

Lesson/Activity Title:



HUMAN BODY SYSTEMS: REPLICATION FOR ARTIFICIAL LIFEFORMS

Time: approximately 5-10 minutes for research and note-taking on each system; approximately 30-45 minutes for brainstorming and diagraming

Instructional Goals:

- The student will use the **PebbleGo Next Science** online database to research and take notes on specific human body systems.
- The student will understand the function of each body system researched.
- The student will work with a group to theoretically replicate the function of a human body system using known machines and technology.
- The student group will present their design for a replicated human body system to the class.

Materials/Resources:

- **PebbleGo Next Science** online database
- **Human Body Systems** foldable graphic organizer (one or more for each student or group, depending on the number of body systems researched)
- **Artificial Lifeform System** handout (one for each student or group)

Procedures/Lesson Activities:

Focus



1. Explain the class has been tasked with creating an Artificial Lifeform (AL) that mimics the human body as much as possible. Students will be allowed to use any of today's available machines or technology to help in their AL creation.

Teach/Model

2. Tell students that before they can create their Artificial Lifeform, they must understand how each human body system functions, the organs it has, and any other important information that may affect the design of their replicated AL system (such as where the system's organs are located in the body and how that system relies on other systems).
3. Brainstorm as a class the human body systems that will need to be replicated for this project.

Guided Practice

4. Give each student the appropriate number of **Human Body Systems** foldable graphic organizer. (Each organizer has room for three body systems. The number you give each student depends on how many systems you want each student to research.)
5. Have students cut along the dotted lines in the foldable graphic organizer. Note that the bottom section has solid lines; students should not cut along the solid lines if you want the three sections to remain attached.
6. Demonstrate how to navigate to the **PebbleGo Next Science** online database and its articles on the human body systems.
7. Explain that the top page of the foldable graphic organizer has a human body for them to sketch the location of each system's organs.
8. Tell students your expectations for their notes and the amount of detail you require.

Independent Practice

9. Allow students time to research and record their notes in the **Human Body Systems** foldable graphic organizer. Monitor for student success and accuracy.

Closure

10. Divide students into groups. Allow each group to choose one human body system to replicate for the Artificial Lifeform.
11. Give students brainstorming time to devise a mechanical system. Remind students they are allowed to use any of today's available machines or technology to replicate their AL system.
12. Have each student or group complete the **Artificial Lifeform System** handout with their design plans.
13. Ask each group to present their system designs to the class. As a class, discuss the merits of each design.

HUMAN BODY SYSTEMS




Foldable Directions

1. Copy pages back-to-back in the order they are printed.

Pages 1 & 2

Bibliography:

Name:



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System

System

System

Other important information includes:

Other important information includes:

Other important information includes:

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Pages 3 & 4

The organs in this system are:

Organs

The organs in this system are:

Organs

The organs in this system are:

Organs

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Main Function

Main Function

Main Function

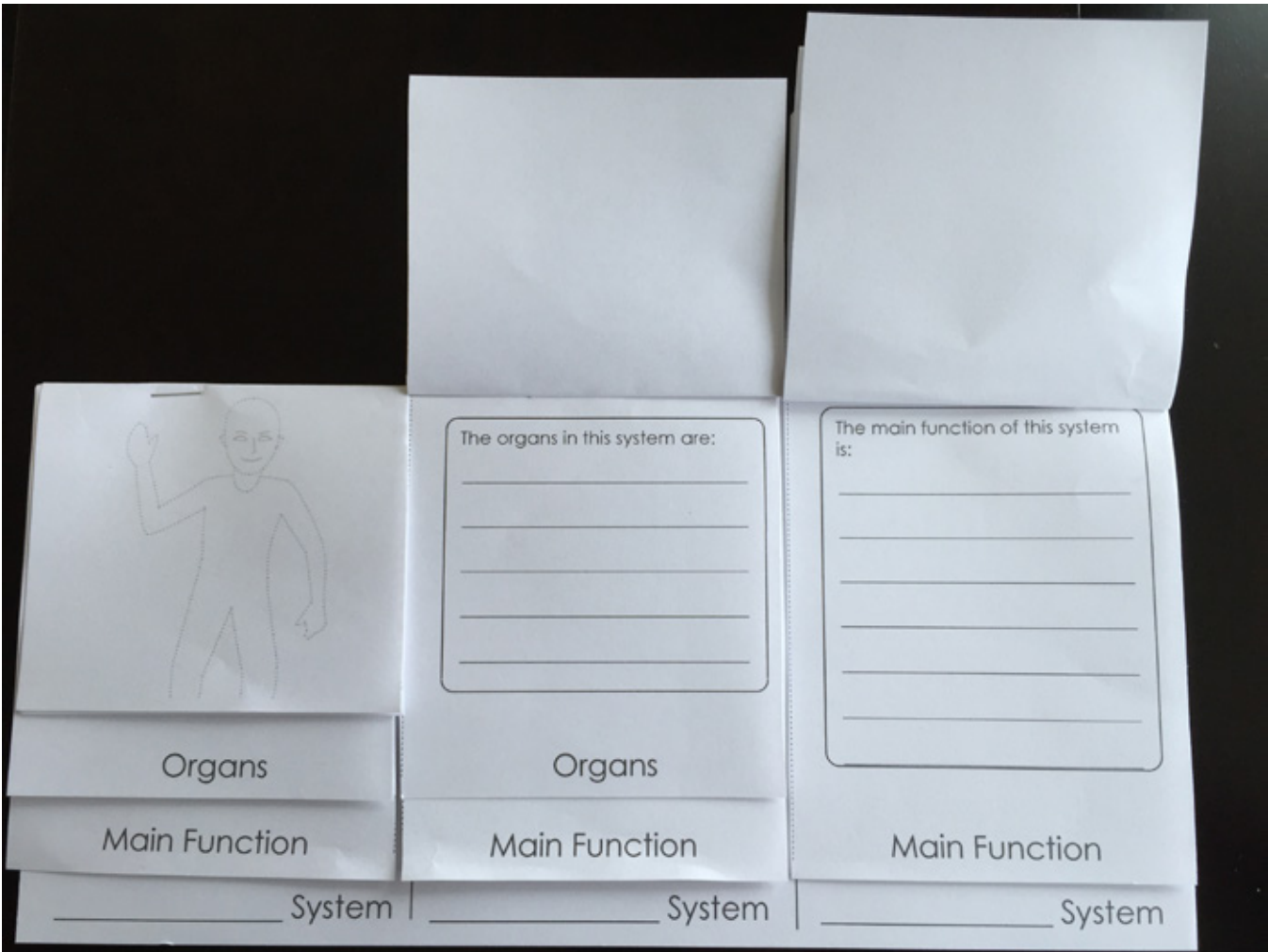
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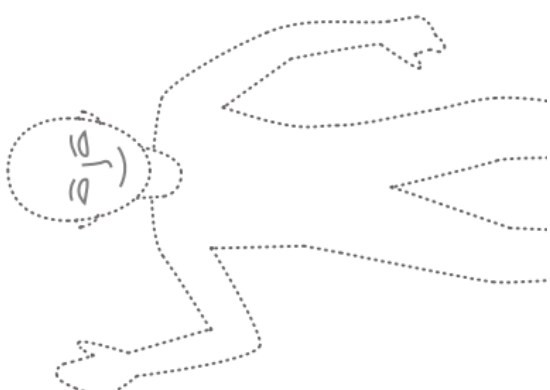
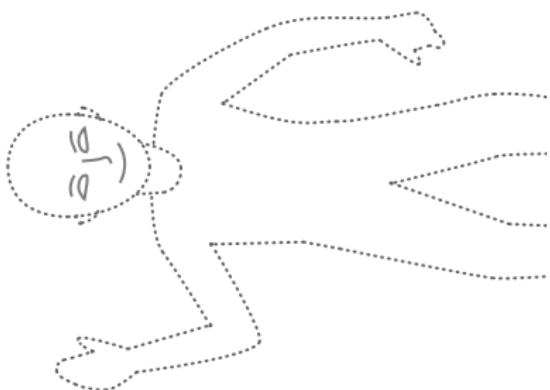
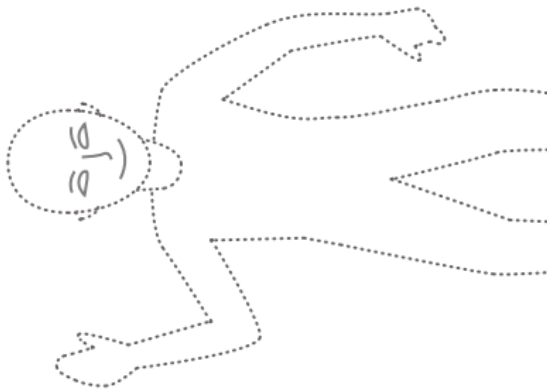
The main function of this system is:

The main function of this system is:

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- 2. Fold along the gray lines.
- 3. Nest pages 3 & 4 inside pages 1 & 2.
- 4. Staple the pages together.
- 5. Cut along the dotted lines. (Do not cut the solid lines.)





Name:

Bibliography:

Other important information includes:

_____ System

Other important information includes:

_____ System

Other important information includes:

_____ System

The organs in this system are:

Organs

The organs in this system are:

Organs

The organs in this system are:

Organs

The main function of this system is:

Main Function

The main function of this system is:

Main Function

The main function of this system is:

Main Function

Name: _____

Artificial Lifeform System

Human Body System Replicated: _____

Function: _____

What machines or technologies are available today to replicate this human system in an Artificial Lifeform? Draw and label the mechanical parts used for your Artificial Lifeform's replicated system. Include each part's function within the system.

