
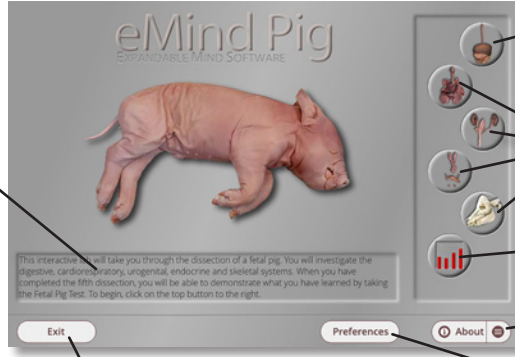


# GETTING STARTED WITH eMind Pig

## How to Begin

Most text fields can be narrated. If you move over some text and see the narration cursor  click the mouse, and the browser will read the text.



Click the Digestive icon to begin exploring the pig in the recommended sequence.

Click any of these icons to begin exploring other pig systems.

Click here to begin the pig MiniLabs.

Click here to navigate through the program.

Click here to set preferences.

Click here to exit the lesson.

## Exploring Fetal Pig Systems

*eMind Pig* includes dissection modules and interactive extensions for each of five main pig systems. You can click the icons or use the Systems and Extensions menus to visit each section of the dissection.

**Respiratory System**  
The pig's internal organs for breathing and circulation.

**Endocrine System**  
Explore the glands that secrete substances that support pig physiology.

**MiniLabs**  
Investigate, graph, and report on mammalian respiration and heart rate.



**Digestive System**  
The pig's internal organs for processing food.



**Urogenital System**  
The pig's sexual and excretory organs and systems.



**Skeletal System**  
A Bone Yard that you can use to assemble a pig skeleton.



## Completing the Guided Dissection

As you complete each system, *eMind Pig* enables you to review topics and test your knowledge with the system quizzes.

1. Click the **Digestive** button on the main screen.
2. Complete the module by dragging each organ to its correct location on the dissection tray.
3. Click **Continue**. Click on any removed organs to review its function. Click **Continue** again when you are ready to for the quiz.
4. Complete the quiz by dragging the specified organs from the dissection chart to their correct locations in the pig.
5. Click **Repeat** to repeat the dissection, or click **OK** and then **Next** to continue to another module of the dissection.
6. Complete the extension as directed by the software and click close button.
7. When you have completed all five modules, *eMind Pig* gives you the option to complete the comprehensive Pig Test, or repeat any module.

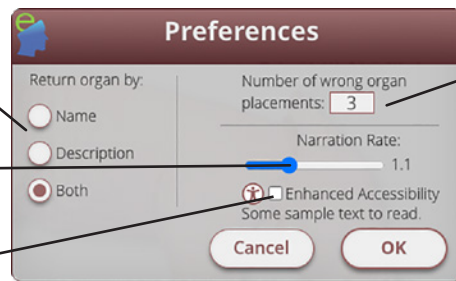
## Setting Preferences

Press the Preference button on the Home screen to display the Preferences dialog box.

Click a button to be quizzed by organ names, their descriptions, or both.

Sets the speaking rate when text is read.

Enable roll-over speaking of images and other accessibility enhancements.

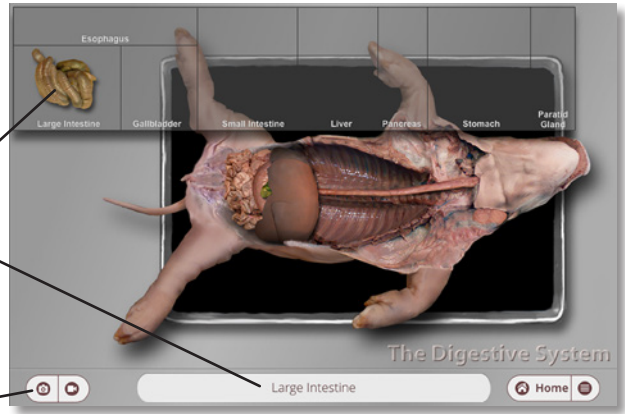


Sets the number of incorrect placements of organs accepted during a quiz.

# D I S S E C T I N G T H E P I G

## Dissecting the Internal Organs Digestive, Respiratory, Urogenital and Endocrine Systems

Drag each organ to the correct location on this dissection tray.  
The name of any organ to which you point appears here.



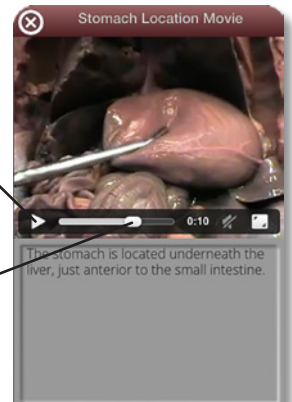
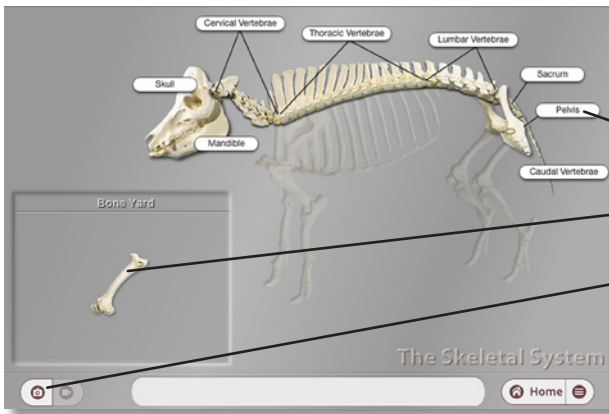
Click flashing media icons to view pictures or movies.

## Rebuilding the Skeleton Skeletal System

When you correctly place a bone, a label with its name appears.

Drag bones from here to their correct locations in the pig skeleton.

The Bone Yard media windows display the human equivalent for each pig bone.

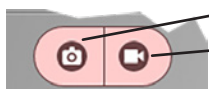


Click here to start or stop a movie.

Drag this slider to advance or rewind a movie.

## Using the Media Window

Look for the media icons in the lower corner of each dissection screen to flash. Click any flashing icon to see a media window that includes pictures or movies of the indicated pig part.

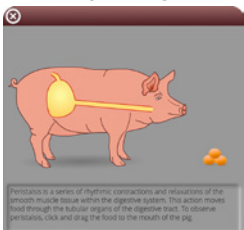


Click here to view a picture.

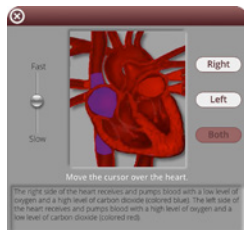
Click here to view a movie.

## Dissection Extensions: Peristalsis, Heart Circulation, Nephron Function, Hormones, and Muscles

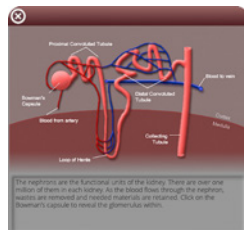
After you complete each system, eMind Pig takes you to a dissection extension that allows you to observe a related physiological process.



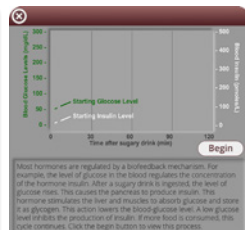
**Peristalsis is the muscular process by which the pig moves food through its esophagus.**



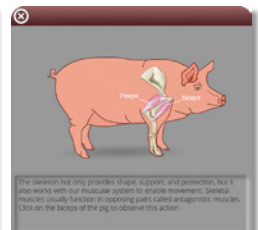
**The heart pumps carbon dioxide-laden and oxygenated blood through its four chambers.**



**The nephron process in the kidneys filters wastes from the bloodstream.**



**Insulin counterbalances the presence of sugar in the blood.**



**The pig extends and retracts its limbs through the action of antagonistic muscle pairs.**

# DOING THE MINILABS

## Gathering Data

**Drag slider to set levels of exercise intensity.**

**Click these buttons to initiate each phase of the experiment.**

**Click these droppers to complete the experiment**

**Record your findings in these fields**

**Use these buttons to print the current MiniLab screen or move to the next and previous screen.**

**Effects of Exercise on Carbon Dioxide Levels Lab**

Resting  
Light  
Moderate  
Vigorous  
Start

Bubble

Phenolphthalein  
Sodium Hydroxide

**Purpose:**  
To determine the effect of exercise on CO<sub>2</sub> levels exhaled by mammals.

**Procedure:**  
Drag the slider to select an exercise level. Press Start. When the exercise is done click on the Bubble button to collect the CO<sub>2</sub> that is exhaled. When the bubbles have stopped, click the phenolphthalein bottle and add 3 drops of this indicator to the beaker. Then add drops of sodium hydroxide (NaOH) until the solution turns pink. Record the number of drops of sodium hydroxide below. Repeat until all four exercise levels have been tested.

Data:	Exercise Level			
	Resting	Light	Moderate	Vigorous
Drops of NaOH				

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**Drag sliders to set levels of exercise intensity.**

**Use this panel to select other experimental variables.**

**Click these buttons to initiate each subsequent phase of the experiment.**

**Record your findings in these fields.**

**Heart Rate Recovery Lab**

Resting  
Light  
Moderate  
Vigorous  
Start

1 Minute  
2 Minutes  
3 Minutes  
4 Minutes  
Pulse

**Purpose:**  
To compare heart rate recovery time after various levels of exercise.

**Procedure:**  
Click on the exercise button and drag the slider to select an exercise level. Press Start. When the exercise is done click the recovery button and drag the recovery time slider. Click the pulse button and count the heart rate for 15 seconds. Record the rate of each recovery time for each exercise level.

Data: (Search/15 secs)	Exercise Level			
	Resting	Light	Moderate	Vigorous
Recovery Time				
1 minute				
2 minutes				
3 minutes				
4 minutes				

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## Drawing Conclusions

**Drag these sliders to graph the correct data values.**

**The data you gathered on the previous screen appears here.**

**Click on the color coded shape to select the variable to graph.**

**Complete your analysis by answering these questions.**

**Heart Rate Recovery Lab**

**Analysis**  
Graph your results. Click on a colored symbol below to select a line and then drag the data to graph your data.

Data: (Search/15 secs)	Exercise Level			
	Resting	Light	Moderate	Vigorous
Recovery Time				
1 minute				
2 minutes				
3 minutes				
4 minutes				

**Conclusion**  
1. Which exercise level required the greatest recovery time? Explain your answer.  
2. Which exercise level required the least recovery time? Explain your answer.

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**Effects of Exercise on Carbon Dioxide Levels Lab**

**Analysis**  
Graph your results. With the mouse, click and drag each bar to graph your data.

Data:	Exercise Level			
	Resting	Light	Moderate	Vigorous
Drops of NaOH	400	400	400	400

**Conclusion**  
1. Which exercise level produced the most CO<sub>2</sub>? Explain your answer.  
2. Which exercise level produced the least CO<sub>2</sub>? Explain your answer.

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