

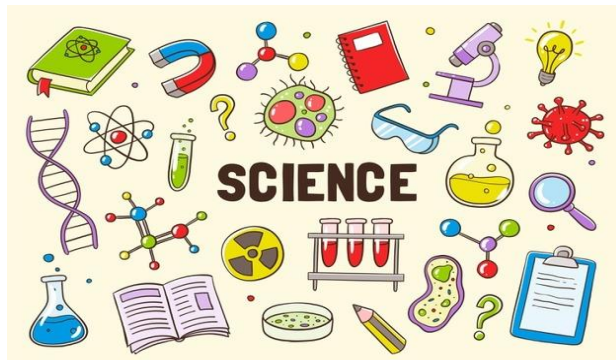
# *District Public School & College Depalpur*

*Summer vacation assignment*

*First semester*

*(Session: 2020-21)*

## **Subject: Science**



## **Class 7th**

*Student's name:* \_\_\_\_\_

*Roll no:* \_\_\_\_\_

*Section:* \_\_\_\_\_

### Guideline for parents:

- The designed summer pack or booklet is fortnightly
- The students will have to follow the syllabus breakup given below
- The whole summer pack is designed on the same pattern
- First day the students will get understanding regarding lesson (via text and video lectures)
- Very next day he/she is assigned a task related to the previous lecture
- Video lectures are given for each topic to enable the students understand the lesson more clearly
- Parents should ensure the timely completion of assigned task on each day

### Table with contents:

Date	Topics	Tutor web links
18-06-2020	COVID-19	<a href="https://youtu.be/CKzs3EcExmo">https://youtu.be/CKzs3EcExmo</a>
19-06-2020	Introduction to digestion	<a href="https://www.youtube.com/watch?v=W-3x24dq2wY">https://www.youtube.com/watch?v=W-3x24dq2wY</a>
22-06-2020	Categories of food	<a href="https://www.youtube.com/watch?v=il4O6r0jewA">https://www.youtube.com/watch?v=il4O6r0jewA</a>
24-06-2020	Large molecules and small molecules	<a href="https://www.youtube.com/watch?v=2giNI7EY15M&amp;t=160s">https://www.youtube.com/watch?v=2giNI7EY15M&amp;t=160s</a>
26-06-2020	Role of enzymes in digestion	<a href="https://www.youtube.com/watch?v=-kOs0R9S0G8&amp;t=91s">https://www.youtube.com/watch?v=-kOs0R9S0G8&amp;t=91s</a>
29-06-2020	The digestive process	<a href="https://www.youtube.com/watch?v=JvaqNcnc9vI&amp;t=117s">https://www.youtube.com/watch?v=JvaqNcnc9vI&amp;t=117s</a>
01-07-2020	Absorption	<a href="https://www.youtube.com/watch?v=SKJ0hAjSA20&amp;t=48s">https://www.youtube.com/watch?v=SKJ0hAjSA20&amp;t=48s</a>
03-07-2020	Problem with the digestive system	<a href="https://www.youtube.com/watch?v=bK-pNMscbig&amp;t=95s">https://www.youtube.com/watch?v=bK-pNMscbig&amp;t=95s</a>

Parent's sign: \_\_\_\_\_

**Date: 18-06-2020**

**Day: Thursday**

## **Covid-19**

### **Topic: To make students aware of COVID-19**

First understand this lecture from the Tutor web link given below.

#### **Tutor web link:**

<https://youtu.be/CKzs3EcExmo>

It's very clear that we have a widespread outbreak of COVID-19 and we all have to limit our movement and avoid gatherings to prevent spreading this further. We need to do a coordinated widespread community response in limiting and reduce the spread of the disease.

#### ➤ **Symptoms of infection:**

##### **Most common symptoms:**

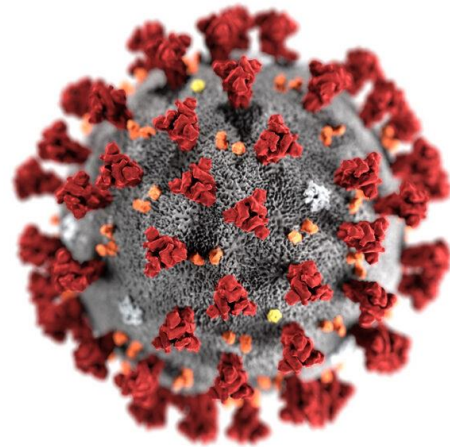
- Fever
- Dry cough
- Tiredness

##### **Less common symptoms:**

- Aches and pains
- Sore throat
- Diarrhea
- Conjunctivitis
- Headache
- Loss of taste or smell
- A rash on skin, or discoloration of fingers or toes

##### **Serious symptoms:**

- Difficulty breathing or shortness of breath



**Parent's sign: \_\_\_\_\_**

- Chest pain or pressure
- Loss of speech or movement



➤ **Preventions:**

- keep social distance
- Do not drink cold water
- Do exercise
- Keep wearing gloves and mask
- Wash your hands regularly
- Stay home stay safe

**Activity:**

**Give answer of the following questions:**

- What are the symptoms of the infection?

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- Is there any vaccine against the novel corona virus?

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- Is there any treatment of the disease?

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- Explain how the social distancing is helpful to avoid the epidemic disease?

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Parent's sign: \_\_\_\_\_

Date: 19-06-2020

Day: Friday

## CHAPTER 1 THE HUMAN DIGESTIVE SYSTEM

### Topic 1: introduction to digestion

Book page: 2

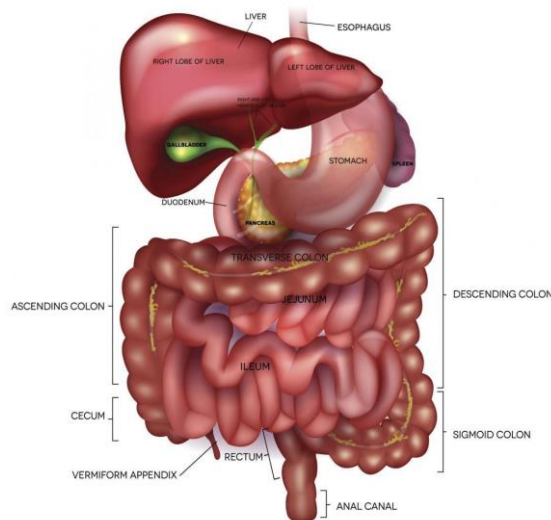
First understand this lecture from the Tutor web link given below.

#### Tutor web link:

<https://www.youtube.com/watch?v=W-3x24dq2wYs>

#### Understanding:

- Food is made up of large and complicated molecules that the body has to break down into smaller molecules that the blood can absorb. This is the process of digestion.
- It involves both physical and chemical processes.
- Some parts of the digestive system mash up food physically, just like a food processor.
- The teeth, for example, break food into chunks, while the stomach churns these around until they form a mushy liquid.
- Many digestive organs (stomach, liver, and pancreas) produce digestive juices that break down the chemicals in food into simpler substances.
- This work is actually carried out by enzymes, which turn large food molecules into smaller food molecules.



Parent's sign: \_\_\_\_\_

Date: 20-06-2020

Day: Saturday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words</b>	mouth	break	chewing	digested
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- Digestion begins in the \_\_\_\_\_  
(A) Stomach                      (B) small intestine                      (C) mouth                      (D) large intestine
- The teeth help to \_\_\_\_\_ the food.  
(A) Break                      (B) digest                      (C) move                      (D) mix

**Question 2**

**Fill in the blanks**

- The mechanical breakdown of food takes place by \_\_\_\_\_ it.
- Food has to be \_\_\_\_\_ before it can be used by the body.

**Question 3**

**Write answers of the questions on the lines below**

- **Define the term digestion in your own words.**

**Answer:** Digestion is the breakdown of large molecules into small molecules.

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- **What is Gastroenterology?**

**Answer:** The study of the digestive system and related diseases.

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Parent's sign: \_\_\_\_\_

**Activity:**

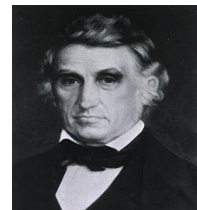
❖ **Scientist:**

- **Write few lines about the father of gastric physiology Dr. William Beaumont.**

**Answer:** Dr. William Beaumont was a surgeon in the U.S. Army who became known as the "Father of Gastric Physiology" following his research on human digestion.

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**Date:** 22-06-2020

**Day:** Monday

**Topic 2: Categories of food**

**Book page: 2**

First understand this lecture from the Tutor web link given below.

**Tutor web link:**

<https://www.youtube.com/watch?v=il4O6r0jewA>

**Understanding:**

- **Carbohydrates:** such as sugar and starches, give us energy.
- **Proteins:** Proteins are body building food for example meat, eggs etc.
- **Lipids:** Lipids are source of energy and provides more energy as compared to carbohydrates and protein.
- Carbohydrates, proteins and lipids are called macromolecules and macronutrients.



- **Minerals:** Minerals helps to keep us healthy. Calcium, potassium and phosphorus.
- **Vitamins:** are essential for health but are needed in less quantity.

**Parent's sign:** \_\_\_\_\_

Date: 23-06-2020

Day: Tuesday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words:</b>	Eggs	250	bones	protein
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- Which of the following is a source of protein?  
(A) Apple                      (B) eggs                      (C) butter                      (D) rice
- A life time's supply of all the vitamins is \_\_\_\_\_ Grams.  
(A) 200                      (B) 230                      (C) 250                      (D) 280

**Question 2**

**Fill in the blanks**

- Calcium is useful for the growth of \_\_\_\_\_.
- Meat is a source of \_\_\_\_\_.

**Question 3**

**Write answers of the questions on the lines below**

- **What is difference between fats and proteins? Give examples.**

**Answer: Fats:** fats are the source of energy. They form an insulating layer under the skin.

**Proteins:** source of energy, parts of cell and repair damaged cell of our body.

Example of fats: oil, ghee. Example of protein: Egg, meat etc.

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- **Write the names of any five minerals.**

**Answer:** Calcium, potassium, phosphorus, iron, sodium

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Parent's sign: \_\_\_\_\_



Date: 24-06-2020

Day: Wednesday

### Topic 3: Large molecules and small molecules

Book page: 3

First understand this lecture from the Tutor web link given below.

#### Tutor web link:

<https://www.youtube.com/watch?v=2giNI7EY15M&t=160s>

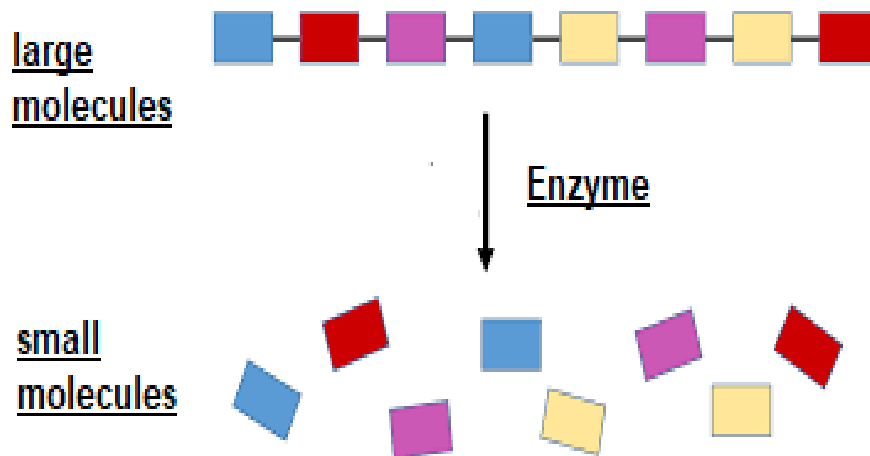
#### Understanding:

- Everything we eat is made up of molecules.
- Carbohydrates, proteins and lipids are large molecules.
- The process of breaking down food into small molecules is called digestion.
- When the food is digested the large molecules of Carbohydrates, proteins and lipids are broken down into small molecules.
- This process takes place with the help of enzymes.

Starch \_\_\_\_\_ > Glucose

Protein \_\_\_\_\_ > Amino acid

Fats \_\_\_\_\_ > Fatty acids



Parent's sign: \_\_\_\_\_

Date: 25-06-2020

Day: Thursday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words:</b>	<b>Amino acids</b>	<b>Fatty acids</b>	<b>glucose</b>	<b>anus</b>	<b>digestion</b>
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- During digestion, proteins are broken down into  
(A) Amino acids      (B) starch      (C) glucose      (D) fatty acids
- During digestion, fats are broken down into  
(A) Amino acids      (B) starch      (C) glucose      (D) fatty acids
- During digestion, starches are broken down into  
(A) Amino acids      (B) starch      (C) glucose      (D) fatty acids

**Question 2**

**Fill in the blanks**

- The digestive tube begins in the mouth and ends at the \_\_\_\_\_.
- Starches are broken down into glucose during the process of \_\_\_\_\_.

**Question 3**

**Write answers of the questions on the lines below**

- **What is difference between macromolecules and micro molecules? Give examples**

**Answer:** The macromolecules are larger in their size and are unable to enter into blood stream directly. For example: carbohydrates, protein and lipids.

The micro molecules are smaller in their size and are able to enter into blood stream directly.

For example: Glucose, fatty acids and amino acids.

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Parent's sign: \_\_\_\_\_

- **What is the role of gastric juices in our digestive system?**

**Answer:** Gastric juices mix with the food and helps in their digestion.

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**Date:** 26-06-2020

**Day:** Friday

### **Topic 4: Role of enzymes in Digestion**

**Book page: 3**

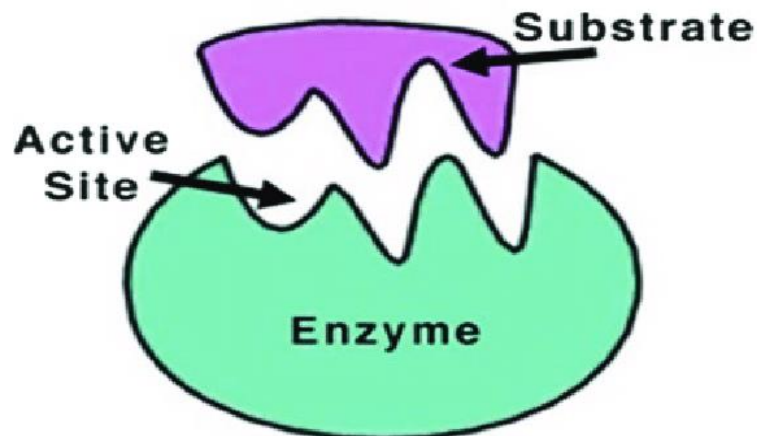
First understand this lecture from the Tutor web link given below.

#### **Tutor web link:**

<https://www.youtube.com/watch?v=-kOs0R9S0G8&t=91s>

#### **Understanding:**

- A chemical breakdown of food using acids and chemicals known as **enzymes**.
- They speed up the chemical reaction of digestion.
- Enzymes are specific in their reactions.
- Enzymes trigger the rate of reaction but do not take part in the reaction.
- Enzyme which breakdown starch cannot breakdown fats and proteins.



Parent's sign: \_\_\_\_\_

Date: 27-06-2020

Day: Saturday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words:</b>	mouth	catalysts	chewing	speed
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- Digestion begins in the:  
(A) Stomach                      (B) small intestine                      (C) mouth                      (D) large intestine
- Enzymes are biologically active and they are called \_\_\_\_\_.  
(A) Hormones                      (B) organs                      (C) Enzymes                      (D) receptors

**Question 2**

**Fill in the blanks**

- The mechanical breakdown of food takes place by \_\_\_\_\_ it.
- Enzymes \_\_\_\_\_ up the chemical reactions.

**Question 3**

**Write answers of the questions on the lines below**

- **What is meant by catalysis?**

**Answer:** Breakdown

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- **Write two functions of saliva.**

**Answer:** 1) moistens the food 2) digest starch

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**What is the function of enzymes?**

**Answer:** Enzymes speed up the chemical reaction of digestion.

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**Activity:**

- Write the functions of the following enzymes in the table below

**Parent's sign:** \_\_\_\_\_

Enzymes	Functions
Carbohydrase	
Protease	
Lipase	

Date: 29-06-2020

Day: Monday

## Topic 5: The digestive process

Book page: 3-4

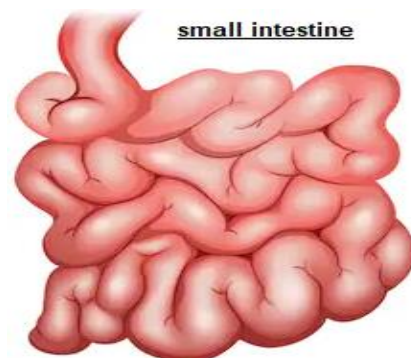
First understand this lecture from the Tutor web link given below.

### Tutor web link:

<https://www.youtube.com/watch?v=JvaqNcnc9vI&t=117s>

### Understanding:

- The digestive system is a long tube that is about 10 metres long.
- This tube start from the mouth and ends at anus.
- Digestion begins in mouth by chewing it.
- Then food moves into stomach by passing to esophagus.
- In stomach, gastric juices mix with the food and helps in digestion.
- Then this semi digested food moves into small intestine, where further digestion takes place.
- Villi are finger like projections in small intestine, which help in absorption.
- After absorption, the waste materials are expelled out of the body through anus in the form of feces.



Parent's sign: \_\_\_\_\_

Date: 30-06-2020

Day: Tuesday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words;</b>	acidic	bile	7	villi
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- The conditions in the stomach are  
(A) Alkaline                      (B) acidic                      (C) basic                      (D) neutral
- Pancreas produces \_\_\_\_\_.  
(A) Bile                      (B) enzymes                      (C) sweat                      (D) blood

**Question 2**

**Fill in the blanks**

- The small intestine is about \_\_\_\_\_ metres long tube.
- \_\_\_\_\_ helps in the absorption of food.

**Question 3**

**Write answers of the questions on the lines below**

- **What is function of enzymes?**  
**Answer:** enzymes speed up the chemical reaction of digestion.

\_\_\_\_\_

- **Describe the function of small intestine.**  
**Answer:** it helps in the digestion and absorption of food.

\_\_\_\_\_

- **What is the function of liver in the process of digestion?**  
**Answer:** Liver produces bile. Bile helps in the digestion of fats.

\_\_\_\_\_

\_\_\_\_\_

Parent's sign: \_\_\_\_\_

- Define villi and give the reasons that the villi in the small intestine are perfect for absorbing food.

**Answer: Villi:** finger like projections on the small intestine called villi.

- 1) Provides large surface area    2) well supplied with blood capillaries.

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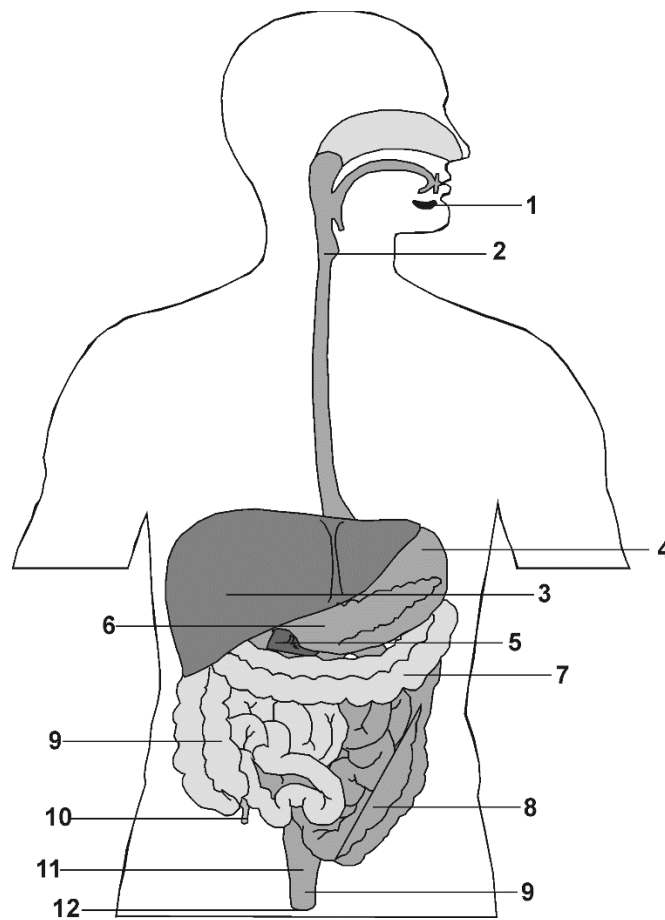
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**Activities:**

The human digestive system

**Materials needed:** pen or pencil

Label the diagram



Parent's sign: \_\_\_\_\_

Date: 01-07-2020

Day: Wednesday

## Topic 6: Absorption

Book page: 5

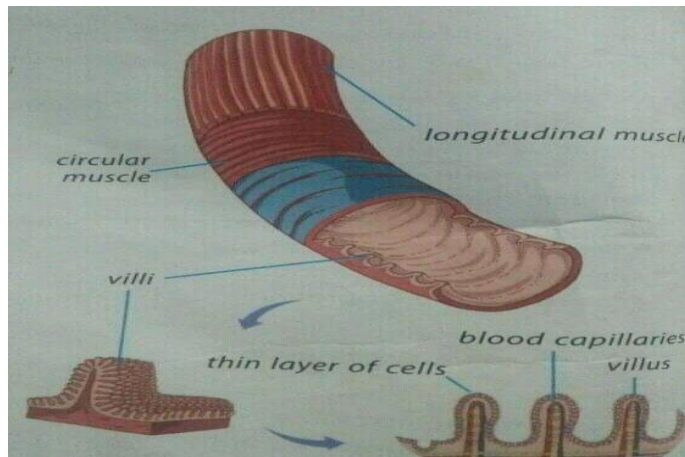
First understand this lecture from the Tutor web link given below.

### Tutor web link:

<https://www.youtube.com/watch?v=SKJ0hAjSA20&t=48s>

### Understanding:

- Nearly all the absorption of food takes place in the small intestine.
- The digested food is transferred into liver and liver controls what happen to them.
- In the large intestine, water and mineral salts are removed from the undigested food and absorbed into the blood.
- The remaining undigested food is passed on to the rectum.
- It is stores as feces until it passed out of the anus.



Date: 02-07-2020

Day: Thursday

### Assignment/ Homework

#### Question 1

Encircle the correct option

Key words:	Amino acids	proteins	rectum	glycogen	minerals
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Parent's sign: \_\_\_\_\_





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- **What is the function of rectum?**

**Answer:** it store feces.

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**Date:** 03-07-2020

**Day:** Friday

**Topic 7: Problems related to digestion**

**Book page:** 5-6

First understand this lecture from the Tutor web link given below.

**Tutor web links:**

<https://www.youtube.com/watch?v=bK-pNMscbig&t=95s>

<https://www.youtube.com/watch?v=-Oe8OM0FAVo&t=83s>

<https://www.youtube.com/watch?v=yNniE02dgx4>



**Understanding:**

- Germs enter into the digestive system when we eat infected food.
- This is called food poisoning.
- Indigestion: it occurs when we eat too quickly.
- Heartburn: a burning sensation is called heartburn.
- Diarrhea: it happens by eating infected food.
- Constipation can be cured by drinking plenty of water and using fibers in diet.

**Parent's sign:** \_\_\_\_\_

Date: 04-07-2020

Day: Saturday

**Assignment/ Homework**

**Question 1**

**Encircle the correct option**

<b>Key words;</b>	ulcer	germs	Hard, dry	The runs
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- A person who constantly has too much acid in the stomach may get  
(A) Belching                      (B) indigestion                      (C) vomiting                      (D) ulcer
- Diarrhea is caused by  
(A) Germs                      (B) eating fatty food                      (C) drugs                      (D) none of these

**Question 2**

**Fill in the blanks**

- In constipation, the feces become thick \_\_\_\_\_ and \_\_\_\_\_.
- Diarrhea is often called \_\_\_\_\_.

**Question 3**

**Write answers of the questions on the lines below**

- **What do you know about heartburn?**

**Answer:** The burning sensation in the chest area is called heartburn.

\_\_\_\_\_

\_\_\_\_\_

- **What is the main cause of diarrhea?**

**Answer:** Germs cause diarrhea.

\_\_\_\_\_

\_\_\_\_\_

- **What we should do in case of constipation?**

**Answer:** 1) Drink plenty of water                      2) Eat fibers

Parent's sign: \_\_\_\_\_

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**Activity;**

- Write the causes and treatment of different digestive problems on the table below.

<b>Digestive problems</b>	<b>Causes</b>	<b>Treatment</b>
Diarrhea		
Constipation		
Indigestion		

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Parent's sign: \_\_\_\_\_