

Output 8: RPL/APL resources for Fish Anatomy

Recognising Prior Learning (RPL)

Guidance: Multiple Choice

This series of **multiple-choice questions** have been designed so as there is only one possible correct and complete response. This allows prior knowledge to be established through pre-testing, using Response Tools.

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This series of **multiple-choice questions** have been designed so as there is only one possible correct and complete response. This allows prior knowledge to be established through pre-testing, using One2Act tools.

Taxonomy: Subject, Bank number, Question title

Subject: FA = Fish Anatomy

Banks: questions of equal weighting asking for the same knowledge/understanding

[Link to Journeyman certificate. Fish Anatomy is found within](#)

[1.5 observe organisms and environments and evaluate changes in relation to the species' normal appearance and behaviour](#)

[3.7 recognise normal behaviour and appearance in fish farm organisms and elaborate on common diseases and parasites](#)

- [Be able to recognise normal and abnormal fish behaviour indicative of disease](#)



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Part 1 Identification of external and internal anatomical features

1 a) External anatomical features

Title: FA Bank 1 - external features dorsal

With reference to an image of the external features of a salmon with the dorsal fin highlighted

1) What is the name of the fin highlighted

- a) Anal fin
- b) Adipose Fin
- *c) Dorsal Fin
- d) Pelvic Fin
- e) Pectoral Fin
- f) Caudal fin

Alternative Q: Type the letter that identifies the dorsal fin

Title: FA Bank 2 - external features adipose

With reference to an image of the external features of a salmon with the adipose fin highlighted

2) What is the name of the fin highlighted

- a) Anal fin
- *b) Adipose Fin
- c) Dorsal Fin
- d) Pelvic Fin
- e) Pectoral Fin
- f) Caudal fin

Alternative Q: Type the letter that identifies the Adipose fin

Title: FA Bank 3 - external features pectoral

With reference to an image of the external features of a salmon with the pectoral fin highlighted

3) What is the name of the fin highlighted

- a) Anal fin
- b) Adipose Fin
- c) Dorsal Fin

- d) Pelvic Fin
- *e) Pectoral Fin
- f) Caudal fin

Alternative Q: Type the letter that identifies the Pectoral fin

Title: FA Bank 4 - external features caudal

With reference to an image of the external features of a salmon with the caudal fin highlighted

4) What is the name of the fin highlighted

- a) Anal fin
- b) Adipose Fin
- c) Dorsal Fin
- d) Pelvic Fin
- e) Pectoral Fin
- *f) Caudal fin

Alternative Q: Type the letter that identifies the Caudal fin

Title: FA Bank 5 - external features anal

With reference to an image of the external features of a salmon with the anal fin highlighted

5) What is the name of the fin highlighted

- *a) Anal fin
- b) Adipose Fin
- c) Dorsal Fin
- d) Pelvic Fin
- e) Pectoral Fin
- f) Caudal fin

Alternative Q: Type the letter that identifies the Anal fin

Title: FA Bank 6 - external features pelvic

With reference to an image of the external features of a salmon with the pelvic fin highlighted

6) What is the name of the fin highlighted

- a) Anal fin

- b) Adipose Fin
- c) Dorsal Fin
- *d) Pelvic Fin
- e) Pectoral Fin
- f) Caudal fin

Alternative Q: Type the letter that identifies the Pelvic fin

Title: FA Bank 7 - external features lateral line

With reference to an image of the external features of a salmon with the lateral line highlighted

7) What is the name of the external feature highlighted

- a) Nare
- b) Eye
- *c) Lateral line
- d) Operculum
- e) Maxilla

Alternative Q: Type the letter that identifies the lateral line

Title: FA Bank 8 - external features nare

With reference to an image of the external features of a salmon with the nare highlighted

8) What is the name of the external feature highlighted

- *a) Nare
- b) Eye
- c) Lateral line
- d) Operculum
- e) Maxilla

Alternative Q: Type the letter that identifies the Nare

Title: FA Bank 9 - external features eye

With reference to an image of the external features of a salmon with the eye highlighted

9) What is the name of the external feature highlighted

- a) Nare

- *b) Eye
- c) Lateral line
- d) Operculum
- e) Maxilla

Alternative Q: Type the letter that identifies the eye

Title: FA Bank 10 - external features maxilla

With reference to an image of the external features of a salmon with the maxilla highlighted

10) What is the name of the external feature highlighted

- a) Nare
- b) Eye
- c) Lateral line
- d) Operculum
- *e) Maxilla

Alternative Q: Type the letter that identifies the maxilla

1 b) Internal anatomical features

Title: FA Bank 11 - internal anatomy liver

With reference to an image of the internal features of a salmon with the liver highlighted

11) What is the name of the organ highlighted

- a) Heart
- b) Kidney
- c) Spleen
- d) Swim bladder
- *e) Liver

Alternative Q: Type the letter that identifies the liver

Title: FA Bank 12 - internal anatomy spleen

With reference to an image of the internal features of a salmon with the spleen highlighted

12) What is the name of the organ highlighted

- a) Heart
- b) Kidney
- *c) Spleen
- d) Swim bladder
- e) Liver

Alternative Q: Type the letter that identifies the spleen

Title: FA Bank 13 - internal anatomy swim-bladder

With reference to an image of the internal features of a salmon with the swim-bladder highlighted

13) What is the name of the organ highlighted

- a) Heart
- b) Kidney
- c) Spleen
- *d) Swim bladder
- e) Liver

Alternative Q: Type the letter that identifies the swim bladder

Title: FA Bank 14 - internal anatomy heart

With reference to an image of the internal features of a salmon with the heart highlighted

14) What is the name of the organ highlighted

- *a) Heart
- b) Kidney
- c) Spleen
- d) Swim bladder
- e) Liver

Alternative Q: Type the letter that identifies the heart

Title: FA Bank 15 - internal anatomy kidney

With reference to an image of the internal features of a salmon with the position of the hidden kidney indicated with an overlay dotted outline

15) What is the name of the hidden organ highlighted

- a) Heart
- *b) Kidney
- c) Spleen
- d) Swim bladder
- e) Liver

Alternative Q: Type the letter that identifies the kidney

Title: FA Bank 16 - internal anatomy ovaries

With reference to an image of the internal features of a salmon with the ovaries highlighted

16) What is the name of the anatomical feature highlighted

- a) Intestine
- b) Gill
- c) pyloric caeca
- *d) ovaries
- e) Stomach

Alternative Q: Type the letter that identifies the ovaries

Title: FA Bank 17 - internal anatomy gill

With reference to an image of the internal features of a salmon with the gill highlighted

17) What is the name of the anatomical feature highlighted

- a) Intestine
- *b) Gill
- c) pyloric caeca
- d) ovaries
- e) Stomach

Alternative Q: Type the letter that identifies the gill

Title: FA Bank 18 - internal anatomy stomach

With reference to an image of the internal features of a salmon with the stomach highlighted

18) What is the name of the anatomical feature highlighted

- a) Intestine
- b) Gill
- c) pyloric caeca
- d) ovaries
- *e) Stomach

Alternative Q: Type the letter that identifies the stomach

Title: FA Bank - internal anatomy pyloric caeca

With reference to an image of the internal features of a salmon with the pyloric caeca highlighted

19) What is the name of the anatomical feature highlighted

- a) Intestine
- b) Gill
- *c) pyloric caeca
- d) ovaries
- e) Stomach

Alternative Q: Type the letter that identifies the pyloric caeca

Title: FA Bank 20 - internal anatomy intestine

With reference to an image of the internal features of a salmon with the intestine highlighted

20) What is the name of the anatomical feature highlighted

- *a) Intestine
- b) Gill
- c) pyloric caeca
- d) ovaries
- e) Stomach

Alternative Q: Type the letter that identifies the intestine

Part 2 Function of external and Internal anatomical features

2 a) Function of external anatomical features

Title: FA Bank 21 - external features function- dorsal

21) What is the function of the dorsal fin

Select AS MANY as you believe to be correct.

- a) To help to propel the fish through the water
- b) To help the fish to steer left and right
- *c) To help the fish to maintain an upright position when swimming
- d) To help the fish to brake
- d) To help to move the fish up and down in the water column
- e) It has no real function

Alternative Q: Which of the following help fish to maintain an upright position when swimming?

A: Dorsal fin, anal fins

The following information could be used to support additional learning for Q21.

Title: FA Bank 22 - external features function- adipose fin

22) What is the function of the adipose fin

Select AS MANY as you believe to be correct.

- a) To help to propel the fish through the water
- b) To help the fish to steer left and right
- c) To help the fish to maintain an upright position when swimming
- d) To help the fish to brake
- d) To help to move the fish up and down in the water column
- *e) It has no real function

Alternative Q: Which of the following fins have no real function in salmonids?

A: Adipose fin

Title: FA Bank 23 - external features function- pectoral fins

23) What is the function of the pectoral fins

Select AS MANY as you believe to be correct.

- a) To help to propel the fish through the water
- *b) To help the fish to steer left and right
- c) To help the fish to maintain an upright position when swimming
- *d) To help the fish to brake
- *d) To help to move the fish up and down in the water column
- e) It has no real function

Alternative Q: Which of the following fins help fish move up and down in the water column?

A: Pectoral fins, pelvic fins

Alternative Q: Which of the following fins help the fish to brake?

A: Pectoral fins, pelvic fins

Alternative Q: Which of the following fins help fish to steer left and right?

A: Pectoral fins, pelvic fins

Title: FA Bank 24 - external features function- caudal fin

24) What is the function of the caudal fin

Select AS MANY as you believe to be correct.

- *a) To help to propel the fish through the water
- b) To help the fish to steer left and right
- c) To help the fish to maintain an upright position when swimming
- d) To help the fish to brake
- d) To help to move the fish up and down in the water column
- e) It has no real function

Alternative Q: Which of the following do fish use for forward propulsion when swimming?

A: Caudal (tail) fin

Title: FA Bank 25- external features function- anal fin

25) What is the function of the anal fin

Select AS MANY as you believe to be correct.

- a) To help to propel the fish through the water
- b) To help the fish to steer left and right
- *c) To help the fish to maintain an upright position when swimming
- d) To help the fish to brake
- d) To help to move the fish up and down in the water column
- e) It has no real function

Alternative Q: Which of the following help fish maintain an upright position when swimming?

A: Dorsal fin, anal fins

Title: FA Bank 26 - external features function- pelvic fins

26) What is the function of the pelvic fins

Select AS MANY as you believe to be correct.

- a) To help to propel the fish through the water
- *b) To help the fish to steer left and right
- c) To help the fish to maintain an upright position when swimming
- *d) To help the fish to brake
- *d) To help to move the fish up and down in the water column
- e) It has no real function

Alternative Q: Which of the following help fish move up and down in the water column?

A: Pectoral fins, pelvic fins

Alternative Q: Which of the following help the fish to brake?

A: Pectoral fins, pelvic fins

Alternative Q: Which of the following help fish to steer left and right?

A: Pectoral fins, pelvic fins

Title: FA Bank 27 - external features function- lateral line

27) What is the function of the lateral line

Select AS MANY as you believe to be correct.

- a) To regulate pigments cells in the skin to aid camouflage
- b) To detect chemicals dissolved in the water
- c) To excrete metabolic wastes into the water

*d) To detect vibrations via pressure sensitive canals

e) It has no real function

Title: FA Bank 28 - external features function- nares

28) What is the function of the nares

Select AS MANY as you believe to be correct.

a) To detect low intensity light using the light sensitive cells within

*b) To allow the olfactory organ to detect chemicals dissolved in the water

c) To excrete metabolic wastes to the external environment

d) To detect vibrations in the water via pressure sensitive sensory cells

e) It has no real function

Alternative Q: Which of the following features allow the fish to detect chemicals dissolved in the water?

A: Nares

Title: FA Bank 29 - external features function- eye

29) What are the similarities and differences between the structure and function of the salmon eye compared to the mammalian eye?

Select AS MANY as you believe to be correct.

*a) The salmon eye has the same basic structure as a mammalian eye

b) The shape of the lens can be altered in the salmon eye in the same way as a mammalian eye

*c) The iris in the salmon's eye is fixed and cannot regulate the amount of light entering the eye

d) The salmon eye cannot detect colour whereas the mammalian eye can

*e) Salmon focus by moving the lens closer to or further away from the retina

Title: FA Bank 30 – internal anatomy function - gill

30) What is the function of the gill

Select AS MANY as you believe to be correct.

*a) To help maintain the osmotic balance of marine fish by secreting chloride

*b) To excrete carbon dioxide into the external environment

c) To absorb micro-nutrients from the external environment

*d) To uptake dissolved oxygen from the water by diffusion

d) To uptake dissolved oxygen from the water by osmosis

*e) To excrete ammonia

Alternative Q: Which of the following features help marine fish maintain osmotic balance by secreting chloride cells?

A: Gills

Title: FA Bank 31 – internal anatomy function - liver

31) What is the function of the liver

Select AS MANY as you believe to be correct.

a) To help maintain the osmotic balance of the fish by excreting water

*b) Produce bile stored in the gall bladder and released to break down fatty acids

*c) Remove metabolic wastes from the blood stream

d) Manufacture the blood cells needed as replacements

*e) Maintain blood sugar levels at the correct concentration

*f) Break down and recycle old blood cells

Alternative Q: Which of the following features remove metabolic wastes from the blood stream?

A: Kidney and liver

Alternative Q: Which of the following features break down and recycle old cells?

A: Liver and spleen

Title: FA Bank 32 internal anatomy function - spleen

32) What is the function of the spleen

Select AS MANY as you believe to be correct.

*a) Breaks down and recycles old blood cells

b) Produces digestive enzymes

c) Removes metabolic wastes from the blood

*d) Stores blood as a back-up following blood loss

e) Helps to maintain the osmotic balance of the fish by excreting water

Alternative Q: Which of the following structures stores blood as a back-up following blood loss?

A: Spleen

Title: FA Bank 33 – internal anatomy function – swim bladder

33) What is the function of the swim bladder

Select AS MANY as you believe to be correct.

- a) it has no function
- b) Acts as a reservoir of oxygen that can be used by the fish when dissolved oxygen levels in the water decline
- c) Abstracts carbon dioxide from blood stream for excretion via the pneumatic duct
- *d) Allows the fish to adjust its buoyancy and position in the water column
- e) Helps to maintain the osmotic balance of the fish by excreting water

Alternative Q: Which of the following structures allows the fish to regulate its buoyancy and adjust its position in the water column?

A: Swim bladder

Title: FA Bank 34 – internal anatomy function – kidney

34) What is the function of the kidney

Select AS MANY as you believe to be correct.

- a) Breaks down and recycles old blood cells
- *b) Produces new blood cells to replace old worn out cells
- *c) Removes nitrogenous wastes from the blood in the form of urine
- d) Produces digestive enzymes for breaking down the food ingested
- *e) Helps osmo-regulation by excreting water ingress

Alternative Q: Which of the following structures removes nitrogenous wastes from the blood for discharge as urine?

A: Kidney

Title: FA Bank 35 – internal anatomy function – pyloric caeca

35) What is the function of the pyloric caeca

Select AS MANY as you believe to be correct.

- a) Breaks down and recycles old blood cells
- *b) Assists the absorption of nutrients
- c) Removes metabolic wastes from the blood
- *d) Produces digestive enzymes for breaking down the food ingested

e) Helps osmo-regulation by excreting water ingress

Alternative Q: Which of the following features produces digestive enzymes?

A: Pyloric caeca and stomach

Alternative Q: Which of the following features assist nutrient absorption?

A: Pyloric caeca

Title: FA Bank 36 – internal anatomy function – stomach

36) What is the function of the salmon's stomach

Select AS MANY as you believe to be correct.

*a) Aids digestion through muscular compression of the food

b) Maintains an alkaline environment to aid protein digestion

*c) Produces protein digestive enzymes

d) Breaks down and recycles old blood cells

*e) Maintains an acidic environment to aid protein digestion

Alternative Q: Which of the following features maintains an acidic environment to aid digestion?

A: Stomach

Alternative Q: Which of the following features uses muscular compression to aid digestion?

A: Stomach

The following information could be used for additional learning for Q36.

Title: FA Bank – internal anatomy function – intestine

37) What is the function of the salmon's intestine

Select AS MANY as you believe to be correct.

a) Aids digestion through muscular compression of the food

*b) Aids the digestion proteins in the food

c) Breaks down and recycles old blood cells

*d) Helps endocrine regulation of digestion and metabolism

*e) Helps to regulate internal water balance

Alternative Q: Which of the following features aids digestion in salmonids?

A: Stomach, intestine, pyloric caeca

Alternative Q: Which of the following features releases alkaline digestive enzymes?

A: Intestine

Title: FA Bank 38 – internal anatomy function – heart

38) How does the function of the heart and circulatory system of a salmon differ to a mammal

Select AS MANY as you believe to be correct.

- *a) A salmon's heart has two chambers only, an atrium and a ventricle.
- *b) A salmon's heart is directly connected to the gills by the ventral aorta
- c) In a salmon after the blood has been re-oxygenated by the gills it returns to the heart to be pumped round the rest of the body within a double pass circulatory system, like mammals.
- d) Similar to mammals, the salmon has four chambers in their heart, a left and right auricle and a left and right ventricle.
- *e) In a salmon blood is carried to the gills for re-oxygenation before passing to the rest of the body within a single pass circulatory system

Alternative Q: Which of the following statements is true in relation to the heart and circulatory system of a salmon?

Answer:

a) A salmon has a two-chamber heart that pumps blood to the gills for re-oxygenation before being carried around the body within a single pass circulatory system. Correct

Use b) here. Correct

c) A salmon has a four chamber heart that pumps blood to the gills, which returns to the heart re-oxygenated before being carried around the body within a double pass circulatory system. Wrong

Use d) here. Wrong

Use a) here. Correct