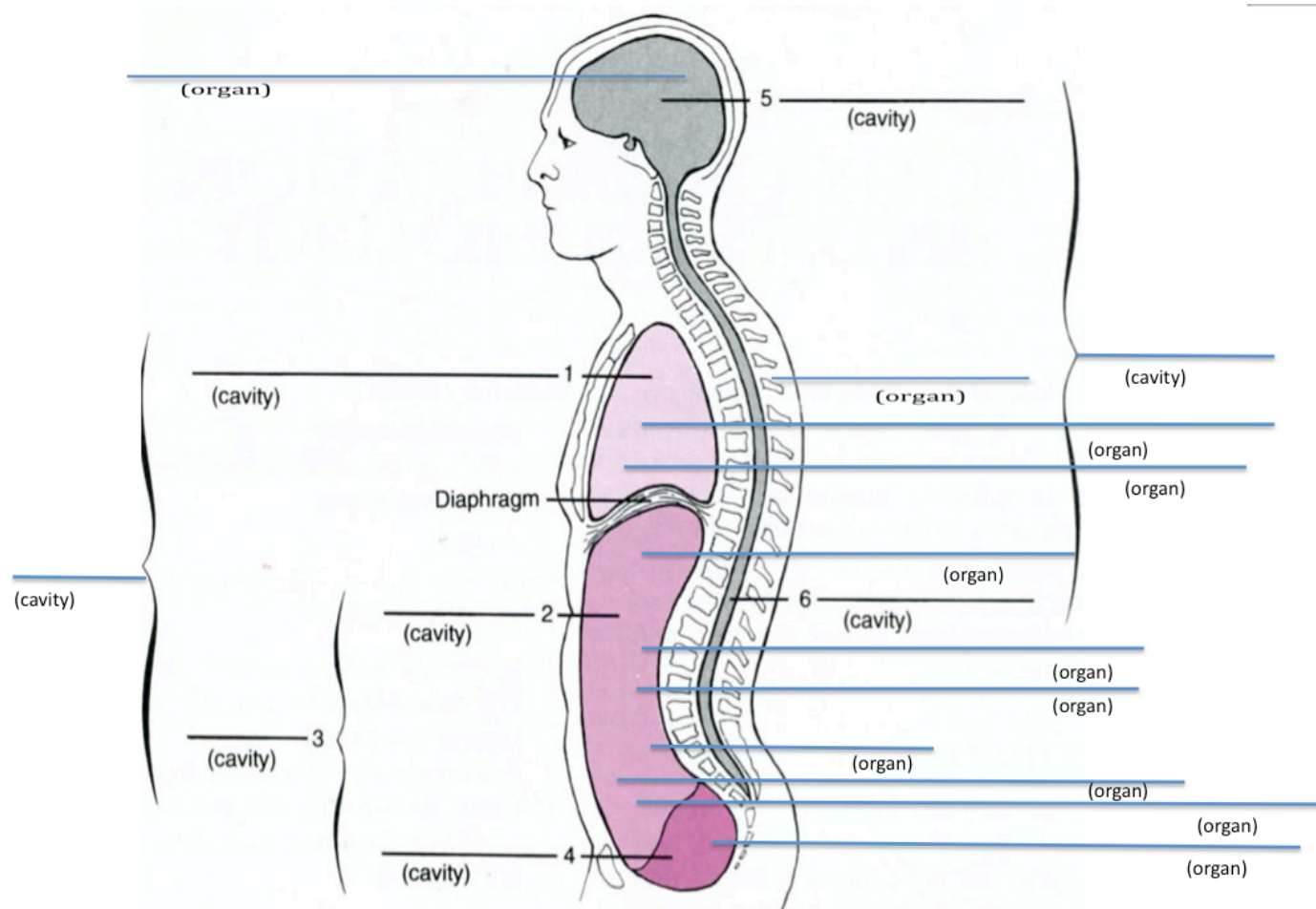
The *pelvic cavity* is the portion of the abdominopelvic cavity enclosed by the pelvic bones and below the pelvic brim (chapter 7). It contains the terminal portion of the large intestine, the urinary bladder, and the internal reproductive organs.

Smaller cavities within the head include the following:

1. **Oral cavity**, containing the teeth and tongue.
2. **Nasal cavity**, located within the nose and divided into right and left portions by a nasal septum. Several air-filled *paranasal sinuses* are connected to the nasal cavity (see chapter 7). These include the frontal and sphenoidal sinuses shown in figure 1.7.
3. **Orbital cavities**, containing the eyes and associated skeletal muscles and nerves.
4. **Middle ear cavities**, containing the middle ear bones (fig. 1.7).

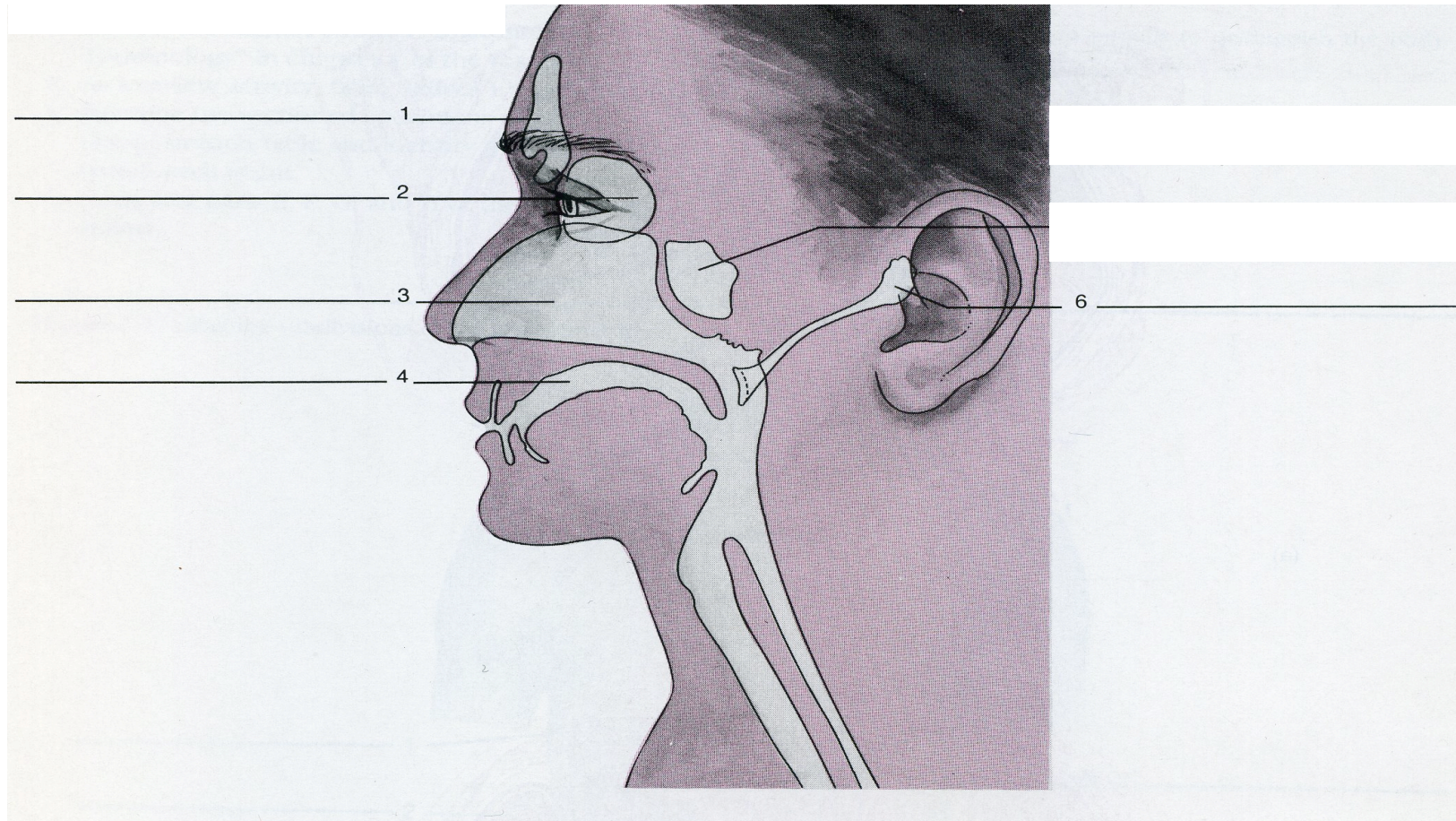
Body Cavities/Organs (15 min)

Objective: SWBAT: *Label the major body cavities by reading about each cavity and writing the appropriate names on a worksheet*



Body Cavities/Organs (15 min)

Objective: SWBAT: *Label the major body cavities by reading about each cavity and writing the appropriate names on a worksheet*



Closing (1 min)

- Content (The objectives you'll master today)
- **SWBAT:**
 1. Create a diagram of all the major body cavities and the major organs in each. *Define each of the bodily materials*
 2. *Label the major body cavities*
- Language (How you will master the objectives)
- **By:**
 1. Reading information from p. 8-9 in *Essentials of Human Anatomy & Physiology*, drawing a poster, and writing labels

Exit Slip (none)

1. What major body cavities are contained within the **axial portion** of the body? The **appendicular portion**?

Participation Grades (1 min)

- Each day **YOU** will decide the grade you deserve...Though, I reserve the right to change these.
- Your 5-point daily participation grade is based on CLA's core-values:
 - CLA Students are S.M.A.R.T.
 - S = Self-Controlled
 - M = Motivated
 - A = Accountable
 - R = Respectful
 - T = Timely
 - One point for each core-value
 - (5 points possible each day)
- What do you deserve today?