Name: _____ Group: _____ Date: _____

LAB 60 OBSERVATION

DISSECTING A KIDNEY

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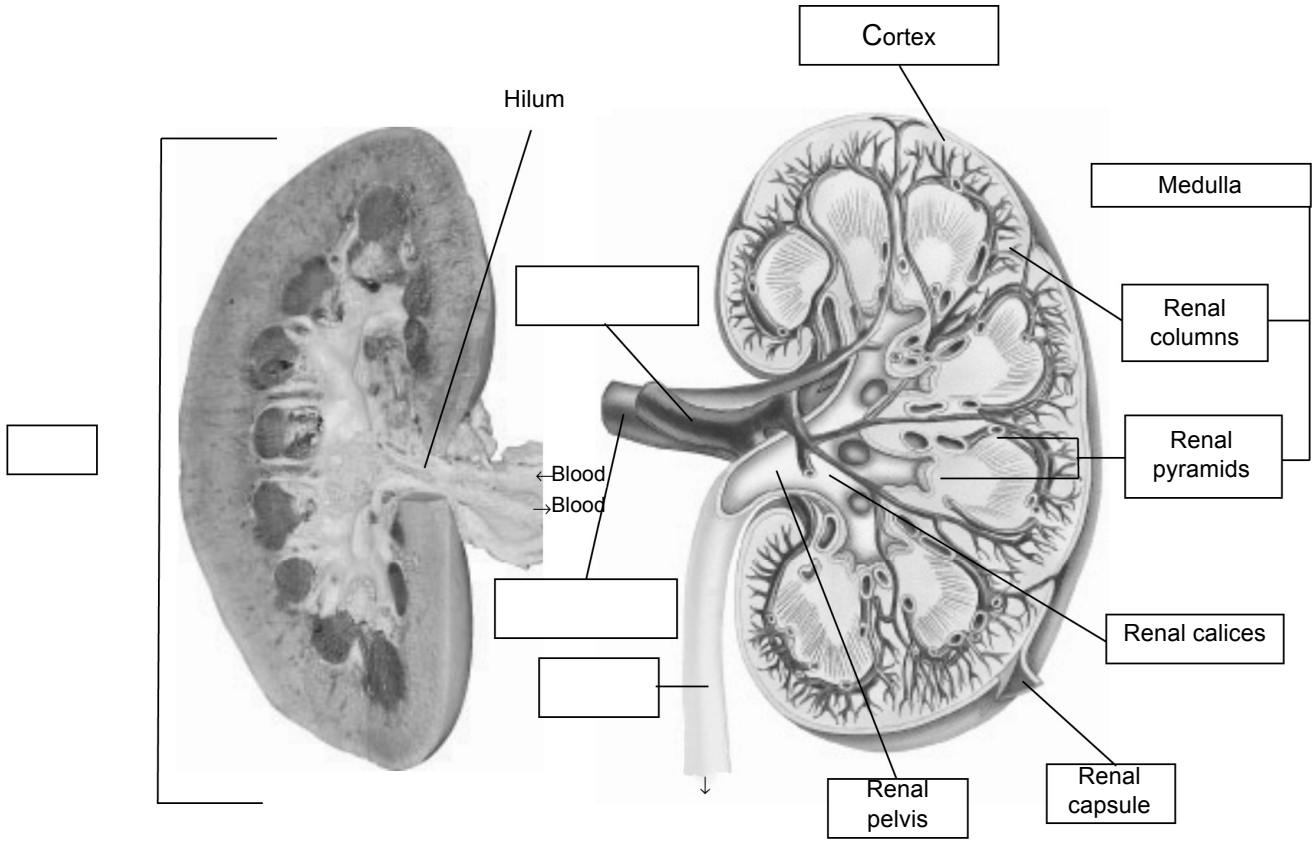
Goal

Locate and observe structures of a mammal's kidney.

Observation criteria

Identify the structures of the kidney indicated in Figure 1.



a) Internal view (photo) **b)** Internal view (illustration)

Figure 1 Structures of the kidney

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Materials

- gloves
- kidney of a mammal
- dissecting pan
- scalpel *or* knife
- dissecting forceps
- glass stirring rod

Procedure

External examination

1. Observe the exterior of the kidney. Note its overall shape, colour and texture.

2. Locate the ureter. Note its appearance and colour.

3. Locate the renal artery slightly above the ureter. If the renal artery was cut very close to the kidney, it may be possible to observe up to five openings (instead of one) because of the branching of the artery.

4. Locate the renal vein. Its diameter is greater than that of the renal artery.

5. Compare the thickness of the renal vein wall to that of the renal artery.

Internal examination

1. Cut the kidney into two pieces lengthwise with the scalpel, cutting over the centre of the kidney above the ureter.

2. Set aside the piece containing the ureter.

3. Detach part of the renal capsule. Note the colour and thickness of the renal columns and the renal pyramids.

4. Observe the appearance and colour of the cortex.

5. Observe the medulla. Compare the colour of the renal columns and the renal pyramids.

6. Observe the calices. Note their colour and identify the structures of the kidney they link.

7. Observe the renal pelvis. Note the colour.

8. Insert the glass stirring rod into the ureter. Note the structure into which it is positioned.

9. Dispose of the kidney as directed by your lab instructor.

10. Clean up and put away materials.

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Observations

Record your observations in the table below. Give the table a title.

Title:

Step	Observations
External examination	
Overall shape, colour and texture of kidney	
Appearance and colour of ureter	
Thickness of renal vein wall compared to renal artery wall	
Internal examination	
Thickness and colour of renal capsule	
Appearance and colour of cortex	
Colour of renal columns compared to renal pyramids	
Colour of calices and structures they link	
Colour of renal pelvis	
Structure that stirring rod enters when inserted into ureter	

Reflecting on your observations

1. Why is there a difference in thickness between the renal vein wall and the renal artery wall?

_____

_____

_____

2. What structures of the kidney contain numerous blood vessels? Explain your answer by describing the colour of these structures.

_____

_____

_____

_____

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3. Each kidney contains more than a million microscopic structures called *nephrons*. These structures filter blood and produce urine. The base of the nephrons is located in the renal pyramids. Through what structures does urine flow after exiting the nephrons on its way to the bladder?

4. Did your observations help you to better understand the structures and functioning of a kidney? Explain your answer.

5. How could you improve the protocol for this lab?