



Master Lesson Plan

For

From Tasting to Digesting

Board	Standard	Subject	Chapter	Language	Reference Link	Creation
CBSE	STD V	EVS	From Tasting to Digesting	English	From Tasting to Digesting	2020-11

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From Tasting to Digesting

1. MS_Objectives_ From tasting to digesting

Students will be able to..

- relish the astonishing fact on food journey
- build the digestive organs from the given materials
- explain the effect of food on saliva
- connect their daily food and water consumption to healthy and unhealthy practices
- analyse the effect of glucose on human body
- recognise the need to eat only what is required
- correlate the effect of too much and too little food on the human body
- respond to the questions on Tasting to Digesting

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	My Body	Sense Organs, External and Sense Organs, External and

2. SA_Let's digest

Activity I:

Aim: Activity to demonstrate passage of food through the digestive system (Food Canal).

Resources Required:

- a) 6 cards with printed images
- b) Timer (set 5 min)

Setting for the Activity: Indoor

Type of Activity: Demonstration / Card Game

Note to the teacher:

If the students are familiar with the digestion process, activity can be started directly. Else it may help to explain the digestive organs in short and then play the game.

Below is a short description of the digestive organs:

Mouth: The initial canal in which food is introduced for chewing with the help of teeth and saliva, starts the initial digestion.

Oesophagus (Food Pipe): Muscular tube which acts as a passage for food from mouth to stomach.

Stomach: Muscular organ which secretes enzyme (gastric juice) which breaks down the food into simple form. Later ends up joining small intestine.

Small Intestine: It is a highly coiled organ which helps in absorption of food digested by stomach. Note: High coiling increases the surface area for absorption of food. Ends up forming large intestine.

Large Intestine: It is the largest organ of the digestive system and performs the task of absorbing water and vitamins while converting undigested food into faeces.

Anus: Final opening where faeces are excreted out from the body and also the ending of digestive canal or alimentary canal.

Procedure:

1. Set of 6 cards should be distributed to the student/students.
2. Instruction shall be given to the student/students regarding the arrangement of cards (this can be done after providing short explanation on digestion)
3. Student/Students will then arrange the card in correct sequence (Sequence of digestive organs)- refer to the main diagram
4. Student/Students showing the correct sequence should be rewarded with appreciation.

Observation: Student/Students should be seen arranging the organs (cards) of digestive system in sequence which shall clarify their basic knowledge on the working of digestive system.

Conclusion: Student /Students shall arrange the set of cards and get it verified from the respective teacher and can take their guidance if arranged incorrectly. Teachers also through innovative tricks can guide the student for the same.

Instructions to Teacher: (If any – Optional)

1. Teacher should give a basic explanatory lecture to the students via presentation- Time duration- 2 minutes.
2. For activity teachers can form three groups of student or ask individual student, give the set of cards and shall explain the activity. – 2 minutes
3. Students can be given 4 minutes to complete the given task.
4. Teacher shall review the task assigned to the student and shall correct them in their task if done incorrectly and conclude the task. – 2 minutes

Precautions: (If any – Optional)

Use chart papers to make cards and stickers of organs should be affixed on chart paper to make cards. Not to use thermocol/plastic or sharp edged papers to make cards.

Troubleshooting: (If any – Optional)

Every student will be given the responsibility of finishing their allotted target.

Activity II.

Aim: To build the digestive organs from the given materials

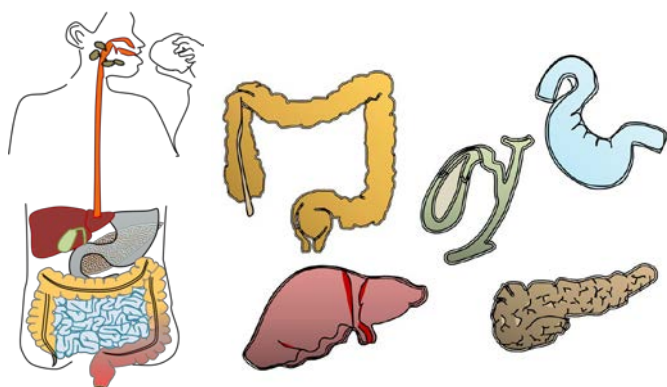
Resources required: 2 big chart paper, pencils, eraser, coloured pencils (if needed), clay of different colours, pink, blue, yellow, red, green.

Setting for activity: Indoor

Type of activity: Group activity (2 groups)

Procedure:

1. Each group should collect all the resources required for the activity from the teacher.
2. One student who is good at drawing from the team will draw an outline of the digestive system as shown.



3. Each student from the group should mould the different organs of the digestive system and stick on the exact location as shown.

4. All the organs should be labelled neatly.

Observation: Students will be able to mould the digestive organs as shown in the diagram.

Conclusion: This activity will help the students to understand the location of the digestive organs.

Note to the teacher:

- All the materials required for the activity should be arranged a day prior to the activity.
- The teacher could choose which activity to conduct first and can plan accordingly.

Image source: rushmish@gmail.com

Time to teach	Asset Type	Theme	SubTheme
20 Minutes	Suggested Activity	MyBody	External and Internal Organ Internal Organs

3. MS_Effect of food on secretion of saliva

IMPORTANCE OF SALIVA

What is Saliva?

- Saliva is a watery substance secreted by the salivary glands that are present in the mouth.
- Human saliva is 99.5% water, while the other 0.5% consists of electrolytes, mucus, enzymes and antibacterial compounds.
- It is created by 3 major glands and some minor glands in response to various stimuli/reflexes.

What causes saliva secretion, does food affect it, how?

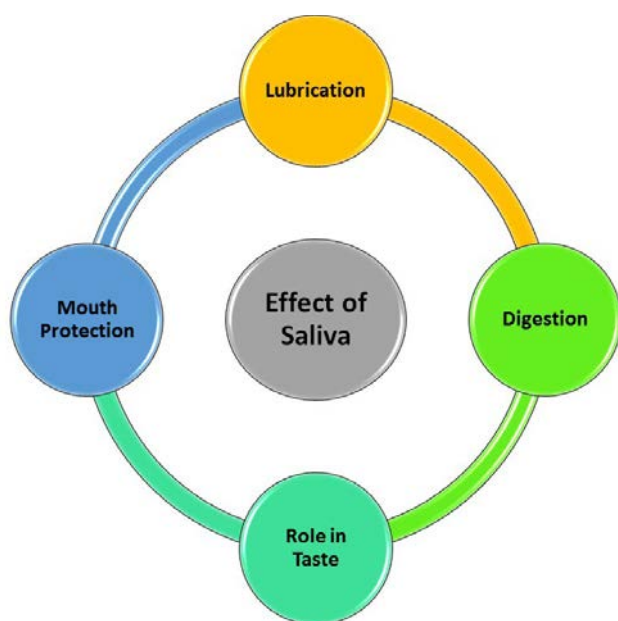
A small amount of saliva is secreted throughout the day, and this flow increases with certain stimuli. Eating is a strong stimulus for the secretion of saliva.

- All four modes of taste (sour, salt, sweet and bitter) elicit secretion by stimulating taste buds on your tongue. As you start eating, saliva flow in your mouth increases.

- The smell of food also increases saliva flow rate. Sniffing food makes your mouth water and stimulates saliva secretion.
- Chewing causes the teeth to move sideways, thereby also stimulating saliva secretion.
- Eating spicy food also increases saliva secretion. Thermal stimuli also influence the rate of secretion. Ice- cold drinks cause a greater volume of saliva to be produced than do hot drinks.

Why is saliva so important for digestion? Does it help in other ways?

Chewing is the first step in the process of digestion and is meant to prepare the food for swallowing and further processing in the digestive system. During chewing, the food bolus or food particles are reduced in size and saliva is secreted to moisten and lubricate the food.



Lubrication:

Saliva coats the oral mucosa or lining of your mouth. It keeps it moist and protects it from hurt or trauma during eating, swallowing and speaking. In people with little saliva, soreness of the mouth is very common, and the food (especially dry food) sticks to the inside of the mouth. Saliva moistens the food and helps to create a food bolus. This lubricating function of saliva allows the food bolus to be passed easily from the mouth into the oesophagus.

Digestion:

Have you noticed that when you chew bread for some time, its taste changes? That is because starches start being digested by saliva in the mouth itself.

The enzymes found in saliva are essential in beginning the process of digestion of dietary starches and fats. Saliva contains the enzyme amylase which is capable of breaking down starch into simpler sugars such as maltose and dextrin that can be further broken down in the small intestine. About 30% starch digestion takes place in the mouth cavity. Salivary glands also secrete salivary lipase to begin fat digestion.

Salivary lipase plays a large role in fat digestion in newborn infants as their pancreatic lipase still needs some time to develop.

Role in taste:

Saliva is very important for us to taste our food. It is the liquid medium in which chemicals or taste molecules are

Mouth protection:

Do you know that when you eat something sweet like a chocolate or drink a fizzy cold drink, the sugars and acid remain in your mouth in between and on the surfaces of your teeth? Saliva washes away the acid and helps clear the mouth of any food in between your teeth. This protects your teeth and helps prevent decay of the teeth. People with less saliva have a lot of tooth decay.

Some interesting facts on saliva and taste

- The total volume of saliva secreted amounts to 1–2 L per 24 h.
- Saliva has been called the mirror of the body and reflects our blood or plasma levels of drugs and hormones, our nutritional status, our emotional status. When we are scared or anxious saliva secretion decreases. So our mouth becomes dry.

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Body Parts	Sense Organs, Sense Orga

4. IA_Journey inside the mysterious human body

Question: Will it ever be possible to swallow food when we are upside down with our head on the ground? If so, how was this process studied by scientists?

Suggested answer:

Eating upside down ???? Looks impossible, but it is possible to swallow food even when we stand upside down.



The food does not move from mouth to stomach because of gravity. A scientist by name Ingelfinger wanted to study this mechanism. He used an interesting technique called Fluoroscopy which is now used widely for studying various internal processes inside the human body.

He allowed certain people to drink a special liquid called barium and with the help of x-rays noticed how it moves down to the stomach. He performed the same procedure by making people stand with their head on the ground. He could see that, they were able to swallow the food normally.

The following video of the fluoroscopy could be shown to the students.

<https://www.youtube.com/watch?v=AfxXy0CmkxE>

Hence he concluded that food does not move with gravity but it moves down due to the special movement of muscles in the oesophagus. This type of movement is called peristalsis.

<https://publicdomainvectors.org/en/free-clipart/Girl-at-lunch/83086.html>

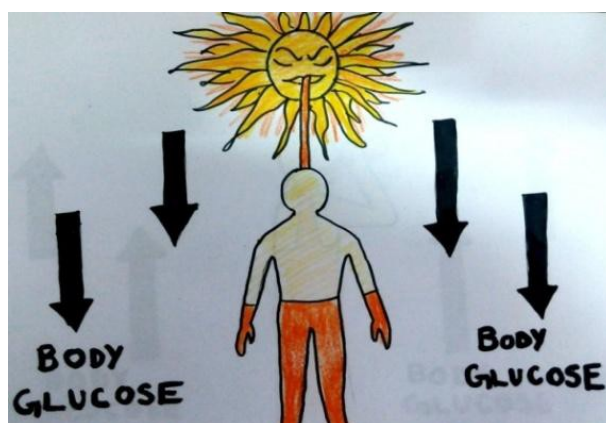
Time to teach	Asset Type	Theme	SubTheme
3Minutes	Interesting Asides	Body Parts	Sense Organs, Sense Orga

5. MS_Glucose - Instant energy

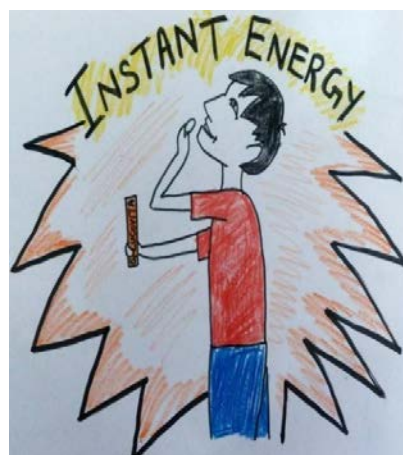
The teacher should first find out whether the children have seen any advertisement on TV related to glucose.

"Do you remember this advertisement where the boy is playing cricket on a hot summer morning?

The sun draws out all the energy from him and his friends. The boy runs home and drinks the Glucose drink prepared by his mother to regain energy."

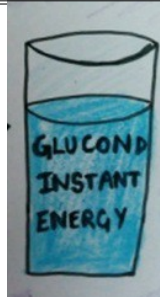


"Or the advertisement where the naughty boy is being chased by the dog wherein he pops the Glucovita bolts and gets instant energy to run faster and escape from the dog."



These are advertisements related with instant energy. What gives us this instant energy?

What do you mean by the word Glucose?



Glucose as we generally know is a simple sugar which gives us energy immediately. The food we eat goes to the stomach and gets broken down into a sugar called glucose. The glucose is then carried back to all parts of the body by the blood.

This glucose is like fuel to our body just like petrol is required to run the car.

Glucose occurs naturally in certain foods, including fruit, dairy products and vegetables. One part of glucose is converted into the needed energy, while the rest of glucose is stored in muscles and in the liver of the body.



But sometimes we get tired because of various reasons such as:

- Summer heat
- Playing games in the hot sun
- Studying hard for the exams
- Exercise like running, jogging, cycling and swimming



We need instant energy. This is where the instant glucose comes to help. Mix a spoon of glucose in water and drink it. You will feel refreshed and cool.



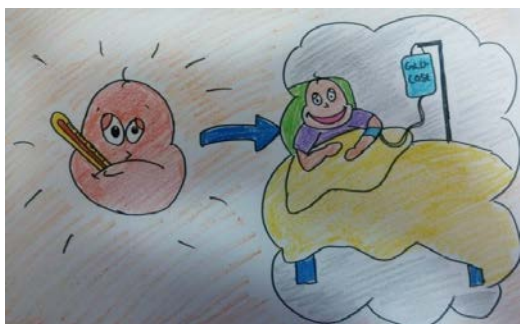
Athletes generally have glucose in form of tablets or juice, to provide a readily available source of energy during long-distance exercise.

How does glucose taste???

Generally it tastes sweet but nowadays glucose comes in various flavours such as tangy orange, nimbu paani, litchi, aam panna, etc.

Have you ever been to a hospital? If so have you seen the patient with drips in their hand?

Sometimes the level of glucose in our body goes down due to sickness such as vomiting, or diarrhoea, severe hunger or over exertion, etc. wherein lots of fluid has been lost. The body becomes very weak and cannot take in the water and food we eat. Then the glucose solution is given as drips, so that it goes directly into the blood stream to give energy in matter of few minutes.



After the drips a person will feel energetic again. But of course the medicine dose to be taken should be completed.



Illustrations by Ms Krithika VAST team and Smartshapes
for glucose of various flavours

https://opencart.org/image/300px/svg_to_png/183505/fruit-plate.png

<https://opencart.org/detail/91009/summer-smile-sun>

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Main Script	Body Parts	Sense Organs, Sense Orga

6. VC_Eat what you need

Children, do you know that about half the children in our country do not even get one proper meal a day? They do not get enough food that they need to grow and develop properly. These children are weak and sickly (often ill, in poor-health). But it is the right of every child to get proper food.

Hence it goes without saying that we should eat only what we need. We should not eat more than what we can take. At the same time we should take care not to waste food.

Let us look at this story of a mouse.

A mouse was having a very bad time. She could find no food at all. She looked here and there, but there was no food, and she grew very thin.

At last the mouse found a basket with a tight lid, full of corn. There was a small hole in the basket, and she crept in. She could just get through the hole.

Then she began to eat the corn. Being very hungry, she ate a great deal, and went on eating and eating. She had grown very fat before she felt that she had had enough.

When the mouse tried to climb out of the basket, she could not. She was too fat to pass through the hole.

"How shall I climb out?" said the mouse. "Oh, how shall I climb out?"

Just then a rat came along, and he heard the mouse.

"Mouse," said the rat, "if you want to climb out of the basket, you must wait till you have grown as thin as you were when you went in."

"Food is considered God, as it is the source of a person's life, body, mind, and character. Eat only what you need. Do not be greedy and take more than you can eat. Wasting food is a great sin; your surplus can feed another stomach. To receive real nourishment, pay attention to the quality of food that you eat and let it be ver pure, clean, sanctified, and Satwik."
Sri Sathya Sai Baba, 'My Dear Students', Vol 2, Ch 2.

Time to teach	Value Type	Value Sub Type	Value Attribute
3Minutes	Peace		Stories

7. IQ_Good Food Good Health

[Notes to the teacher - Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers]

Teacher can distribute the below passage and then ask the questions.

Dr. Aparna has two patients – Rashmi and Kailash. Dr. Aparna talked to them to find out more about them. Read what the doctor found. Rashmi, 5 years, looks about 3 years old. She has very thin arms and legs and a pot belly (stomach like a balloon). She often falls sick. She always feels tired and cannot go to school regularly. She does not have the strength even to play. Food: She is lucky if she can get a little rice or one roti to eat in the whole day. Kailash, 7 years, looks older than his age. His body is fat and flabby. He has pain in his legs. He is not very active. He goes to school by bus and spends many hours watching TV. Food: He does not like to eat home-cooked food like dal-rice, vegetables and roti. The only thing he finds tasty are chips, burger, pizzas and soft drinks from the market.

1) Why do you think Rashmi could eat only one roti in the whole day?

Answer: Rashmi is poor and cannot afford to eat well.

2) Do you think Kailash would like games and sports?

Answer: Kailash would not like games and sports because he is not active and has pain in his legs. He also spends a lot of time watching television.

3) What do you understand by 'proper' food?

Answer: "Proper food" nourishes the body and includes fruits, vegetables, rice, roti, dal and dairy products.

4) Why do you think that the food of Rashmi and Kailash was not proper?

Answer: The food consumed by Rashmi and Kailash did not contain any nutrition. Rashmi could hardly afford rice or roti whereas Kailash ate only chips, burgers, pizzas and soft drinks. Neither of them could get the nutrients from fruits, vegetables, dals and dairy products.

Time to teach	Asset Type	Theme	SubTheme
10Minutes	Inquisitive Questions	Food	Types of Food, Types of Fo

8. DD_Eat right

- Eat clean and hygienically prepared food.
- Eat balanced food.
- Do not drink water in between meals.
- Eat warm food in winter to facilitate better digestion.
- Give at least 4-5 hours gap before you eat the next heavy meal.
- If we have unhealthy eating habits such as skipping meals or eating at irregular times or eating just before sleeping or overeating or eating too much of spicy food, our stomach releases acid. This acid is needed for digestion but if the stomach releases these acids in excess we experience a burning sensation which is called acidity. So we have to eat everything in appropriate quantities and at proper times.
- Junk food such as donuts, potato chips and burgers. These are high in sugar, salts, white flour, etc., and can lead to obesity. If we keep on eating without exercising, the excess energy gets stored in our body as fat and we become obese or gain too much weight.

Unhealthy foods!

- Fried foods Fast
- foods
- Processed foods Ice
- cream
- Soda Pizza
-

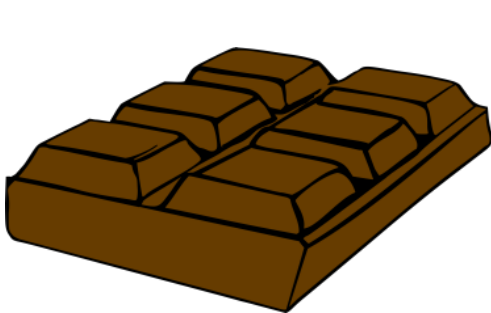
Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Day-to-day Relevance	MyBody	Externaland InternalOrgan Internal Organs

9. QA_From Tasting to digesting

1. LABEL ON THE TONGUE:

Can you point out different taste areas on human tongue?

Given: a) Tamarind b) Bitter gourd c) Chocolate d) Sugar e) Salt water f) Lemon water



PICTURE OF TONGUE WITH COLOUR

Label the above in respective colour (red, blue, yellow, green)

Answer: Red - sugar, chocolate

Blue - saltwater

Yellow - lemon water, curd, tamarind

Green - Bittergourd



2. FILL THE BOX WITH THE FOOD ITEMS



TEMPTING	NOT TEMPTING

Answer:

Tempting

Vadas, Rasagolla

Not tempting

Chapatti, Rice

3. MATCH THE FOLLOWING

COLUMN A	COLUMN B
Mouth	Tastes the food
Tongue	Mixer grinder of the human body
Small Intestine	First organ in the digestion
Large Intestine	Digestion and absorption of the food takes place
Stomach	Conversion of food into faeces

Answers:

COLUMN A	COLUMN B
Mouth	Tastes the food
Tongue	Mixer grinder of the human body
Small Intestine	First organ in the digestion
Large Intestine	Digestion and absorption of the food takes place
Stomach	Conversion of food into faeces

4. QUIZ TIME

A) Which of the following helps in cleaning teeth naturally after taking food?

1)Tongue 2)Cheek 3)lip 4)none

Answer: 1)Tongue

B) From which of the following do we can get energy even without eating?

1) Glucose drip 2) salt water 3)sugar water 4)None

Answer: 1. glucose drip

C) Which of the animal given below has the longest tongue?

1) Frog 2)Chameleons 3)Bluewhale 4)Dog

Answer: 2) Chameleons

D) Which of the following structure looks like a pipe?

1)Mouth 2) Stomach 3) Oesophagus

Answer: 3)Oesophagus

5. ANSWER THE FOLLOWING

Q) What are taste buds?

Ans:- Taste buds are receptor cells located on the tongue which help in experiencing sweet, salty, sour and bitter tastes.

Q) Is it possible for all the parts of our tongue to taste all type of food? If no, then why?

Ans :- No. All the parts of our tongue do not have the same type of taste buds.

Q) Why it is not possible to identify the taste of a food only with a few drops of it?

Ans: Our taste buds need the sufficient amount of the food for taste.

Q) Name the foods whose taste you can say even with closed eyes.

Ans: Tamarind, bitter gourd, rasgulla, honey etc.

Q) Name the foods whose taste is difficult to say with closed eyes.

Ans: Roti , chapatti etc.

Q) Why we need to cook some food before we eat them? Ans:

We cook food to make it tastier and healthier.

Q) Name the food we eat without cooking?

Ans: Salad, fruit juice, etc.

Q) What is saliva and where is it mainly present?

Ans: It is the juice which is present below our tongue and helps in digestion.

Q) What is the role of saliva in our eating process?

Ans: Saliva helps the food to become soft and easier to digest.

Q) Name some animal tongues which are specially designed to catch prey.

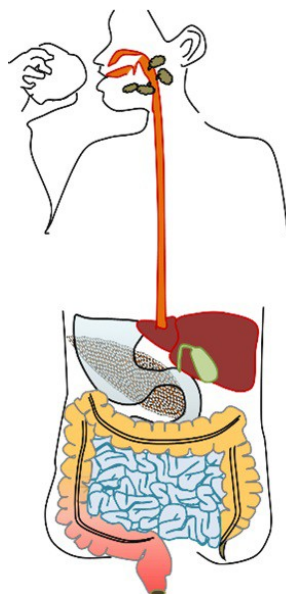
Ans: Chameleons, frogs, and anteaters have tongues that can extend out of their mouth and catch prey.

Q) Why do we have an unpleasant look on our face when we are hungry?

Ans: When we are hungry, we get tired or angry or sick, so our face changes.

Q) Name the important parts inside human body which help in digestion.

Ans: Mouth , Oesophagus , Stomach , Large intestine , small intestine.

**Image Source:**

Tamarind: CC: <https://en.wikipedia.org/wiki/Tamarind#/media/File:Tamarind2.jpg> - Public Domain

Bitter gourd: CC: <https://www.publicdomainpictures.net/en/view-image.php?image=17572&picture=bitter-gourdgohya>

Chocolate: CC: <https://openclipart.org/detail/176948/chocolate>

Salt water / Lemon water, Sugar, Tongue: OC - krithika.umesh@gmail.com Chapathi:

OC, Lemon- OC - krithika.umesh@gmail.com [https://pixabay.com/photos/vada-dahi-](https://pixabay.com/photos/vada-dahi-bhille-sambar-vada-food-5080809/)

[bhille-sambar-vada-food-5080809/](https://pixabay.com/photos/sweets-rasgula-indian-sweet-food-577230/)
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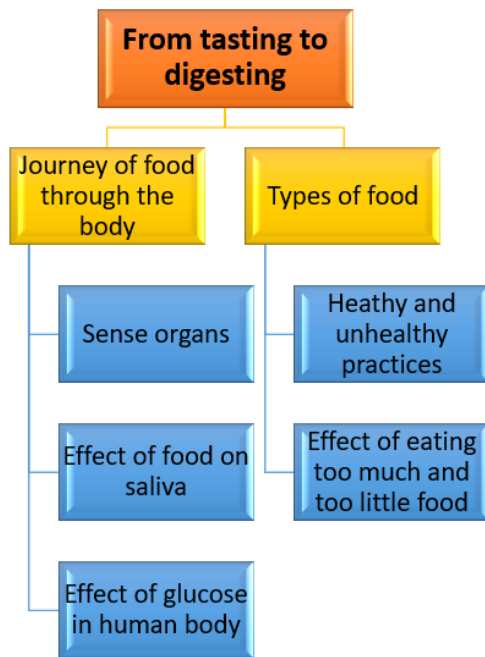
<https://www.publicdomainpictures.net/en/view-image.php?image=105153&picture=bowl-of-rice>

<https://pixabay.com/photos/chapati-bread-indian-pancakes-food-489254/>

<https://pixabay.com/ro/photos/comeleon-africa-namibia-peisaj-1170042/>

Original Contribution – rushmish@gmail.com

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Assessments	Body Parts	

10. MS_Summary_From tasting to digesting

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	My Body	Sense Organs, External and Sense Organs, External and