Digestive System Tour Lab
Name ___________________ Hour _______

Digestive System Diagram
Label and color all parts

Digestive System (cartoon)
Label and color as directed
A.D.A.M. video clip: Digestion

Fill in the blanks

- Food is digested by the churning of the stomach walls and by secretion of ___________ and ___________.
- ___________ speed up the breakdown of food.
  - Trypsin breaks down ___________ found in ___________.
  - Lipase breaks down the ___________ found in ___________ and butter.
- ___________ breaks down the sugar in milk.
- Food is moved through the small intestine where ___________ are absorbed and enter the ___________.
- Blood is taken to the liver where ___________ are processed and ___________ are removed.
- The ___________ absorbs water and compacts the remainder of the feces. Feces are eliminated through the ___________ and ___________.

A.D.A.M. video clip: Heartburn

Fill in the blanks

- Heartburn does not involve the heart, but is felt in the ___________ near the heart's location.
- The ___________ has a protective lining against the acid, but the ___________ does not.
- ___________ relieve heartburn by making the stomach juices less acidic.

A.D.A.M. video clip: Swallowing

Fill in the blanks

- Stage 1 ___________ pushes food into the throat.
- Stage 2 ___________ folds over voice box at entrance of windpipe.
- Stage 3 ___________ in the esophagus contract.

A.D.A.M. video clip: Peristalsis

Fill in the blanks

- Peristalsis is a series of ___________ contractions that moves food through the digestive tract.
- ___________ mixes and shifts the chime on the intestinal wall.

A.D.A.M. video clip: Ulcers

Fill in the blanks

- The stomach produces ___________ that breaks down food into simpler substances.
- The ___________ lining keeps the stomach from digesting itself.
- If the lining becomes too thin, an ___________ may form.
- Ulcers may be caused by bacteria, not stress.
- To control the bacteria, ___________ are prescribed.

The Esophagus

Connects the ___________.

About ___________.

Flat when ___________.

Made of seven layers of ___________.

______________ is the wavelike muscle contractions that force food through the digestive tract.
The Digestive System is a Giant Food Processor

Match These:

- breaking down of food by the action of enzymes
- stored for future use
- broken down into glucose
- building blocks of cells
- broken down into amino acids
- used by cells for energy
- bile and enzymes from liver enter here
- water goes back into the bloodstream
- proteins, carbohydrates, vitamins, and minerals go into blood

(A) small intestine
(B) duodenum
(C) carbohydrates
(D) chemical digestion
(E) fats
(F) amino acids
(G) proteins
(H) glucose
(I) large intestine

The Mouth

Food is _____________________________________________________.
Teeth chop _____________________________________________________.
Saliva moistens _________________________________________________.
The tongue moves _________________________________________________.

The Throat:

The epiglottis _________________________________________________.
Muscles _________________________________________________________.

The Salivary Glands:

Produce _____________________________________________________.
Saliva is an enzyme that _________________________________________.
Food becomes moist and “mushy”. It is now called a __________.

The Stomach (match these):

- the stomach’s own acid begins to eat through the stomach
- control the ends of the stomach
- food enters the stomach through the __________
- digests protein and kills bacteria
- helps the hydrochloric acid digest proteins.
- 3 strong layers of muscle

(A) Mucus
(B) Hydrochloric Acid
(C) The stomach
(D) Sphincter muscles
(E) Esophagus
(F) Ulcer
(G) Pepsin

Nutrients

Nutrients are absorbed through the _________________.

Describe the inside lining of the small intestine _________________.

Draw a diagram of the villi and label its parts. → villi
Your Teeth are Specialized

- An adult has _______ teeth.
- Incisors are for _______ and _______.
- Canines are for _______ and _______.
- Premolars and molars are for _______.
- Another name for the 3rd molars is the ________ teeth.

Label the teeth in the diagram:
- A ______________
- B ______________
- C ______________
- D ______________
- E ______________
- F ______________
- G ______________
- H ______________

Small Intestine

- The longest ____________________________
- Divided into 3 parts:
  - ________ first segment
  - ________ second segment
  - ________ third segment
- Digestive enzymes ________________________
- Nutrients _______________________________

Tooth Anatomy

- Hardest part of the tooth is the _______.
- _______ lies just beneath the enamel.
- _______ is a soft tissue that contains living nerve cells.

Label the teeth in the diagram:
- A ______________
- B ______________
- C ______________
- D ______________
- E ______________
- F ______________
- G ______________
- H ______________

Label the Small Intestine:
- duodenum
- jejunum
- ilium
Large Intestine

- In the large intestine, ______ and ______ are absorbed back into the blood to be reused.
- What does the appendix do? __________________________________________
  ________________________________________________________________.

Tommy Torso (match Tommy’s parts with their number)

<table>
<thead>
<tr>
<th>Part name</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tongue</td>
<td>_____</td>
</tr>
<tr>
<td>Salivary Gland</td>
<td>_____</td>
</tr>
<tr>
<td>Esophagus</td>
<td>_____</td>
</tr>
<tr>
<td>Stomach</td>
<td>_____</td>
</tr>
<tr>
<td>Liver</td>
<td>_____</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>_____</td>
</tr>
<tr>
<td>Pancreas</td>
<td>_____</td>
</tr>
<tr>
<td>Duodenum</td>
<td>_____</td>
</tr>
<tr>
<td>Small Intestine</td>
<td>_____</td>
</tr>
<tr>
<td>Appendix</td>
<td>_____</td>
</tr>
<tr>
<td>Rectum</td>
<td>_____</td>
</tr>
</tbody>
</table>

Check Out this X-ray

- The digestive system organ colored yellow is probably the ________.
- The digestive system organ colored pink is probably the ________.
- What is the doctor about to tell Kermit? _____________________.

Which Digestive System organ is shown in this x-ray?

Answer _________________________
The Liver, Gallbladder, and Pancreas

Match these: use answers more than once

___ stores vitamins
___ produces ½ to 1 liter of enzymes daily
___ produces bile (an enzyme which breaks down fats)
___ stores bile
___ breaks down old red blood cells
___ produces enzymes which break down carbohydrates, fats, and proteins
___ removes poisons from the body

A) Liver
B) Gallbladder
C) Pancreas

Try to Swallow This

Match these:

___ how much food your stomach can hold
___ how long it takes for food to completely digest
___ the weight of your liver
___ how much food you will process in a lifetime
___ the length of your alimentary canal

A) 15 - 48 hours
B) 27 feet
C) 3-4 pounds
D) 60,000-100,000 pounds
E) 2 ½ pints

Fetal Pig Model (match the pig part with the part number)

___ pancreas
___ small intestine
___ gallbladder
___ duodenum
___ large intestine (caecum)
___ large intestine (spiral colon)
___ large intestine (descending colon)
___ liver
___ stomach
___ esophagus

Part numbers

3 9
4 11
5 12
6 13
7 14

What seems to be the main difference between the pig's digestive system and that of humans?
A Balanced Diet

- Fill in the seven food groups on the pie chart.

Matching:
- ___ red blood cell production
- ___ store energy, heat insulation
- ___ provide energy
- ___ the main part of cytoplasm
- ___ helps move food along the digestive system
- ___ strong bones, teeth, and muscles
- ___ growth and tissue repair

<table>
<thead>
<tr>
<th>Matching Options</th>
<th>A) Protein</th>
<th>B) Carbohydrate</th>
<th>C) Water</th>
<th>D) Vitamins</th>
<th>E) Fibre (fiber)</th>
<th>F) Fats and oils (lipids)</th>
<th>G) Minerals</th>
</tr>
</thead>
</table>

Paper Model of Digestive System - tape it here

Go to the Human Biology/Links page of our science website (www.myscience8.com) to view human biology/links.

Go to the Digestive System Tour Lab.

Malnutrition - fill in the chart

<table>
<thead>
<tr>
<th>Cause</th>
<th>Symptom</th>
<th>Name of Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too little protein</td>
<td>Poor growth and development</td>
<td>Kwashiorkor</td>
</tr>
<tr>
<td>Too little iron</td>
<td>Poor wound healing/loss of teeth</td>
<td>Osteoporosis</td>
</tr>
<tr>
<td></td>
<td>Bowed and weak legs</td>
<td></td>
</tr>
<tr>
<td>Too little fiber</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary of Digestion - write the steps of digestion in their proper order (use the cartoon picture of digestion from page 1)

1. Food is chopped and ground in the mouth.
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________
9. ____________________________
10. ____________________________