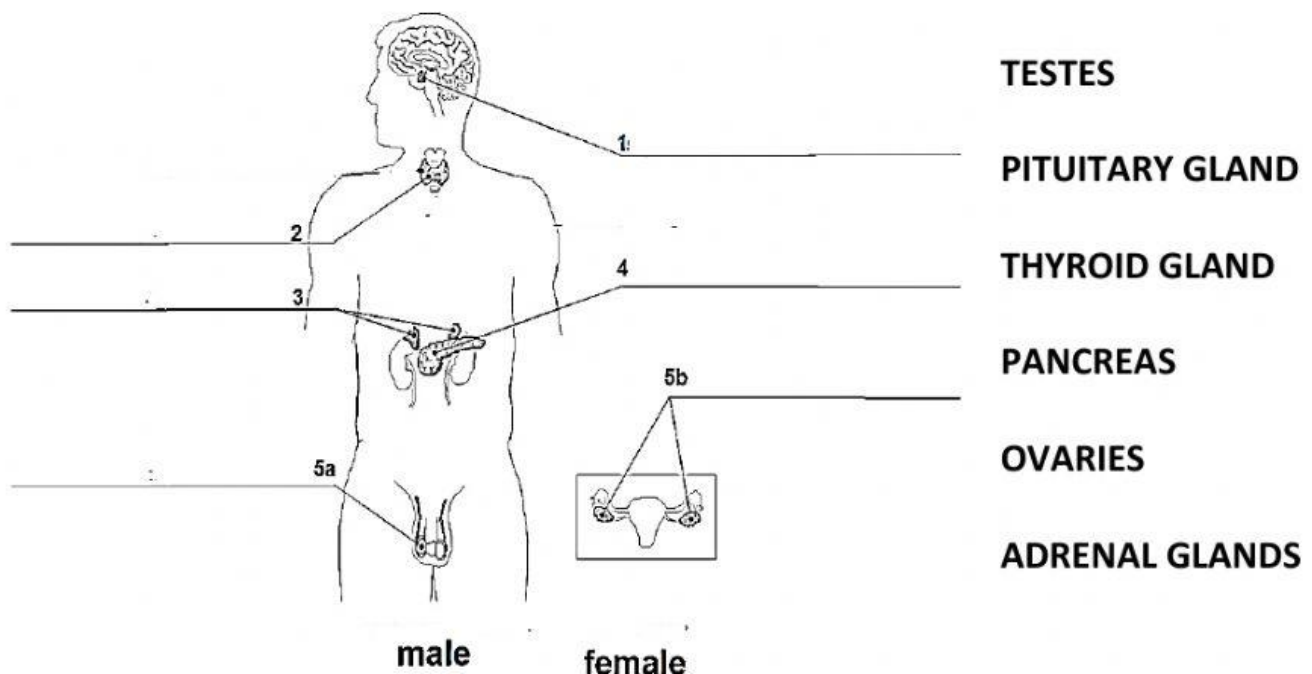


THE ENDOCRINE SYSTEM

The nervous and endocrine systems work together to send messages around the body to keep up safe and healthy. The endocrine system is also known as the **HORMONE** system. It is made up of special organs called **ENDOCRINE** glands which have no tubes or ducts. They therefore make and secrete hormones directly into the bloodstream to be used at other locations of the body. Complete the table below to compare the nervous and endocrine systems.

NERVOUS SYSTEM	ENDOCRINE SYSTEM
Messages are transmitted <u>rapidly</u> .	
	Messages are carried <u>in the blood</u> by chemicals called <u>hormones</u>
Messages have a <u>short-lasting</u> effect on the body	
	Messages have a <u>slow effect</u> on the body
Messages are carried to <u>precise</u> regions of the body	

Label the diagram of the endocrine system below. NB. All the endocrine glands are the same in males and females except for the testes in males and the ovaries in females.



2a. Which endocrine gland is known as the MASTER GLAND? _____

2b. Why is this gland called the master gland? _____

3. Drag and drop the information to complete the table below on the endocrine system.

ADH	The whole body	Testicles
Allows water to be reabsorbed from the collecting duct: less is lost as urine	Cause liver cells to absorb more glucose which is stored as glycogen in the liver; reduces blood sugar levels	Causes heart and breathing to become faster; more blood flows to muscles for "fight or flight"
Causes lining of the uterus to thicken, ready for implantation and pregnancy.	Maintains uterus lining; prevents its breakdown during pregnancy	Stimulates sperm production
Uterus	Islets of Langerhans in the pancreas	Thyroxine
Adrenaline	Kidney	Liver
Testosterone	Oestrogen	Insulin
Cause liver cells to convert stored glycogen to glucose; increases blood sugar levels	Increases rate at which nutrients are used: increases activity	Heart, diaphragm, small arteries
Ovaries	Progesterone	Glucagon

HORMONES AND THE ENDOCRINE SYSTEM

ENDOCRINE GLAND	HORMONE	TARGET ORGAN	EFFECT OF HORMONE
Pituitary gland	Growth hormone	The whole body	For growth and maturity
Pituitary gland			
Thyroid Gland			
Adrenal Gland			
Islets of Langerhans in the pancreas			
		Liver	
Testes			
Ovaries			
		Uterus	

