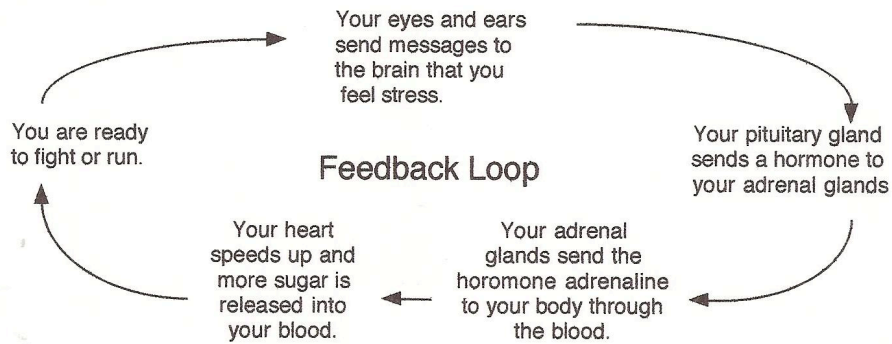


# Learning About the Endocrine System

The endocrine system is a group of glands that secrete hormones to help regulate our body's processes and keep the body in balance. These hormones are released in response to a stimulus just like what happens in your nervous system, only not as fast.

Think about the last time you were in trouble with your parents or a teacher. Your heart started beating faster; your breathing also began to get faster. Maybe your hands started to sweat. Why did these things start happening? Your body was getting you ready to fight or run. This is called the "fight or flight" response. Let's see how this works.



Watch the video Adrenaline: Fight or Flight Response from the website [www.missdoctorbailer.com](http://www.missdoctorbailer.com)  
Write down three things you learned from the video in the space below.

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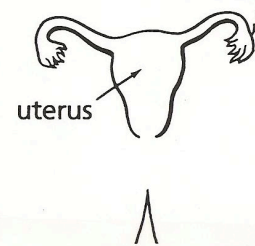
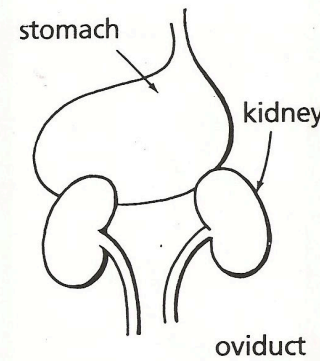
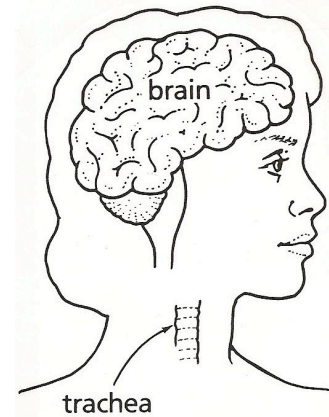







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Use a ScienceSaurus (p. 097) or other resource to find the locations and function of each of the glands listed below. Write the function in the box. Then draw a line from the picture of the gland to where it is located inside the body.

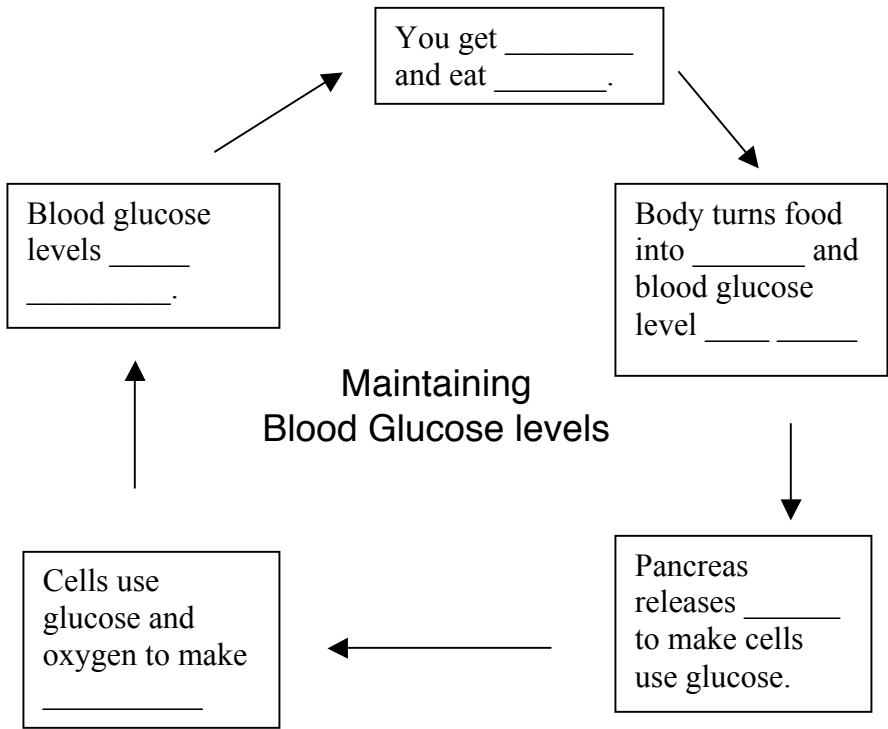


Gland	Function
adrenals 	
ovaries 	
pituitary 	
pancreas 	
thyroid 	



### Who Took the Insulin?

The food you eat supplies glucose (type of sugar) to the cells for energy. If you have the disease called diabetes then the glucose does not go into the cells because an organ called the pancreas is not producing insulin. The glucose stays in the blood where it is filtered by the kidneys and placed in the urine to be excreted. If the pancreas is not working correctly diabetics must take injections of insulin that they get from their doctor. Without insulin the body cannot maintain its balance.



**Word Bank**

insulin

food

goes up

hungry

glucose

energy

goes down



Last night there was a robbery at the Springfield Drug Store. Ten bottles of insulin were taken. The Springfield Police Department has eight likely suspects and they believe the perpetrator is probably diabetic. All of the suspects have given a urine sample.

**Materials:** numbered urine samples in test tubes for each table, universal indicator suspect sheet

**What To Do:**

1. Look at the suspect sheet and place the name of each suspect in the chart.
2. Place 5 drops of universal indicator in each test tube.
3. Swirl the test tube around so the liquids mix well.
4. Observe the color of the urine. Record.

*A color change from yellow to blue/purple indicates there is sugar in the urine.*

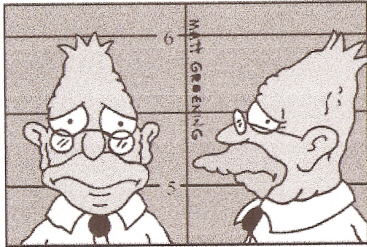
Name of Suspect	Color of urine before testing	Color of urine after testing	Diabetic (yes/no)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

**Questions:**

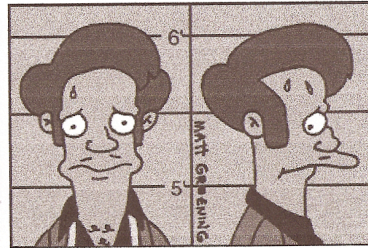
1. Who took the insulin? \_\_\_\_\_
2. How do you know? \_\_\_\_\_



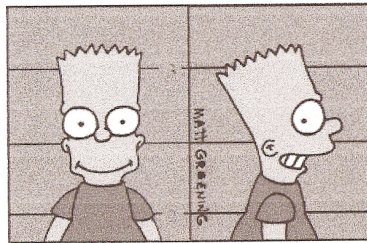
## Springfield's Suspects



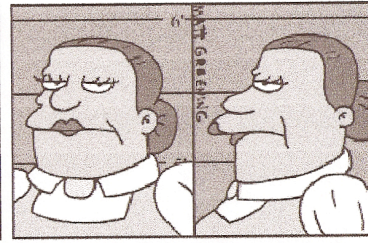
#1 Grandpa Simpson



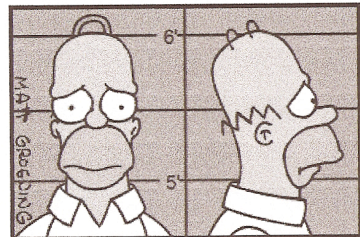
#2 Apu



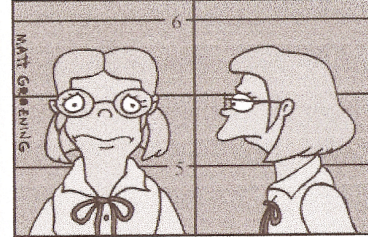
#3 Bart Simpson



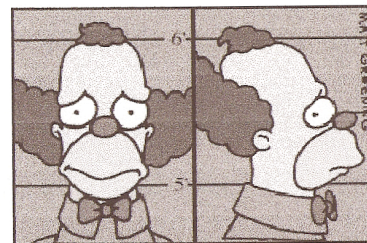
#4 Doris the Lunch Lady



#5 Homer Simpson



#6 Ms. Hoover

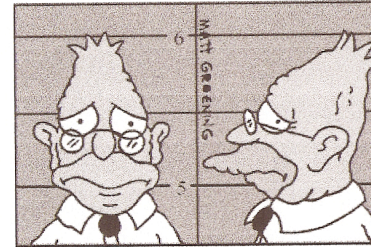


#7 Krusty the Clown

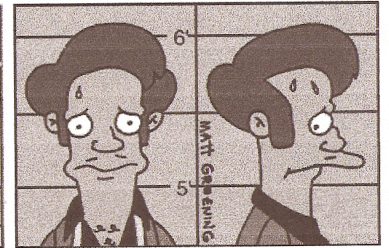


#8 Willie the Janitor

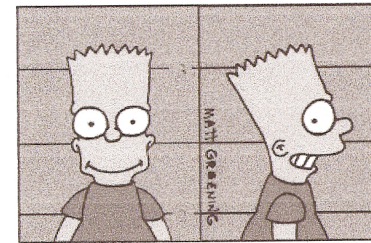
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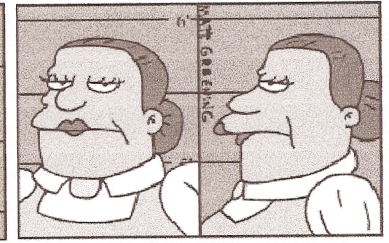
#1 Grandpa Simpson



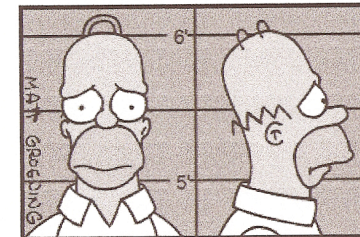
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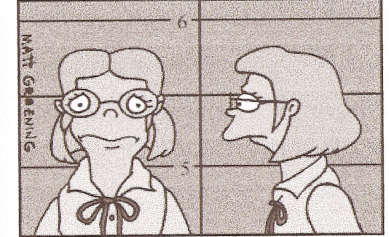
#3 Bart Simpson



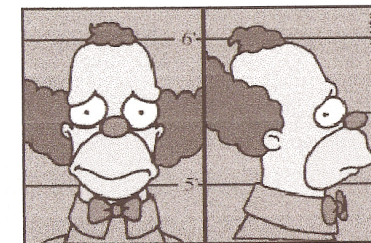
#4 Doris the Lunch Lady



#5 Homer Simpson



#6 Ms. Hoover



#7 Krusty the Clown



#8 Willie the Janitor

Name \_\_\_\_\_ period \_\_\_\_\_

## EXIT TICKET

### Learning About the Endocrine System

1. Traveling fast on a roller coaster gives you an “adrenaline rush.” Which of the glands of the endocrine system produces adrenaline?

- A. Thyroid
- B. Pancreas
- C. Ovaries
- D. Adrenals

2. When something scary happens, your body gives you extra energy, your heart beats faster and your breathing speeds up. What is this response called?

- A. Something Scary Response
- B. Fight or Flight Response
- C. Ready to Run Response
- D. Ready to Fight Response

3. Which of the following is a hormone?

- A. Hydrogen
- B. Carbon Dioxide
- C. Insulin
- D. Pancreas

4. What is the disease called that happens when sugar can not be used by the cells of your body?

- A. The common cold
- B. Cancer
- C. HIV
- D. Diabetes

Name \_\_\_\_\_ period \_\_\_\_\_

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