



Inner Angel



ANATOMY AND PHYSIOLOGY

OF THE DIGESTIVE SYSTEM:
ACTIVITY BOOK

INNER ANGEL WELLNESS CLINIC



ANATOMY AND PHYSIOLOGY



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THERE IS ONLY ONE ANSWER PER QUESTION

The pass mark for this test is 80% you will be given
60 minutes to complete this examination

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Colon Hydrotherapy Course

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STUDENT MEMBERSHIP OF RICTAT

You do not have to wait until you are fully qualified to benefit from the resources and knowledge base of RICTAT. We offer you the opportunity to become a Student Member of RICTAT for an annual fee of £25.00.

- ◆ **ADVICE** – you can find out more about what working in the Colon Hydrotherapy profession involves and find the latest news about the industry.
- ◆ **INFORMATION AND RESOURCES** – you will receive regular news updates and will disseminate key information and knowledge through regular newsletters, emails, Facebook groups and postings, as well on the dedicated member only pages of our website
- ◆ **PEER AND PROFESSIONAL NETWORKS** – you'll have the opportunity to network with like-minded students and experienced professionals via email, phone and our annual conference.
- ◆ **LOBBYING AND REPRESENTATION** – RICTAT has a seat on the General Regulatory Council for Complementary Therapies (GRCCT), whose purpose is to protect the public by promoting and enforcing high standards of education, performance and conduct amongst practitioners of Complementary and Alternative Medicine. Qualified practitioners can join GRCCT and also have their websites approved by them to ensure that they comply with the Advertising Standards Authority guidance.
- ◆ **ANNUAL CONFERENCE** – Students will be invited to join other members of RICTAT at their annual conference to hear speakers from the industry and related professions, to network with colleagues and to share experiences.

ANATOMY AND PHYSIOLOGY PRE-TEST

1. The basic unit of biological organisation is the?

- a) protoplasm
- b) cell
- c) connective tissue
- d) colloid

2. The body system responsible for maintaining sexual characteristics and the perpetuation of our species is the?

- a) endocrine system
- b) urinary system
- c) reproductive system
- d) lymphatic system

3. The study of the diseases of the body is known as?

- a) anatomy
- b) physiology
- c) microbiology
- d) pathology

4. The site of protein synthesis is in the?

- a) ribosomes
- b) lysosomes
- c) endoplasmic reticulum
- d) cilia

5. Cellular organelles composed of fibrils and located on the cell surface that protrude from the cell and beat or vibrate are called.....?

- a) cristae
- b) leucoplasts
- c) cilia and flagella
- d) ribosomes

6. The process of cellular reproduction that occurs in the nucleus, forming two identical nuclei, is known as?

- a) meiosis
- b) anabolism
- c) mitosis
- d) catabolism

7. The epithelial cells that are flat and slightly irregular in shape, serving as a protective layer are called.....?

- a) cuboidal cells
- b) columnar cells
- c) squamous cells
- d) transitional cells

8. The formation of platelets of red and white blood cells within the red bone marrow is known as.....?

- a) haematopoiesis
- b) osteoprogenitor
- c) intramembranous ossification
- d) erythroleukocytosis

9. The main muscle used in breathing is the

- a) trapezius
- b) rectus abdominis
- c) diaphragm
- d) buccinator

10. The simplest pathway able to receive a stimulus, enter the central nervous system for immediate interpretation and produce a response known as a

- a) nucleus
- b) reflex arc
- c) tract
- d) synapse

11. Nerve cell bodies that are found outside the central nervous system are generally grouped together to form

- a) ganglia
- b) tracts
- c) roots
- d) dendrites

12. The liquid portion of blood is.....?

- a) fibrin
- b) heme
- c) serum
- d) plasma

13. The circulation of blood to all organs of all the systems of the body is known as.....?

- a) systemic circulation
- b) contraction
- c) cardiac cycle
- d) portal circulation

14. Oxygenated blood loses carbon dioxide in the lungs and picks up oxygen and returns to the left atrium of the heart via the four pulmonary veins in a circulation route called.....?

- a) system circulation
- b) portal circulation
- c) pulmonary circulation
- d) portal circulation

15. A condition caused by progressive weakening of the myocardium and failure of the heart to pump adequate amounts of blood is known as.....?

- a) pericarditis
- b) heart failure
- c) myocardial infarction
- d) rheumatic heart disease

16. Chemicals released by sensitised T lymphocytes to keep us healthy are known as.....?

- a) memory cells
- b) lymphokines
- c) macrophages
- d) antigens

17. The medical term for swelling is.....?

- a) chyle
- b) oedema
- c) lymphatica
- d) trabeculae

18. Approximately 80% of all absorption of nutrients in the?

- a) stomach
- b) small intestine
- c) large intestine
- d) mouth

19. Kidney stones composed of the precipitates of uric acid, magnesium or calcium phosphate or calcium oxalate are also known as.....?

- a) renal calculi
- b) podocytes
- c) renal columns
- d) renal fascia

20. A condition of the pituitary gland due to a deficiency of ADH in which an individual produces 20 – 30 litres of urine daily and can become severely dehydrated is known as.....?

- a) diabetes insipidus
- b) diabetes mellitus
- c) Crohn's disease
- d) Addison's disease

21. A lack of or low level of thyroid hormones is called.....?

- a) hyperthyroidism
- b) hypokalaemia
- c) hypothyroidism
- d) hyperkalaemia

22. The medical term for an excessive amount of glucose (sugar) in the blood is

- a) hyperthyroidism
- b) hypokalaemia
- c) hyperglycaemia
- d) hyperkalaemia

23. Diabetes mellitus is caused from a deficiency in the hormone.....?

- a) thyroxine
- b) cortisol
- c) insulin
- d) d.glycogen

24. A condition of clot formation is called.....?

- a) infarction
- b) thrombosis
- c) agglutination
- d) complement

25. When plasma moves out of the capillaries and into the spaces between tissue cells it is called.....?

- a) interstitial fluid
- b) chyle
- c) chyme
- d) Peyer's patches

26. A tumour of lymphatic tissue that is usually malignant is called a.....?

- a) lymphoma
- b) sarcoma
- c) carcinoma
- d) adenoma

27. Lymph nodes are also called.....?

- a) lymph glands
- b) lacteals
- c) adenoids
- d) monokines

28. A chronic inflammation bowel disease of unknown origin with symptoms of diarrhoea, severe abdominal pain, fever, chills, nausea, weakness, anorexia and weight loss is known as.....?

- a) Crohn's disease
- b) Conn's disease
- c) cirrhosis
- d) hepatitis

29. A soft mass of chewed food ready to be swallowed is known as.....?

- a) plicae
- b) chyme
- c) chyle
- d) bolus

30. The term used for swallowing is.....?

- a) peristalsis
- b) deglutition
- c) eructation
- d) mastication

31. The projections on the tongue that produce its rough surface are known as.....?

- a) fungiform
- b) papillae
- c) villi
- d) haustra

32. Digestion involves which of following processes?

- a) ingestion
- b) absorption
- c) assimilation
- d) all the above

33. Identify the correct order of the alimentary canal (alimentary tract), from beginning to end:

- a) mouth, oesophagus, stomach, small intestine, large intestine, anus
- b) mouth, pharynx, oesophagus, stomach, small intestine, large intestine, anus
- c) pharynx, oesophagus, stomach, small intestine, large intestine, anus
- d) mouth, pharynx, oesophagus, stomach, large intestine, anus

34. Which of the following is NOT an accessory organ to digestion?

- a) spleen
- b) liver
- c) pancreas
- d) gall bladder

35. What are the 'biological catalysts' in digestive juices which speed up the chemical reactions of digestion?

- a) acids
- b) electrolytes
- c) lysosomes
- d) enzymes

36. The first stage of digestion begins in the mouth (the buccal cavity) and requires chewing and saliva to begin the process. Salivary glands produce secretions containing which enzyme?

- a) lipase
- b) peptidase
- c) amylase
- d) maltase

37. What type of food begins to be digested in the mouth?

- a) proteins
- b) fats
- c) vitamins
- d) carbohydrates

38. Which of the following is a word given to the chewing action?

- a) pulverisation
- b) grind
- c) maturation
- d) mastication

39. Intestinal juices are released by the glands of:

- a) liver
- b) gall bladder
- c) small intestine
- d) large intestine

40. After chewing, the food becomes bolus and is ready to be swallowed. Which structure in the mouth prevents the bolus from entering the nasal cavity while swallowing?

- a) soft palate
- b) hard palate
- c) epiglottis
- d) uvula

41. The pharynx is a common channel with seven openings: mouth, oesophagus, larynx, 2 nose and 2 ear. When the muscles of the pharynx contract in a swallowing action, which structure prevents food from entering the larynx?

- a) glottis
- b) epiglottis
- c) uvula
- d) tonsils

42. Which lubricative substance makes food easier to swallow?

- a) mucous
- b) beer
- c) wine
- d) mucus

43. Food is propelled down the oesophagus towards the stomach by peristalsis. What is peristalsis?

- a) when food is carried along by a flow of mucus
- b) gravity-assisted movement of food
- c) wave-like rhythmical contractions in the walls of the alimentary canal
- d) reflux

44. Which structure controls the entry of food from the oesophagus into the stomach?

- a) cardiac sphincter
- b) pyloric sphincter
- c) sphincter of Oddi
- d) ileo-caecal sphincter

45. Which layer of the stomach assists the mechanical breakdown of food?

- a) peritoneum
- b) mucous coat
- c) muscular coat
- d) surface epithelium

46. Gastric juice is secreted into the stomach from the gastric glands in the stomach wall, containing the enzymes rennin and pepsin. Pepsin is a catalyst for the breakdown of which of these foods?

- a) carbohydrates
- b) proteins
- c) red meats
- d) white meats

47. Which of the following stomach secretions is a hormone?

- a) pepsin
- b) rennin
- c) hydrochloric acid
- d) gastrin

48. How long does food stay in the stomach?

- a) approximately 3 hours
- b) under 3 hours
- c) approximately 5 hours
- d) between 1 and 2 hours

49. When food is ready to leave the stomach it has become a thick, liquid mixture called:

- a) bolus
- b) slush
- c) mush
- d) chyme

50. Where is the pyloric sphincter situated?

- a) at the distal end of the stomach at its junction with the duodenum
- b) at the junction of the oesophagus and the stomach
- c) in the middle of the stomach
- d) at the junction that connects the ileum to the cecum

51. From the pyloric sphincter to the end of the ileum, how long is the small intestine?

- a) approximately 5 metres
- b) 6 - 7 metres
- c) 10 metres
- d) 1.5 metres

52. What are the minute projections that line the inner walls of the small intestine called?

- a) rugae
- b) papillae
- c) villi
- d) fimbriae

53. Into which part of the alimentary tract does bile enter?

- a) pyloric sphincter
- b) jejunum
- c) ileum
- d) duodenum

54. The final breakdown of proteins results in:

- a) glucose
- b) amino acids
- c) fatty acids
- d) glycerol

55. Fat is not digested until it reaches the small intestine. What breaks fat down?

- a) lipase and bile
- b) bile and lactase
- c) amylase
- d) pepsin and rennin

56. Which is the longest part of the large intestine?

- a) ascending colon
- b) transverse colon
- c) descending colon
- d) sigmoid colon

57. What structure allows entry of undigested food into the large intestine and prevents it flowing back into the small intestine?

- a) pyloric sphincter
- b) internal sphincter
- c) ileo-caecal sphincter
- d) external sphincter

58. What do faeces consist of?

- a) undigested food
- b) dead cells
- c) bacteria
- d) all the above

59. Where are faeces stored before expulsion from the body?

- a) caecum
- b) rectum
- c) sigmoid colon
- d) anus

60. What is the bend of the colon known as?

- a) a flexure
- b) a bend
- c) a crease
- d) a corner

61. In which section of the alimentary tract does peristalsis occur?

- a) only in the small intestine
- b) in every section
- c) only in the small and large intestine
- d) every section except the stomach

62. Gas is a by-product of bacterial action, mainly in the large intestine. What causes the sound that is sometimes produced when 'passing wind' through the anus?

- a) wearing tight jeans
- b) peristalsis
- c) vibration created by the gas passing through the anal sphincters
- d) contraction of the gluteus muscles

63. The liver is the largest gland in the body, a complex organ with over 70 functions. Which of the following is NOT a function of the liver?

- a) to produce insulin
- b) production of bile
- c) storage of vitamins, iron and glycogen
- d) to remove toxins from the blood

64. Bile is a thick, alkaline liquid that is produced in the liver as a result of:

- a) breakdown of amino acids
- b) breakdown of red blood cells
- c) breakdown of toxins
- d) breakdown of fatty acids

65. Insulin is a hormone produced in the pancreas, which enables what?

- a) the storage of glycogen in the liver and
- b) the oxidation of glucose to produce energy
- c) both a) and b)
- d) none of the above

66. What is Vitamin K essential for?

- a) for blood clotting
- b) for metabolism of protein
- c) for maintaining calcium levels
- d) for healthy vision

67. How is sulphur used by the body?

- a) it helps to form cell membranes
- b) it assists the formation of collagen
- c) it is the main component of structural proteins in skin and hair
- d) it aids healing

68. Of the several types of cirrhosis of the liver, portal cirrhosis is the most common and is usually caused by:

- a) alcoholism
- b) high cholesterol
- c) gastric distress
- d) the presence of a tumour

69. What is the cause of Coeliac disease?

- a) a lactose intolerance
- b) alcohol abuse
- c) excessive dieting
- d) an intolerance of gluten

70. The chronic inflammatory bowel disease which generally affects the ileum section of the small intestine is known as:

- a) colitis
- b) Crohn's disease
- c) dysentery
- d) proctitis

ANSWER SHEET

Remember that there is only one answer per question

Question		Question		Question		Question	
1		19		37		55	
2		20		38		56	
3		21		39		57	
4		22		40		58	
5		23		41		59	
6		24		42		60	
7		25		43		61	
8		26		44		62	
9		27		45		63	
10		28		46		64	
11		29		47		65	
12		30		48		66	
13		31		49		67	
14		32		50		68	
15		33		51		69	
16		34		52		70	
17		35		53			
18		36		54			



ANATOMY AND PHYSIOLOGY PRE-TEST

I confirm that I have undertaken this test with the time constraints allowed and have undertaken it as a closed book examination.

Signed _____

Printed Name _____

Date _____



PRE- PRACTICAL TRAINING QUESTION

Prior to your Colon Hydrotherapy Training you are required to submit to your tutor an extended essay of approximately 1,500 words to the following questions

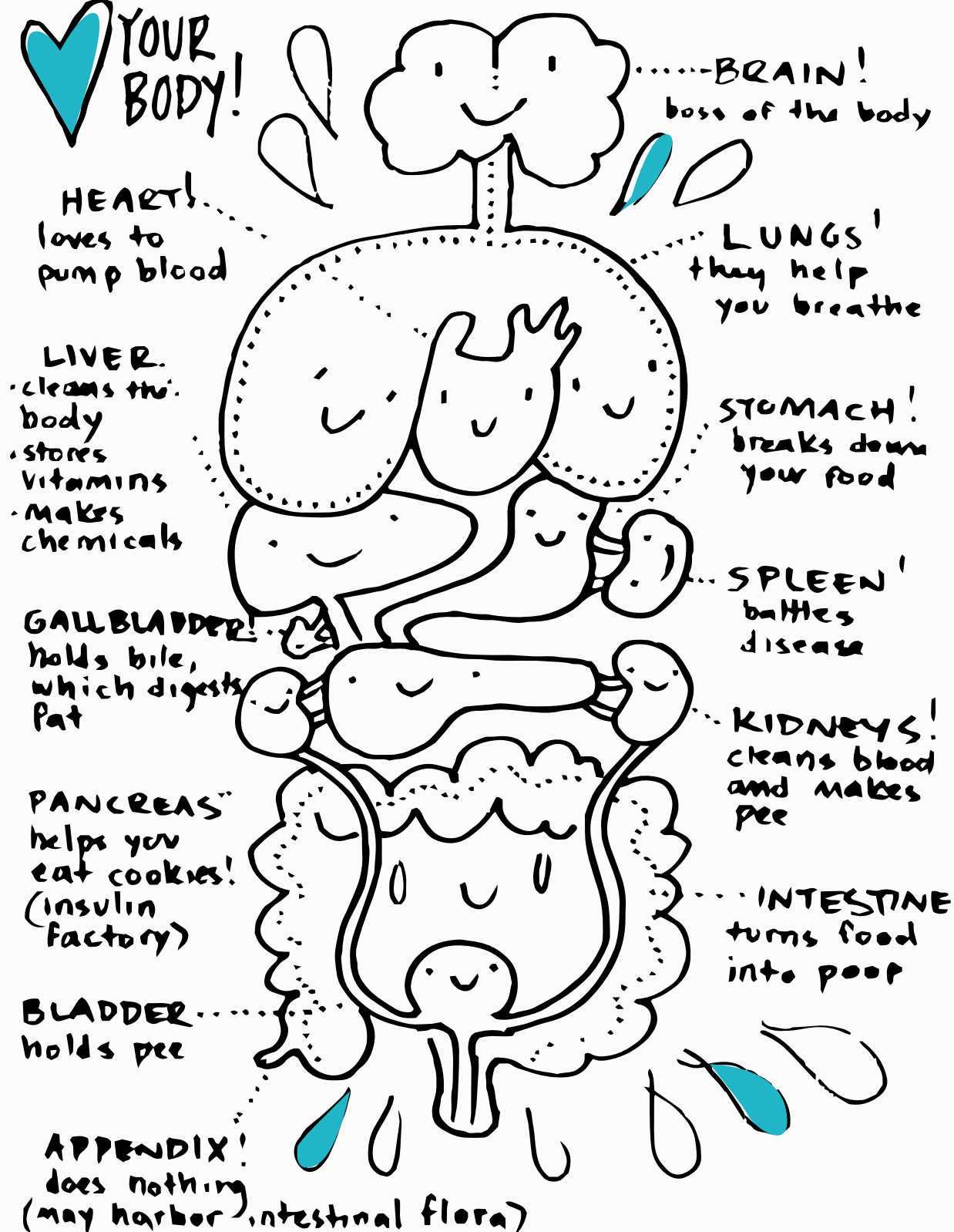
The assignment is broken down in five parts:

1. What motivated you to train as a Colon Hydrotherapist?
2. Identify the many roles you associate with being a Colon Hydrotherapist?
3. What do you envisage is a typical working day of a Colon Hydrotherapist? Identify the many tasks involved.
4. In your opinion what makes a good Colon Hydrotherapist? List the qualities you identify with the role.
5. How relevant do you think the saying 'you are what you eat' is in relation to Colon Hydrotherapy?

ANSWERS

Question		Question		Question		Question	
1	B	19	A	37	D	55	A
2	B	20	A	38	D	56	B
3	D	21	C	39	C	57	C
4	A	22	C	40	A	58	D
5	C	23	C	41	B	59	B
6	C	24	B	42	D	60	A
7	C	25	A	43	C	61	B
8	A	26	A	44	A	62	C
9	C	27	A	45	C	63	A
10	B	28	A	46	B	64	B
11	A	29	D	47	D	65	C
12	D	30	B	48	C	66	A
13	A	31	B	49	D	67	C
14	C	32	D	50	A	68	A
15	B	33	B	51	B	69	D
16	B	34	A	52	C	70	B
17	B	35	D	53	D		
18	B	36	B	54	B		

♥ YOUR BODY!



THE DIGESTIVE SYSTEM BREAKS FOOD DOWN TO TINY MOLECULES THAT CAN BE ABSORBED INTO THE BLOODSTREAM AND DISTRIBUTED TO CELLS.

1. SALIVARY GLANDS:

glands in the cheeks and under the tongue which produce saliva to moisten food as it is chewed. Salivary glands also secrete enzymes which break down starches in the mouth.

2. ESOPHAGUS: muscular tube which creates peristaltic waves to carry swallowed food from the throat to the stomach.

3. STOMACH: muscular organ which churns food and secretes enzymes and acids for food digestion.

4. SMALL INTESTINE: hollow tract where chemical digestion continues and nutrients are absorbed into the bloodstream.

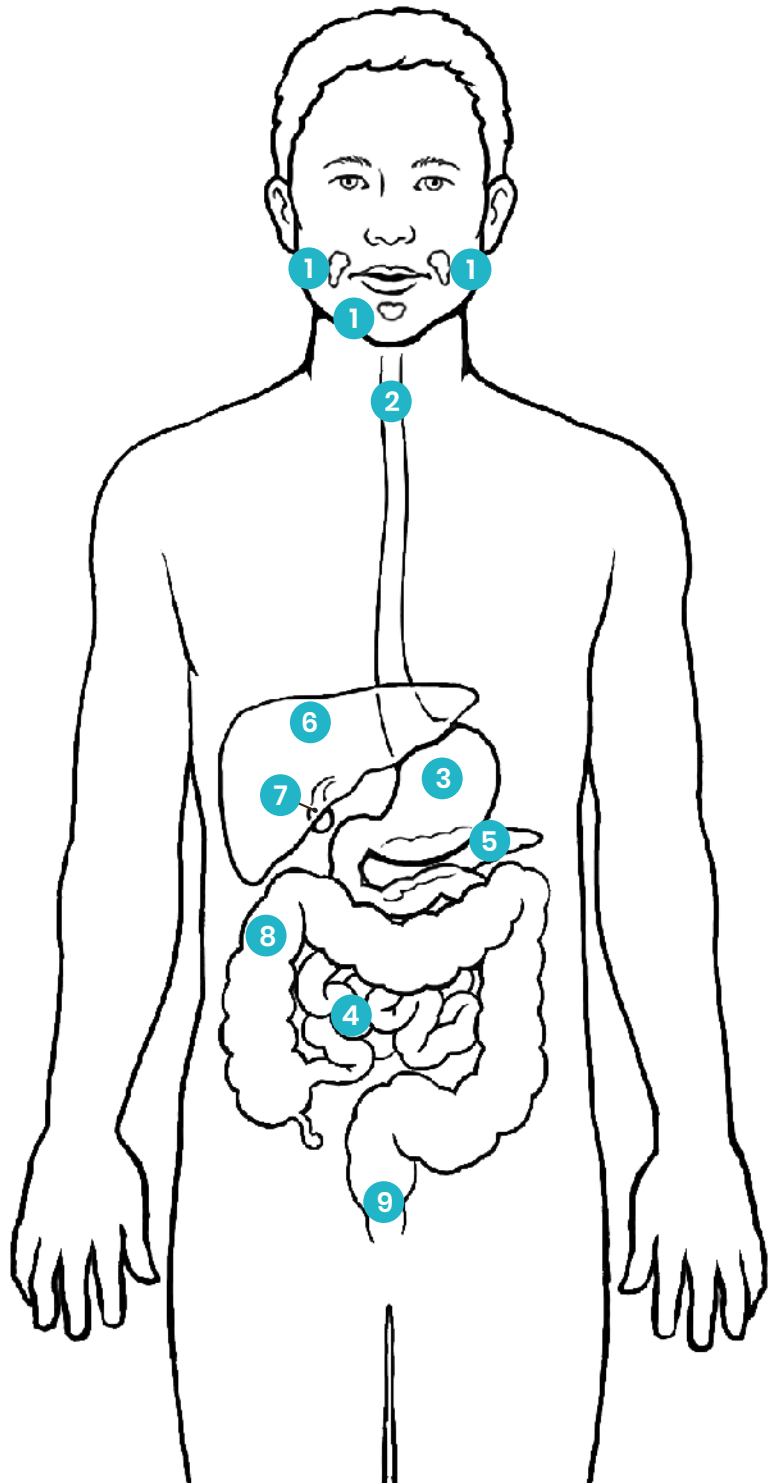
5. PANCREAS: organ which secretes enzymes for starch and protein digestion into the small intestine.

6. LIVER: organ which processes digested food into useful substances for the body, secretes bile for fat digestion, and removes toxins from the blood

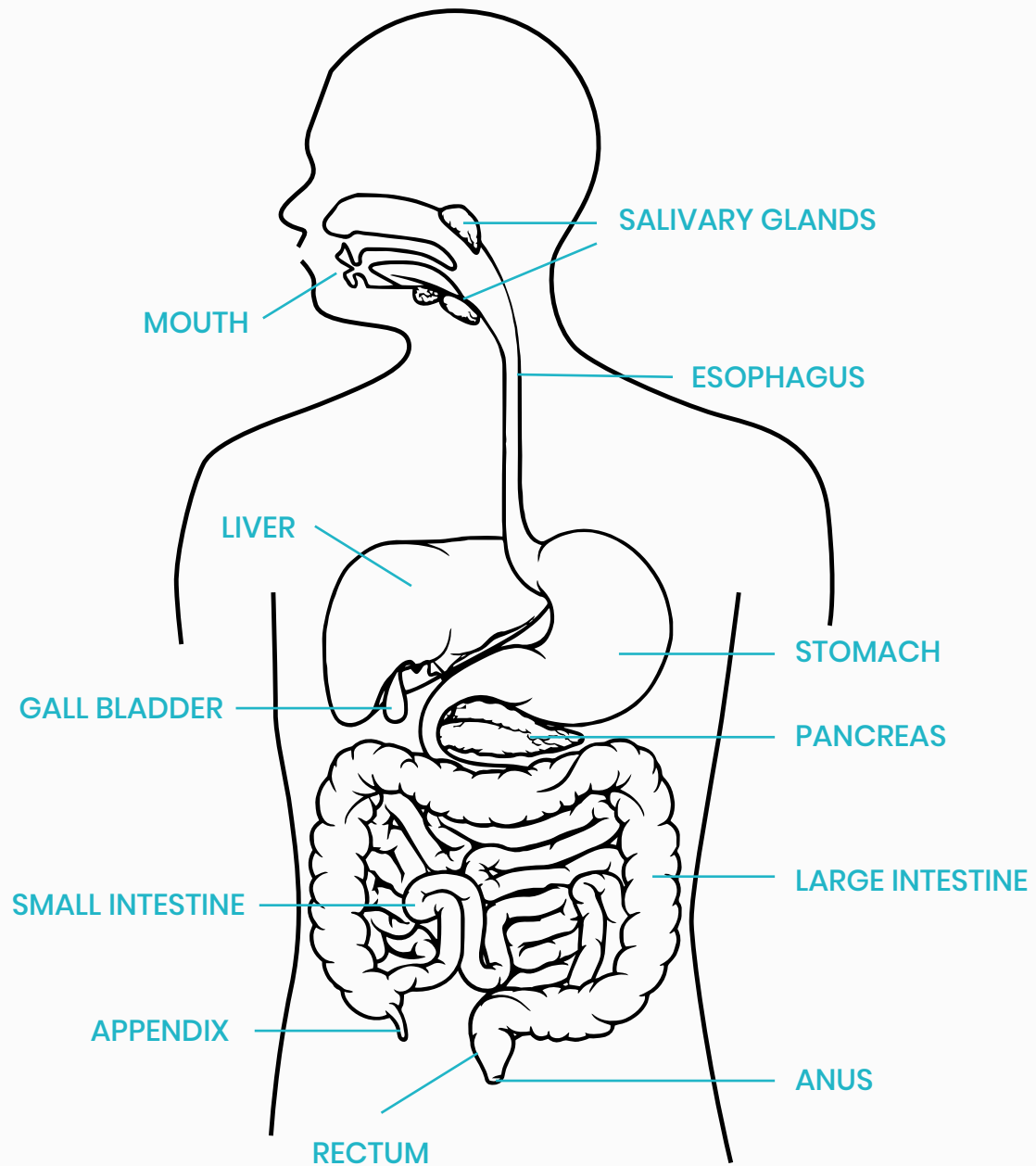
7. GALL BLADDER: storage sac for bile located on the lower surface of the liver.

8. COLON: main part of the large intestine which absorbs water from indigestible food.

9. RECTUM: final section of the large intestine which eliminates waste material from the body.

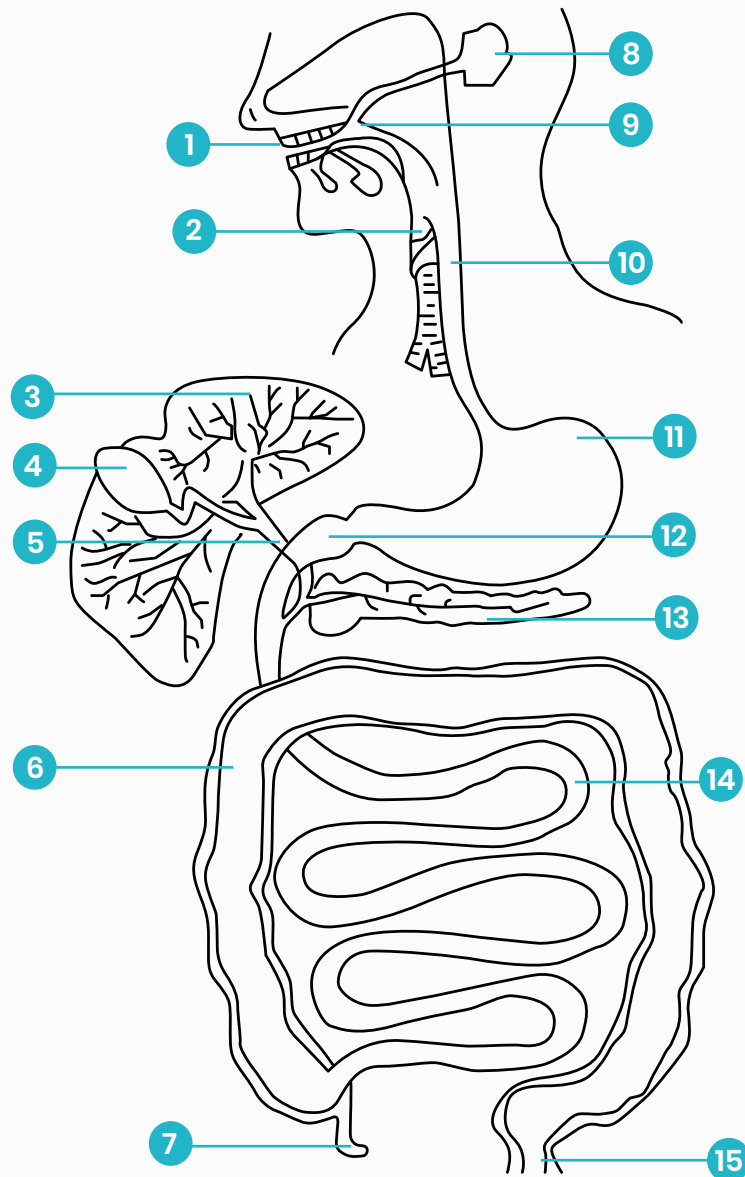


DIGESTIVE SYSTEM



COLOUR THE DIAGRAM ACCORDING TO THE DIRECTIONS BELOW.

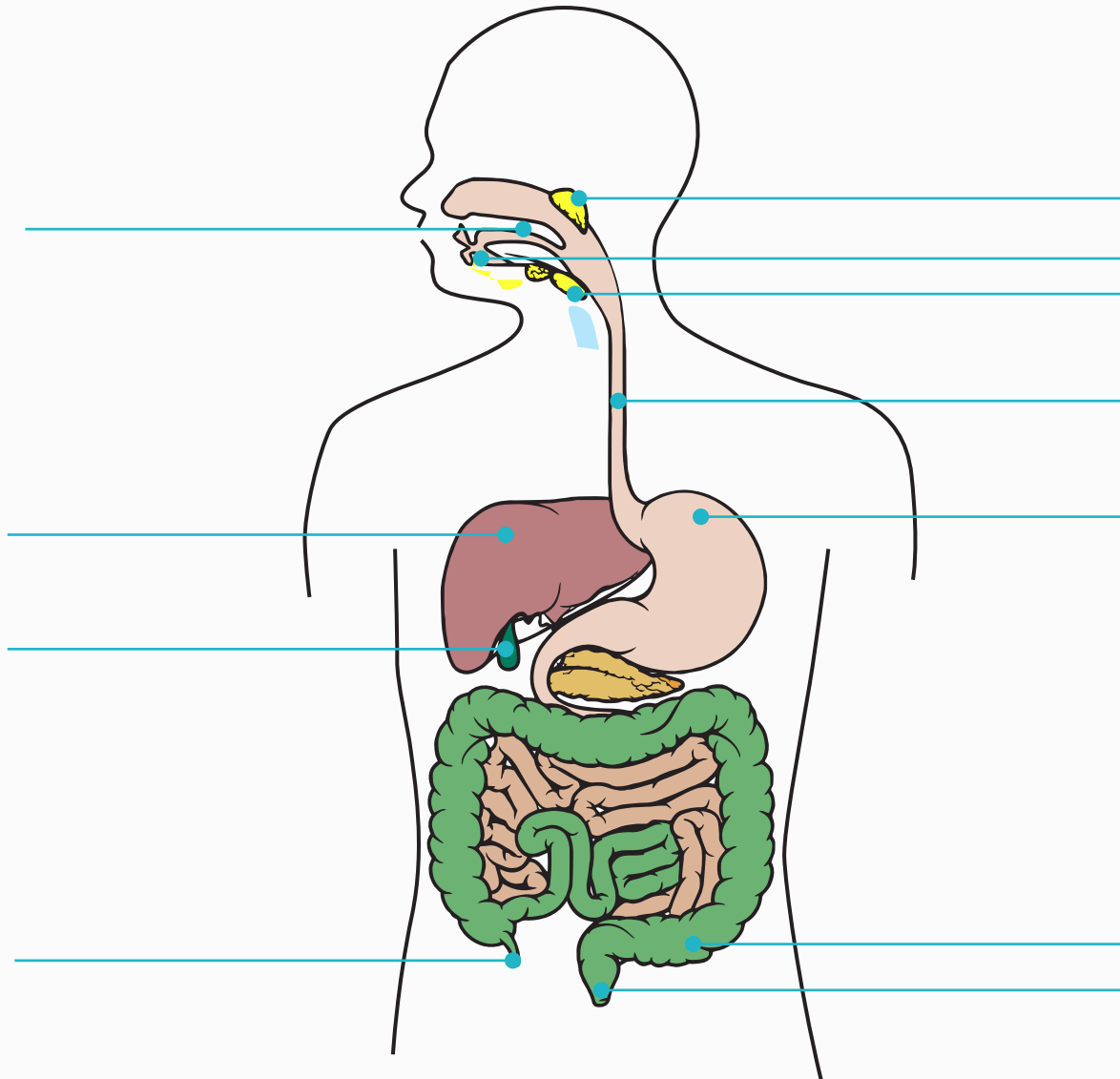
1. Colour the teeth light blue.
2. Colour the epiglottis brown
3. Colour the liver light green.
4. Colour the gall bladder yellow.
5. Colour the common bile duct purple.
6. Colour the large bowel black.
7. Colour the appendix brown.
8. Colour the salivary gland pink.
9. Colour the tongue red.
10. Colour the esophagus orange.
11. Colour the stomach dark blue.
12. Colour the duodenum tan.
13. Colour the pancreas dark green.
14. Colour the small intestine pink.
15. Colour the rectum red.



NAME _____

DATE _____

Label the Diagram below



THE COLON



The colon, also known as the large intestine or large bowel is part of the digestive system, located at the end of the digestive tract in the abdominal cavity. It is divided into several regions. The appendix, ascending colon, transverse colon, descending colon, sigmoid colon and the rectum.

The colon is a hollow, tube-like organ made up of muscle structure that moves along digestive food and waste in a wavelike motion known as peristalsis. The function of the colon is to absorb digestive juices, water soluble salts and bile back into the blood stream and onward to the liver. It also stores food and other bodily waste products until elimination.

The colon acts as a host for vast numbers of beneficial bacteria, these bacteria help

us with various tasks including immunity to infection, regulation of cholesterol levels and the production of vitamins.

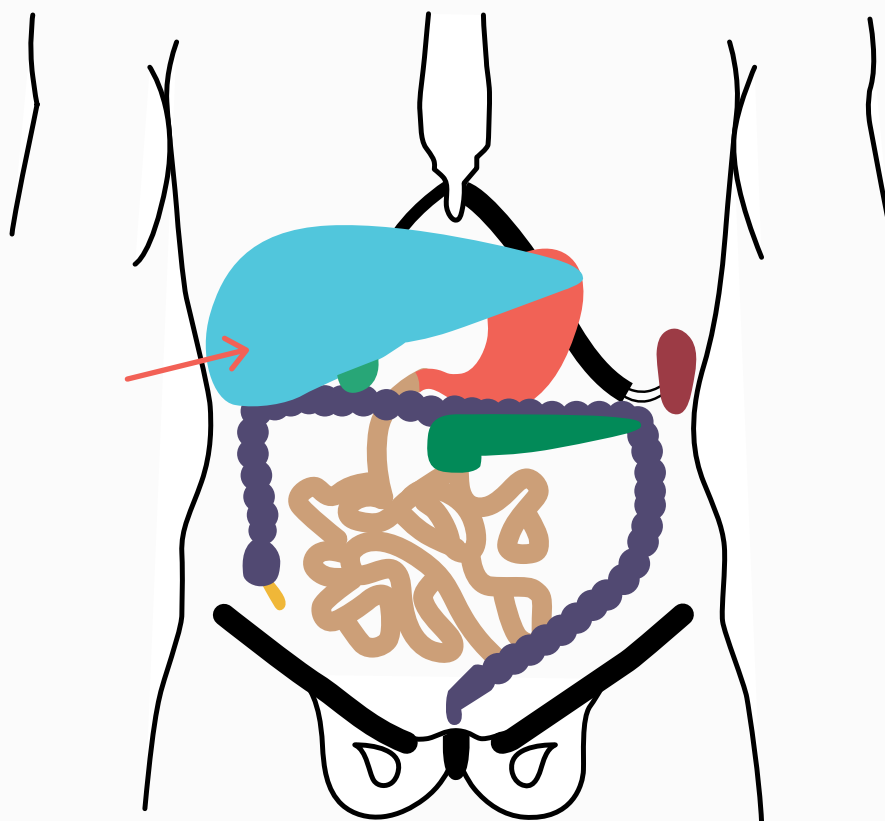
The colon structure is made of smooth muscle, which is different from ordinary (skeletal) muscle tissue in so much as it works under the autonomic (or automatic) nervous system. This means we have no conscious control over it. Once we have chewed and swallowed our food, the rest of the digestive process is done for us, until it is time to empty our bowel which is partly autonomic, and partly voluntary.

The colon forms an important part of the elimination system of the body, it is therefore important to have a healthy and properly functioning colon to help the overall balance of the body.

Question 1

Identify the organs by labelling with arrows:

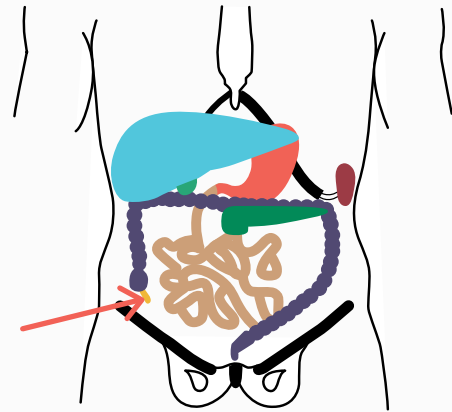
- ◆ Stomach
- ◆ Spleen
- ◆ Pancreas
- ◆ Gall bladder
- ◆ Liver
- ◆ Small Intestine
- ◆ Large Intestine



Question 2

Pain originating from the organ indicated by the black arrow below could be due to:

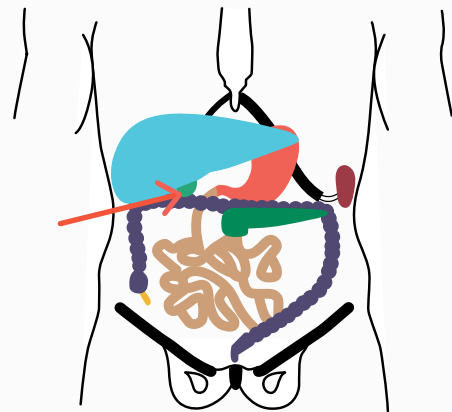
- ◆ Kidney stones
- ◆ Gall stones
- ◆ Gastric ulcer
- ◆ Appendicitis



Question 3

The structure indicated by the black arrow below stores which fluid?

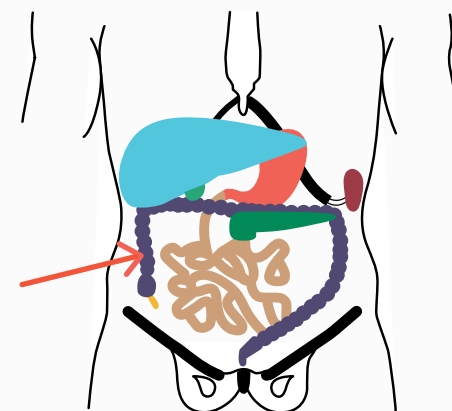
- ◆ Water
- ◆ Blood
- ◆ Blood
- ◆ Pancreatic juice



Question 4

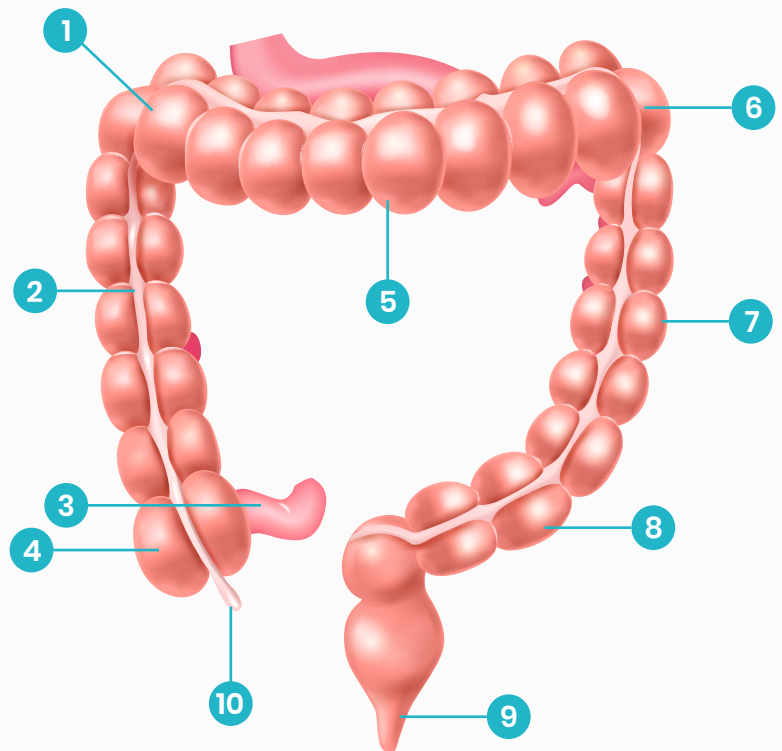
The structure indicated by the black arrow below is involved in which abdominal process?

- ◆ Absorbing nutrients
- ◆ Filtering blood
- ◆ Storing faeces
- ◆ Mechanically churning ingested food



WRITE NUMBER BESIDE EACH CORRECT ANSWER.....

- _____ Hepatic Flexure
- _____ Ascending Colon
- _____ Ileocecal Valve
- _____ Cecum
- _____ Splenic Flexure
- _____ Transverse Colon
- _____ Descending Colon
- _____ Sigmoid Colon
- _____ Rectum
- _____ Veriform Appendix



COLON FAQ

AS THE COLON ISN'T THE ONLY ORGAN OF ELIMINATION, WHAT MAKES THE COLONIC TREATMENT SO IMPORTANT?

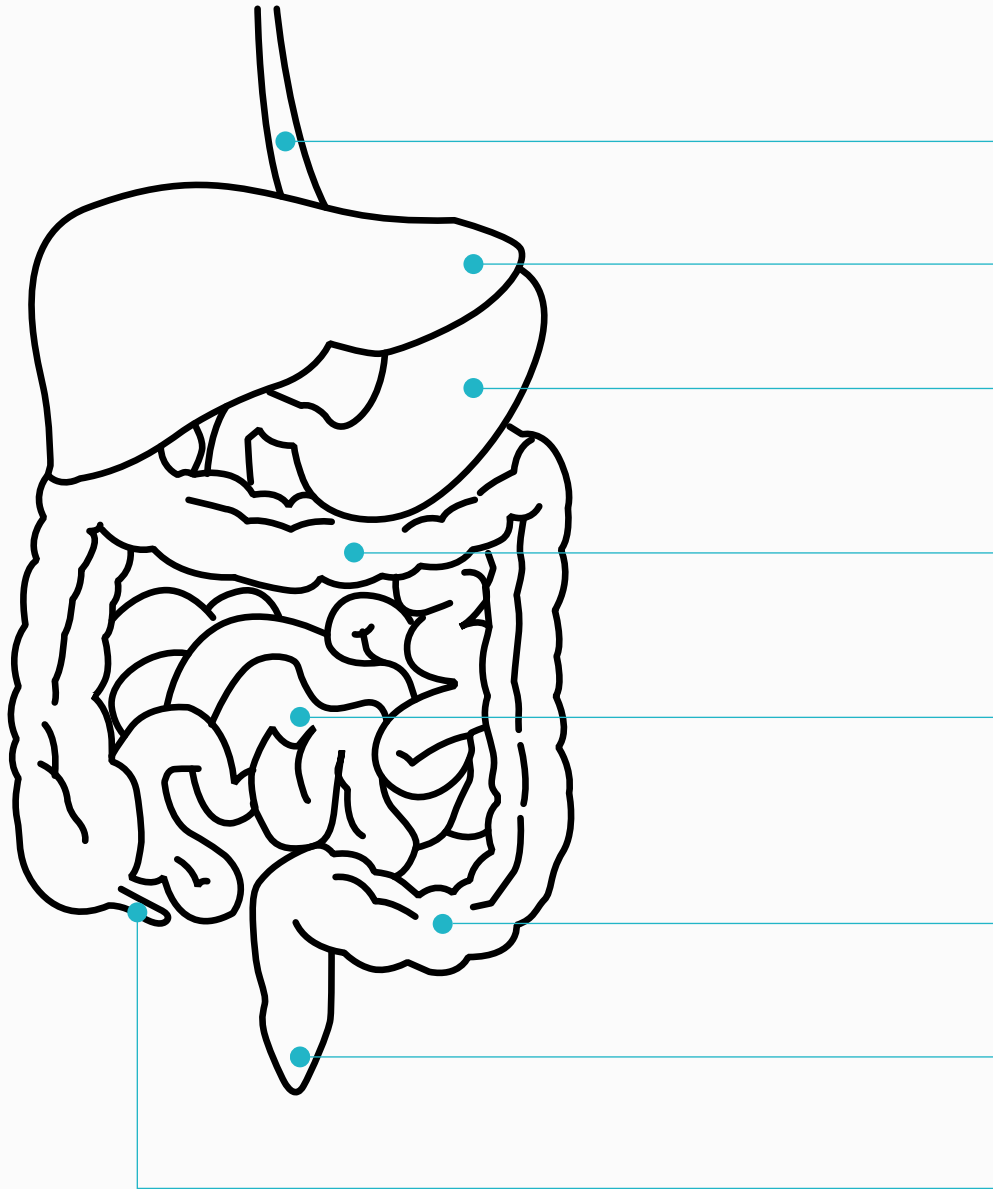
The colon is part of the body's excretory system. The other excretory organs, i.e. the lungs, skin, and kidneys are important and work together and have different functions to eliminate toxins. For example, our lungs need clean fresh air and regular exercise to function properly. It is the job of our colon to be able to excrete waste efficiently and

absorb water and salts properly. Water is important for proper functioning of the kidneys and to keep us hydrated and to cleanse blood, as well as being the major constituent of most cells. The liver, as an organ of detoxification is also closely linked to the colon through veins.

NAME _____

DATE _____

Label the Diagram below



YOUR AMAZING DIGESTIVE SYSTEM!

By I HEART GUTS



WHY DO WE EAT?

• body needs energy for growth + repairs



Inner Angel

INNER ANGEL WELLNESS
NEWRY, NI
028 308 25787