

Worksheet Key

Endocrine System

True or False

Examine the following statements. Identify if the statement is true or false	True	False
1. Endocrine glands secrete hormones.	✓	
2. The hypothalamus regulates pituitary gland function.	✓	
3. Damage to the pancreatic islets causes Cushing disease.		✓
4. Hormone receptors are found on or in target cells.	✓	
5. Thyroid atrophy causes goiter.		✓
6. Lack of insulin causes hypoglycemia.		✓
7. Oxytocin produces uterine contractions.	✓	
8. The most common endocrine disorder is hyperthyroidism.		✓
9. The anterior pituitary releases growth hormone.	✓	
10. Cortisol is produced by the adrenal medulla.		✓

Fill-in-the-Blank

Complete the sentence with the correct term(s).	Answers
11. The regulatory substances secreted by the endocrine glands as a group are called _____.	<i>hormones</i>
12. The small gland under the brain that controls many other endocrine glands is the hypophysis, commonly called the _____.	<i>pituitary</i>
13. The activity of the thyroid gland can be evaluated by measuring blood levels of the element _____.	<i>iodine</i>
14. The main hormone produced by the adrenal medulla is adrenaline, the scientific name for which is _____.	<i>epinephrine</i>
15. The hormone released by the pancreas that lowers blood sugar is _____.	<i>insulin</i>
16. The medical specialty that concentrates on the endocrine glands and their hormones is called _____.	<i>endocrinology</i>
17. Enlargement of the thyroid gland is called _____.	<i>goiter</i>
18. The pituitary hormone ACTH acts specifically on the _____.	<i>adrenal cortex</i>
19. Hormones that act on the gonads as a group are called _____.	<i>gonadotropins</i>
20. The pituitary hormone TSH acts on the _____.	<i>thyroid</i>
21. Pituitary function is regulated by the _____ of the brain.	<i>hypothalamus</i>
22. A gland that regulates calcium balance is a(n) _____ gland.	<i>parathyroid</i>
23. A hormone manufactured from lipids is chemically called a(n) _____.	<i>steroid</i>
24. ACTH hypersecretion results in _____.	<i>Cushing</i>
25. Hyperglycemia, glycosuria, and ketoacidosis are signs of _____ disease.	<i>diabetes mellitus</i>
26. The hormone melatonin is secreted by the _____ gland.	<i>pineal</i>
27. The hormone from the anterior pituitary that stimulates milk secretion is PRL or _____.	<i>prolactin</i>
28. _____ is a condition resulting from overactivity of the thyroid gland. Symptoms include anxiety, irritability, weight loss, and sweating. An example is Graves disease.	<i>Thyrotoxicosis</i>
29. _____ is overgrowth of bone and soft tissue, especially in the hands, feet, and face, caused by excess growth hormone in an adult.	<i>acromegaly</i>
30. _____ is a condition caused by inadequate production of antidiuretic hormone, resulting in excessive excretion of dilute urine and extreme thirst.	<i>Diabetes insipidus</i>

31. A hormone released from the pituitary gland that causes water reabsorption in the kidneys, thus concentrating the urine, is _____ hormone.	<i>antidiuretic</i>
32. _____ is a portion of the brain that controls the pituitary gland and is active in maintaining homeostasis.	<i>Hypothalamus</i>
33. _____ is a hormone made from lipids and includes the sex hormones.	<i>Steroid</i>
34. _____ is a hormone from the adrenal cortex that aids in metabolism of carbohydrates, proteins, and fats and that is active during stress.	<i>Hydrocortisone</i>
35. _____ is a pancreatic hormone that stimulates the liver to release glucose, thereby increasing blood sugar levels.	<i>glucagon</i>
36. Small endocrine glands on the posterior thyroid that act to increase blood calcium levels are the _____ glands.	<i>parathyroid</i>
37. A group of hormones produced throughout the body that have a variety of effects, including stimulation of uterine contractions and regulation of blood pressure, blood clotting, and inflammation are the _____.	<i>prostaglandins</i>
38. The renal portion of the term adrenal stands for _____.	<i>kidney</i>

Matching

Match the following terms and write the appropriate letter next to each term.

Term	Answers	Definition
39. insulin	<i>C</i>	A. increases blood sugar levels
thyroid	<i>B</i>	B. a gland that regulates metabolism
epinephrine	<i>D</i>	C. decreases blood sugar levels
glucagon	<i>A</i>	D. adrenal stress hormone
40. thymus	<i>C</i>	A. disorder caused by lack of ADH
diabetes insipidus	<i>A</i>	B. enlargement of the thyroid gland
goiter	<i>B</i>	C. a gland active in immunity
hypophysectomy	<i>D</i>	D. excision of the pituitary
41. acromegaly	<i>C</i>	A. activated by epinephrine
ketoacidosis	<i>B</i>	B. condition associated with diabetes mellitus
adrenergic	<i>A</i>	C. condition caused by excess growth hormone
RAIU	<i>D</i>	D. a measure of thyroid function
42. HbA1C	<i>B</i>	A. part of the brain that controls the pituitary
Hashimoto disease	<i>C</i>	B. test that measures glucose control
aldosterone	<i>D</i>	C. autoimmune thyroid disease
hypothalamus	<i>A</i>	D. causes the kidneys to conserve water

Pronounce It

For each phonetic transcription in this section, pronounce the term aloud and write it in the space provided, being careful to spell it correctly.

	Answers		Answers
43. pih-TU-ih-tar-e	<i>pituitary</i>	53. fe-o-kro-mo-si-TO-mah	<i>pheochromocytoma</i>
44. STER-oyd	<i>steroid</i>	54. ah-DRE-nal	<i>adrenal</i>
45. ak-ro-MEG-ah-le	<i>acromegaly</i>	55. EN-do-krin	<i>endocrine</i>
46. di-ah-BE-teze	<i>diabetes</i>	56. hi-POF-ih-sis	<i>hypophysis</i>
47. ek-sof-THAL-mos	<i>exophthalmos</i>	57. hi-po-THAL-ah-mus	<i>hypothalamus</i>
48. GOY-ter	<i>goiter</i>	58. pan-kre-AT-ik	<i>pancreatic</i>
49. ke-to-as-ih-DO-sis	<i>ketoacidosis</i>	59. PIN-e-al	<i>pineal</i>
50. gli-ko-SU-re-ah	<i>glycosuria</i>	60. an-te-di-u-RET-ik	<i>antidiuretic</i>
51. SFE-noyd	<i>sphenoid</i>	61. meh-DUL-lah	<i>medulla</i>
52. kra-ne-o-far-in-je-O-mah	<i>craniopharyngioma</i>	62. pros-tah-GLAN-din	<i>prostaglandin</i>

Word Building

For each item in this section, select the correct word parts from the bank below to form the term that matches the definition. Word parts may be used more than once.

Part 1	Answers
64. Any disease of the adrenal gland	<i>adren-o-pathy</i>
65. Pertaining to the body	<i>somat-ic</i>
66. Any disease of the thyroid gland	<i>thyr-o-pathy</i>
67. Tumor of the pancreatic islets	<i>insul-oma</i>
68. Activated by epinephrine	<i>adren-erg-ic</i>
69. Pertaining to the pancreatic islets	<i>insul-ar</i>
70. Enlargement of the thyroid	<i>thyr-o-megaly</i>
71. Acting on the thyroid	<i>thyr-o-trop-ic</i>
72. Acting on the body	<i>somat-o-trop-ic</i>
73. Acting on reproductive organs	<i>gonad-o-trop-ic</i>

Part 1 Word Bank

adren	thyr	oma
insul	erg	ic
somat	o	pathy
ar	trop	
megaly	gonad	

Sorting

For each word part category in this section, list the corresponding word parts from the bank below.

Part 1 Word Bank

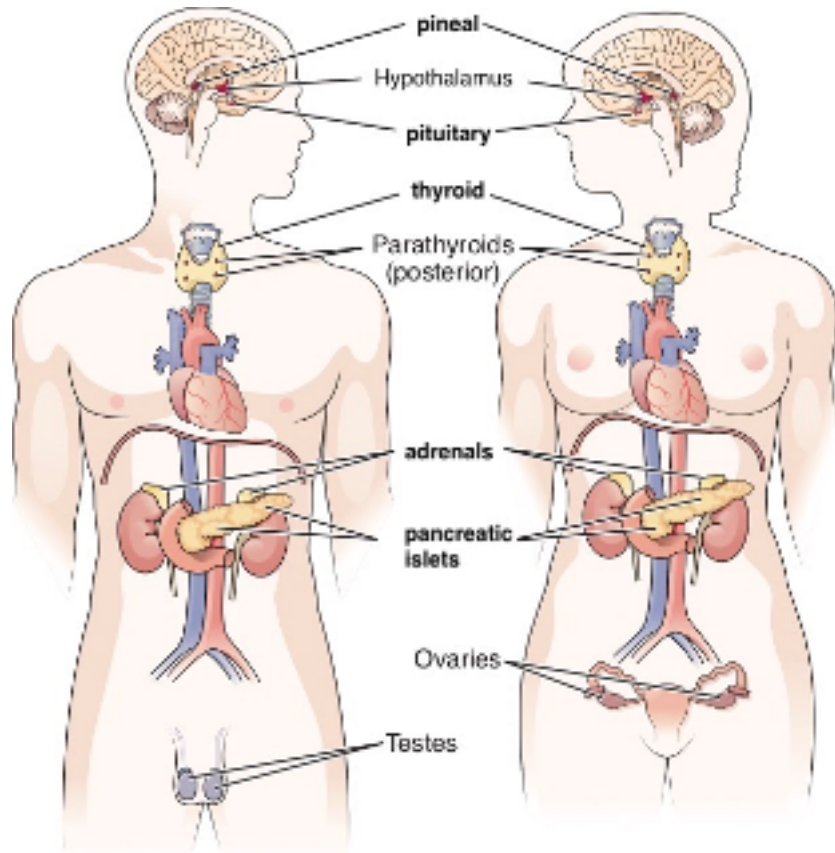
acromegaly	Cushing syndrome	pituitary	thymus
ADH	diabetes mellitus	PRL	thyroid
adrenal		tetany	thyroxine
cortisol			

Part 1	Answers
74. endocrine glands	<i>pituitary, adrenal, thyroid, thymus</i>
75. hormones	<i>PRL, cortisol, thyroxine, ADH</i>
76. results of hormonal imbalances	<i>acromegaly, diabetes mellitus, tetany, Cushing syndrome</i>

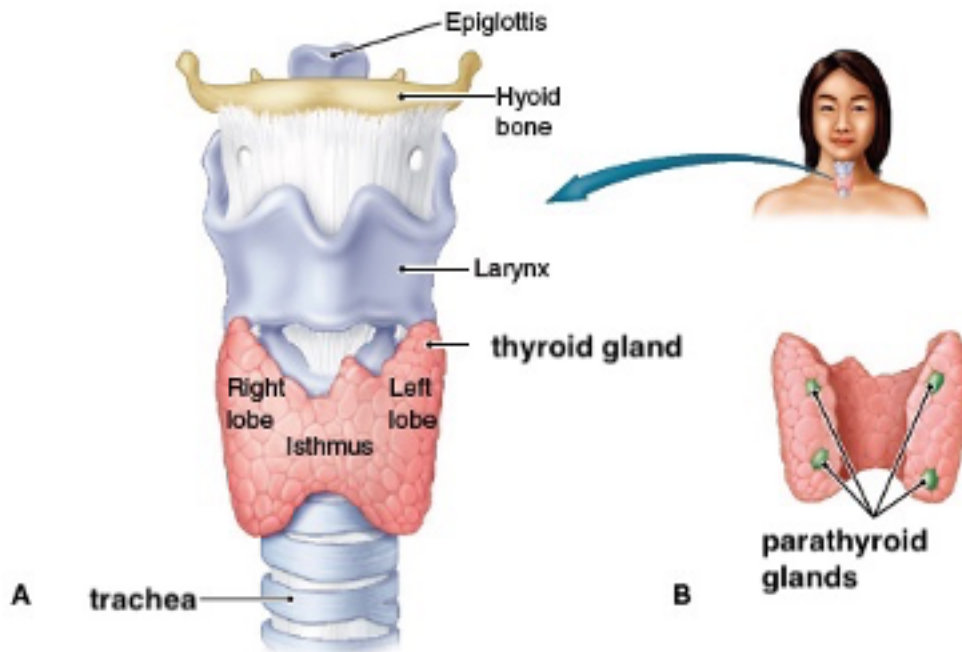
Look and Label

For each image in this section, write each label indicated on the image in the correct location or near the image with a line pointing from the label to the correct location on the image.

77. Labels: adrenals, pancreatic islets, pineal, pituitary, thyroid



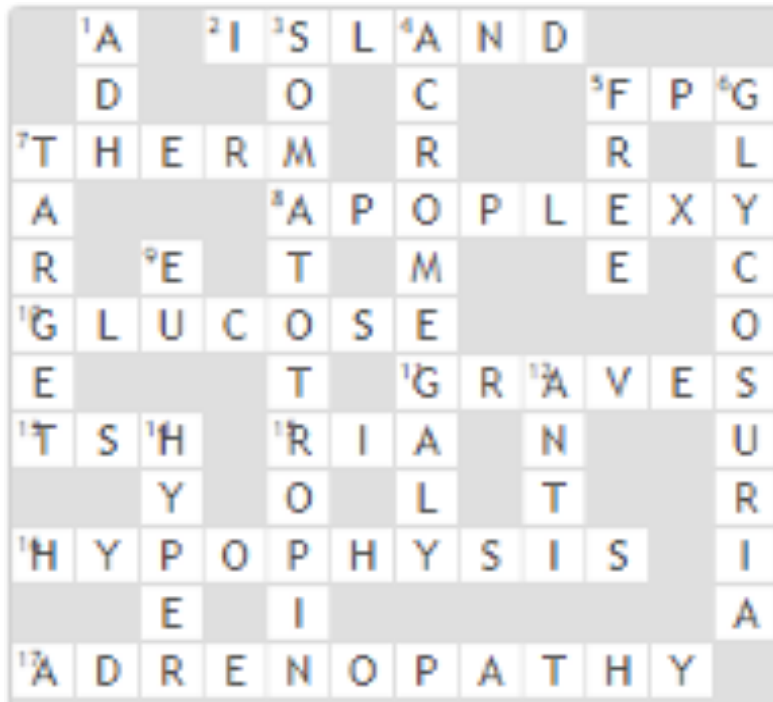
78. Labels: parathyroid glands, thyroid gland, trachea



Crossword Puzzle

Complete the crossword puzzle using the clues provided.

79.



Across

2. An islet is a small ____.
5. Measurement used to diagnose diabetes: abbreviation
7. Temperature: root
8. Sudden degeneration of the pituitary is pituitary ____.
10. Diabetes affects the metabolism of ____.
11. A form of hyperthyroidism is named for him.
13. Pituitary hormone that acts on the thyroid: abbreviation
15. Test for measuring hormones in the blood: abbreviation
16. Alternative name for the pituitary
17. Any disease of the adrenal gland

Down

1. Pituitary hormone that controls water loss: abbreviation
3. Alternative name for growth hormone
4. Disorder caused by excess growth hormone in adults
5. A form of thyroid hormones in the blood
6. Excess sugar in the urine
7. The cells or tissues a hormone acts on
9. True, normal: prefix
12. Against: prefix
14. Over, abnormally high: prefix

Case Studies

Read the following case studies carefully. Complete the sentence with the correct term(s).

Case Study 1: Endocrinology Office Consultation

HISTORY: This is a 59-year-old woman who has been in good health. She had an incident where a thyroid nodule was discovered after referral to a general surgeon for a breast lump. At that time, thyroid ultrasound and fine-needle aspiration of a rather sizable cyst of the right lobe of the thyroid, as well as aspiration of a nodule on the left side, were carried out. The findings suggested hemorrhage, and the patient was seen in follow-up 6 months later, and since that time, she has noted no hoarseness, dysphagia, local tenderness, or other focal symptoms. She also has no symptoms suggestive of thyroid dysfunction, and her baseline thyroid function studies last September were noted to be normal. She does admit to loud snoring and some sleep difficulty with occasional fatigue the following day. This has been commented upon by her husband as being particularly coarse and loud in nature.

MEDICATIONS: She is on no medications except for Estraderm twice weekly.

FAMILY HISTORY: She does have a history of thyroid goiter in mother and grandmother.

PHYSICAL EXAMINATION: This is a healthy-appearing woman. Blood pressure is 130/74. Height is 5 feet 4 inches. Weight is 155 pounds. Integument is normal. She is well tanned. Eyes reveal no ophthalmopathy. Examination of the neck reveals a 2-cm nodular area in the lower part of the neck, which moves with swallowing. Otherwise, there is no enlargement of the thyroid.

No lymphadenopathy or other abnormality. Chest is clear. She has no chest wall tenderness. Cardiac exam reveals a slow, regular rate and rhythm. Reflexes are normal.

ULTRASOUND REPORT: Review of the ultrasound shows several cysts, one of which is sizable and compatible with a hemorrhagic cyst, as well as the suggestion of two demarcated adenomas, one of which was aspirated last October. The left-sided nodule did show follicular cells, although it is not stated whether there are adequate numbers, that is, six separate cells present.

IMPRESSION: Probable nodular hyperplasia with rather well-demarcated thyroid nodules, not palpable on clinical exam, and hemorrhagic thyroid cyst that has not changed in the last 6 months.

PLAN: A free T₄ and TSH were obtained, and it was recommended that a re-exam and ultrasound be done in approximately 6 months.

	Answers
80. Dysphagia is difficulty _____.	<i>swallowing</i>
81. A focal symptom is ____.	<i>localized</i>
82. Thyroid tests in September were normal. The patient showed ____.	<i>euthyroidism</i>
83. An adenoma is a(n) ____.	<i>glandular neoplasm</i>
84. Nodules that are not palpable cannot _____.	<i>be felt</i>
85. Free T ₄ and TSH come, respectively, from the _____ and _____.	<i>thyroid; pituitary</i>