

# Progenitor X

Middle School - Understanding Tissues

TERM 2013

LOCATION G+L+S

PROGRAM VideoGames and Learning

**Overview of Lesson** The location of tissues within the five levels of body organization, as well as the relationship between those levels, is the topic of this lesson plan. Students will order, arrange, and illustrate the five levels of body organization either by themselves or in pairs before a class discussion of the interaction between these components.

**Materials Needed** A piece of construction or poster paper per student or pair  
Glue  
Scissors  
Sheet of paper containing the following scrambled word bank:

Leaf tissue	Wall	Human being	Leaf	Heart cell
Leaf cell	Brick	Circulatory system	Apartment	Maple tree
Building	Cardiac tissue	Heart	Transport system	Room

Markers or colored pencils  
Optional: Smartboard Software

**Content of Lesson** Students will be able to do this activity in pairs or individually: the teacher's assessment of the students' needs will determine which is more appropriate.

Instruct students to begin by placing the headings of "cell", "tissue", "organ", "system", and "organism" across the top of their poster or construction paper. Have the students cut out and arrange the following word bank words from smallest to largest in their three respective organism groupings under the headings. These "organisms" are a human being, a maple tree, and a building, which is included to give students a more tangible example of the relationships between the levels. Once this is done, students should glue them (in order) to a piece of construction paper. With extra time, students should be asked to illustrate and depict each word/level in relationship to the "organism" in which it belongs.

The Key, from smallest component (cell) to the largest (organism):  
Brick → Wall → Room → Apartment → Building

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Leaf cell → Leaf tissue → (Organ) Leaf → Transport system → Maple tree

Heart cell → Cardiac tissue → (Organ) Heart → Circulatory system → Human being

Optional: rather than illustrating, cutting, and pasting to demonstrate understanding, ask students design a layout similar to the following using Smartboard Software:

<https://docs.google.com/drawings/d/11xwyirYxtgWc1qrQjftkfHfPAeXRPg1GSw31P06YIII/edit?usp=sharing>

Allow students to drag the vocabulary from the word bank into the location they find most appropriate. They can work in teams or as a whole class to complete this task.

Follow up: regroup for a class discussion of the activity. Why is the brick → building “organism” an appropriate metaphor for the maple tree and the human being? What are some other examples of “organisms” in day-to-day life which could be broken down into the five levels of body organization (i.e.: a car, a table lamp, etc.)?

**Vocabulary** Tissue  
Organ  
Cell  
System  
Organism  
Cardiac  
Circulatory  
Transport

**Learning Objectives** Students will be able to locate tissues within the five levels of body organization, as well as cells, organs, and systems.

Students will be able to order the levels of body organization from smallest to largest in a variety of examples.

Students will be able to illustrate the relationships between these levels of body organization using markers or colored pencils.

Students will be able to engage in meaningful discussion about the activities completed within class.

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## Educational Standards

- (MS-LS1-2.)** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
- (Literacy.RI.6.7)** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
- (Literacy.RI.9-10.4)** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings
- (Literacy.RST.9-10.3)** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.