

RESEARCH

BIOLOGY

AT HOME

- Research biology system terms and record definitions in *Nature Sketch Journal*.
- Daily: Draw and label the current body systems/structures.
- Place final drawing of system/structure in *Nature Sketch Journal* with the corresponding terms.

IN COMMUNITY

- Introduce the new research topic by asking the students what they already know about the topic, using five common topic questions from the Science Snippets available on CC Connected®, or sharing information from the *Classical Acts & Facts® Science Cards*.
- Model drawing the new system/structure on the board by using OiLS, indentifying familiar shapes, and incorporating the terms.
- After two weeks of practice, provide students with the opportunity to draw the system/structure from memory on a blank sheet of paper.
- Allow students to share the definitions they have researched.
- Discuss systems/structures with students using the five common topics or a topic wheel as time allows.

Tailoring

The focus of the research seminar is for students to practice researching using source documents that are below their reading level, notate sources used, write a bibliography and short report, and present their research in class.

When families have time for more:

- Add research terms or items to be labeled on the anatomy drawings.
- Require more in-depth research for each term.
- Read from the appropriate Science Snippet on CC Connected®, Challenge Tier > At Home Sharing Center.

When families have a busy week:

- Reduce the number of terms to be researched.
- Reduce items to be labeled on the anatomy drawings.
- Label a blackline drawing of the anatomy system instead of drawing and labeling the system.

BEGIN THE CONVERSATION

INVENTION: 5 COMMON TOPICS

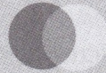
What are the parts of a wildflower? What kind of thing is a wildflower?

DEFINITION



How does this research topic compare to previous research topics?

COMPARISON



Is it possible for this research topic to survive on another continent? Exist in the city? Become extinct?

CIRCUMSTANCE



How does this research topic affect the things around it? Is it beneficial or detrimental?

RELATIONSHIP



Which attributes of God does this research topic illustrate?

TESTIMONY



RESEARCH

ANATOMY TERMS

Respiratory System

alveoli
 bronchi
 bronchiole
 diaphragm
 epiglottis
 larynx
 lung
 mouth
 nasal passage
 nostrils
 pharynx
 pleura
 trachea

Digestive system

anus
 appendix
 esophagus
 gallbladder
 large intestine
 liver
 mouth
 pancreas
 rectum
 salivary glands
 small intestine
 stomach

Heart

aorta
 bicuspid valve
 inferior vena cava
 left atrium
 left pulmonary artery
 left pulmonary vein
 left ventricle
 right atrium
 right pulmonary artery
 right pulmonary vein
 right ventricle
 semilunar valves
 septum
 superior vena cava
 tricuspid valve

Skin

arrector pili muscle
 capillary
 dermis
 epidermis
 fat cells
 hair
 hair follicle
 nerve ending
 pore
 subcutaneous tissue
 sweat gland

Skeleton

carpals
 clavicle
 cranium
 femur
 fibula
 humerus
 mandible
 metacarpals
 metatarsals
 patella
 pelvis
 phalanges*
 radius
 ribs
 scapula
 skull
 sternum
 tarsals
 tibia
 ulna
 vertebra
 vertebral column

*"Phalanges" is labeled twice, once for the fingers and once for the toes.

Brain

cerebellum
 cerebrum
 corpus callosum
 frontal lobe
 hypothalamus
 medulla oblongata
 occipital lobe
 parietal lobe
 pituitary gland
 pons
 spinal cord
 temporal lobe
 thalamus

Neuron

axon*
 cell body
 cytoplasm
 dendrites
 myelin sheath
 node of Ranvier
 nucleus
 Schwann cell
 Schwann cell nucleus
 synaptic knob*
 terminal branches

Neuromuscular Junction

acetylcholine sacs
 axon*
 cleft
 muscle fiber
 synaptic knob*

Eye

aqueous humor
 choroid coat
 ciliary body
 cornea
 iris
 lens
 optic nerve
 pupil
 retina
 sclera
 suspensory ligament
 vitreous humor

Ear

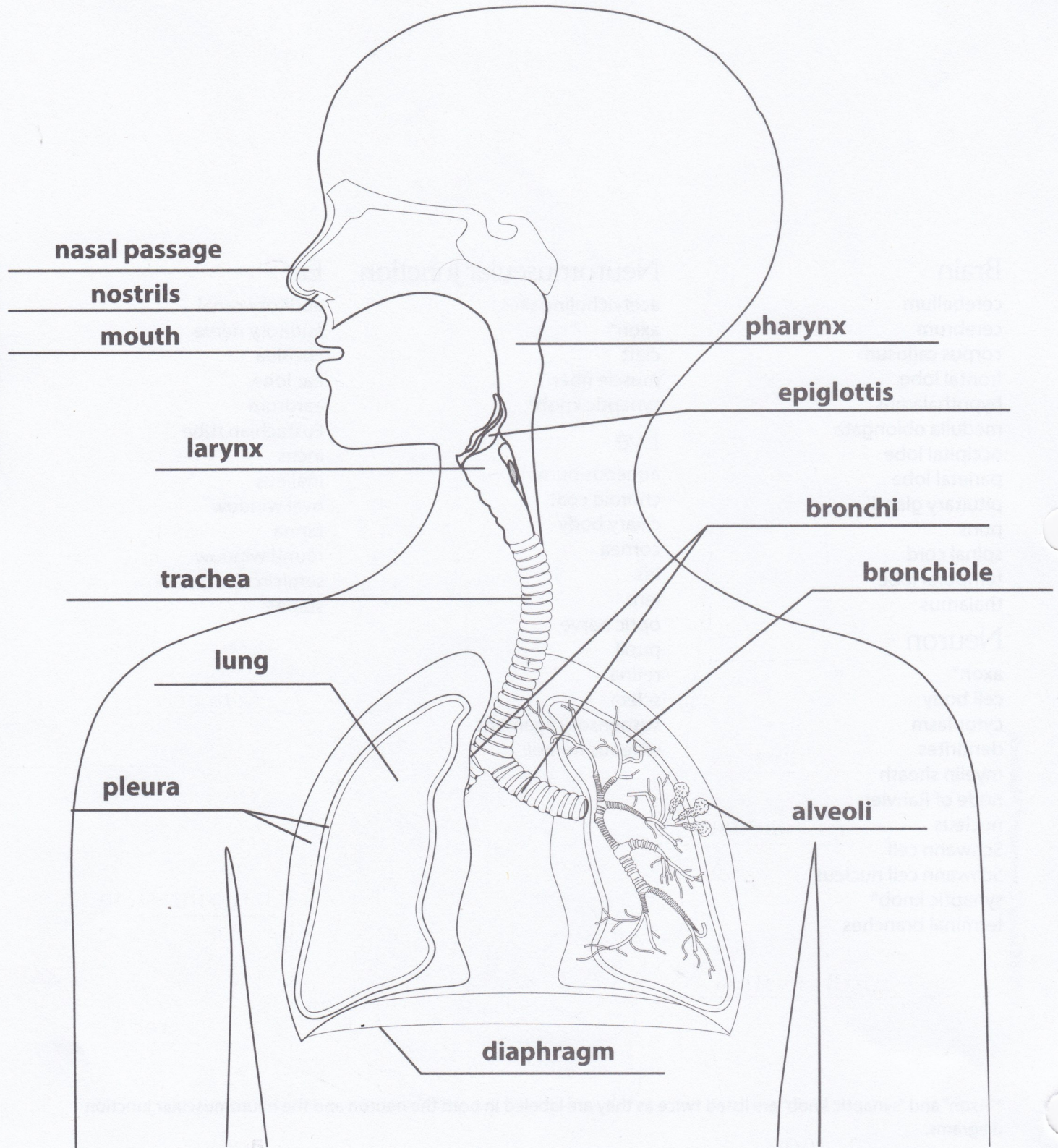
auditory canal
 auditory nerve
 cochlea
 ear lobe
 eardrum
 Eustachian tube
 incus
 malleus
 oval window
 pinna
 round window
 semicircular canals
 stapes

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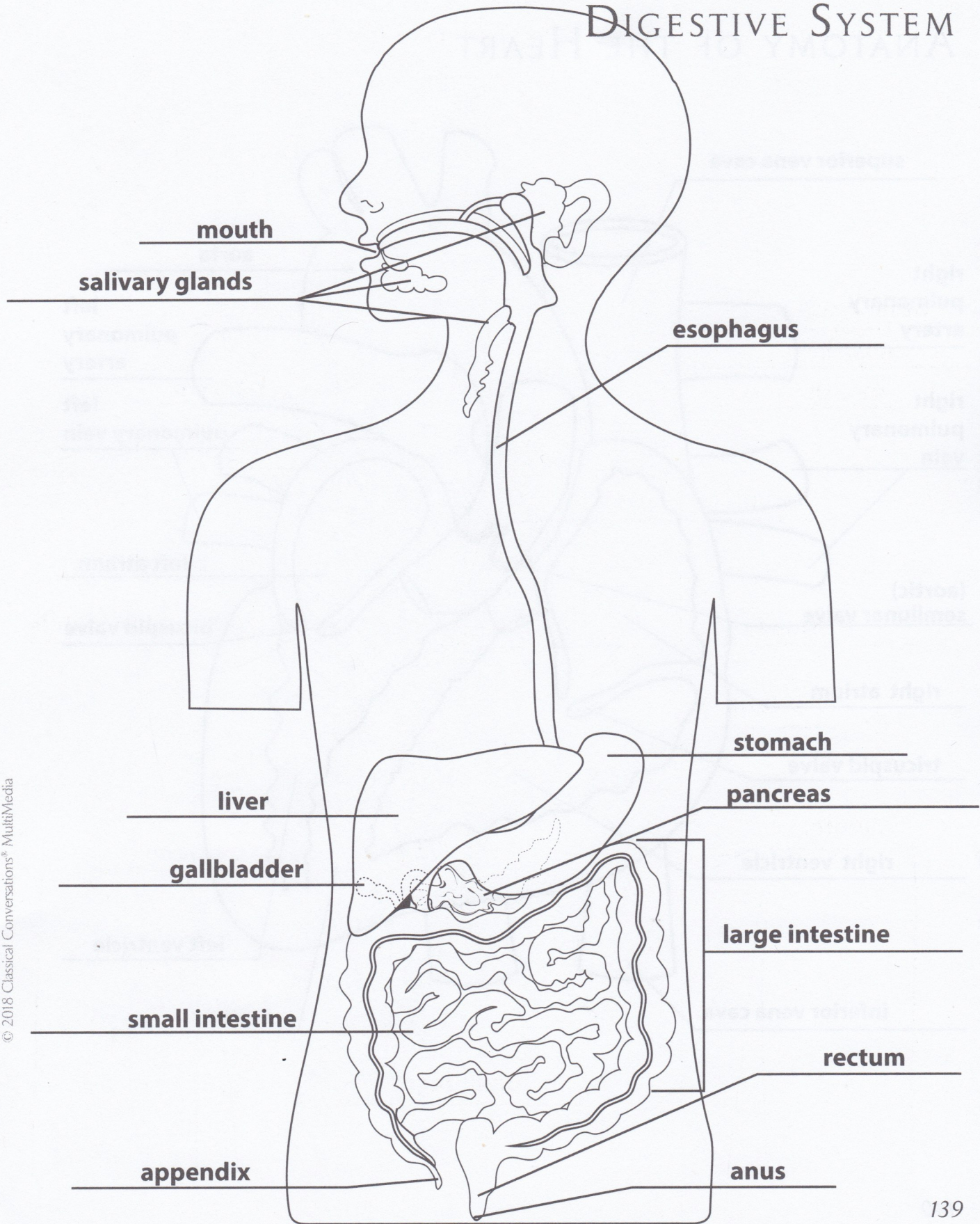
*"Axon" and "synaptic knob" are listed twice as they are labeled in both the neuron and the neuromuscular junction diagrams.

RESEARCH

ANATOMY OF THE RESPIRATORY SYSTEM



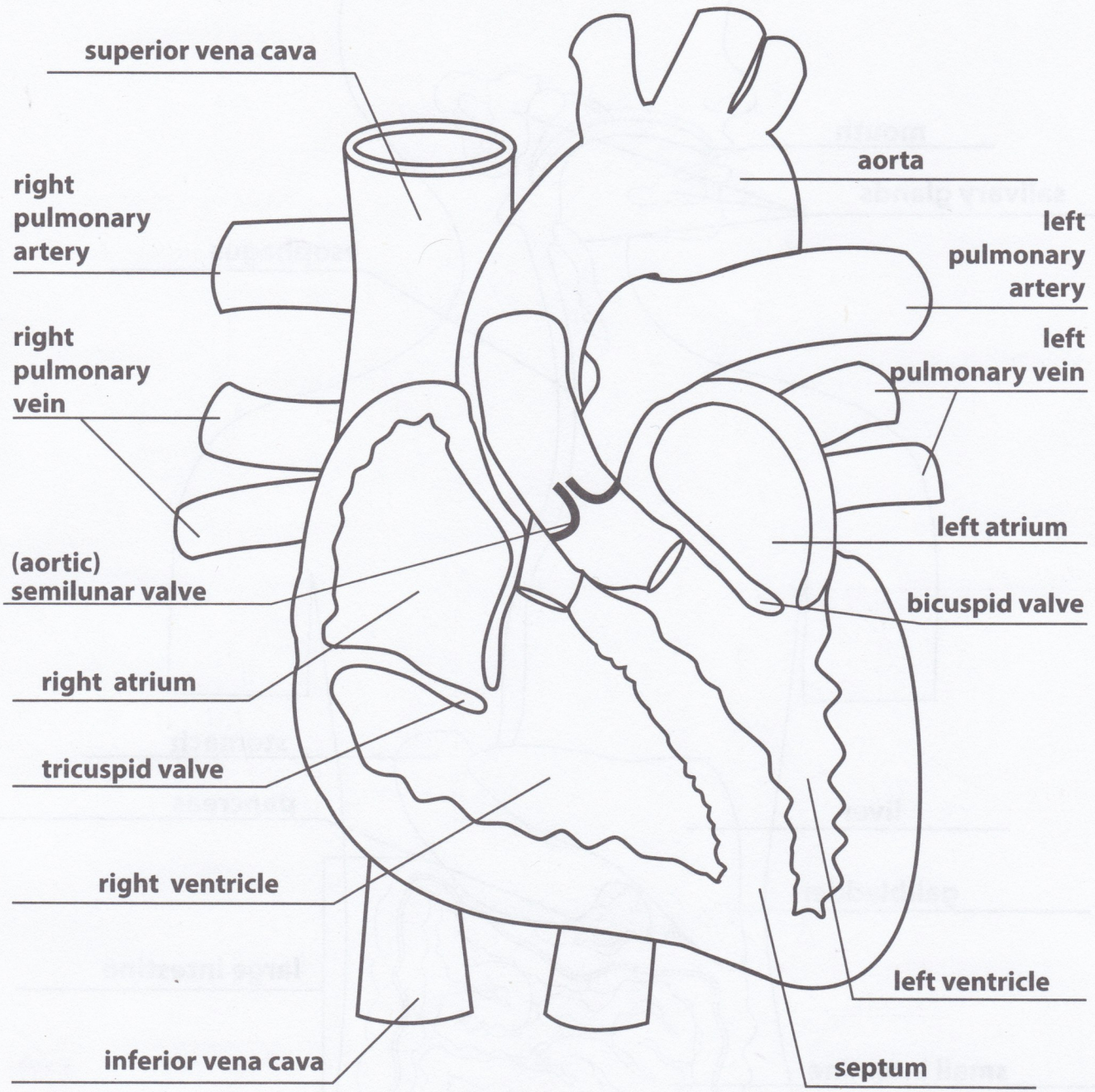
ANATOMY OF THE DIGESTIVE SYSTEM



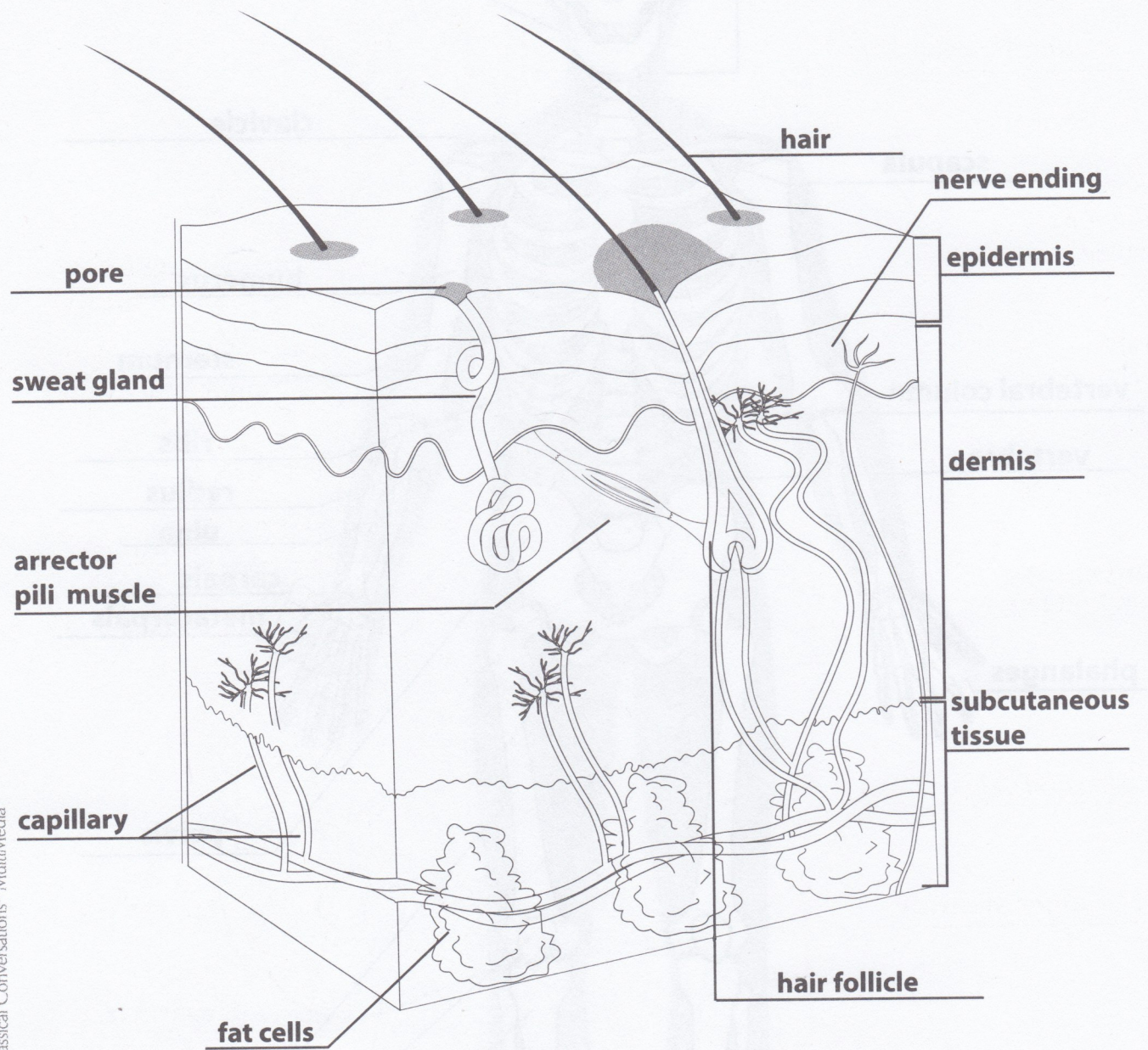
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RESEARCH

ANATOMY OF THE HEART

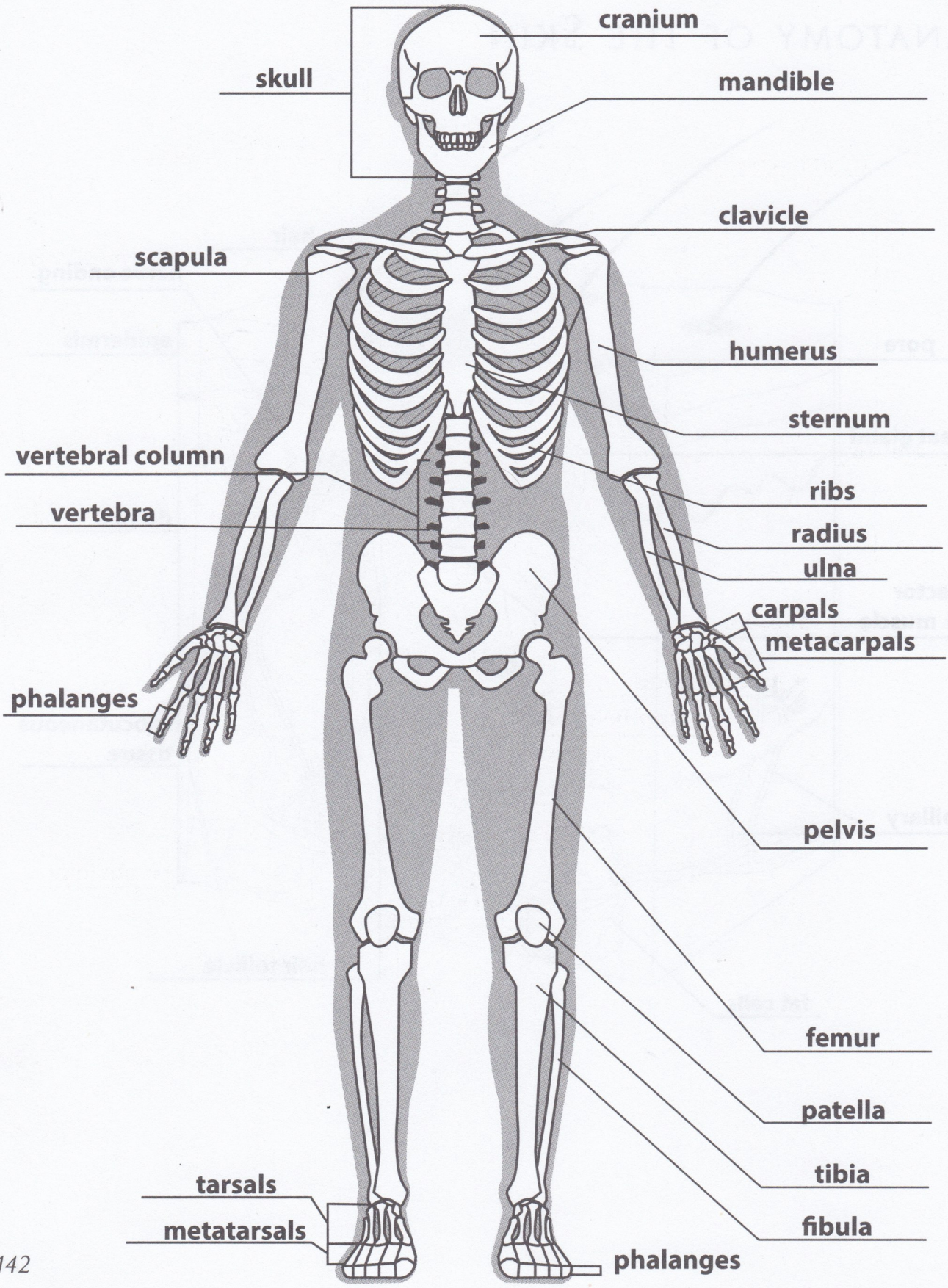


ANATOMY OF THE SKIN

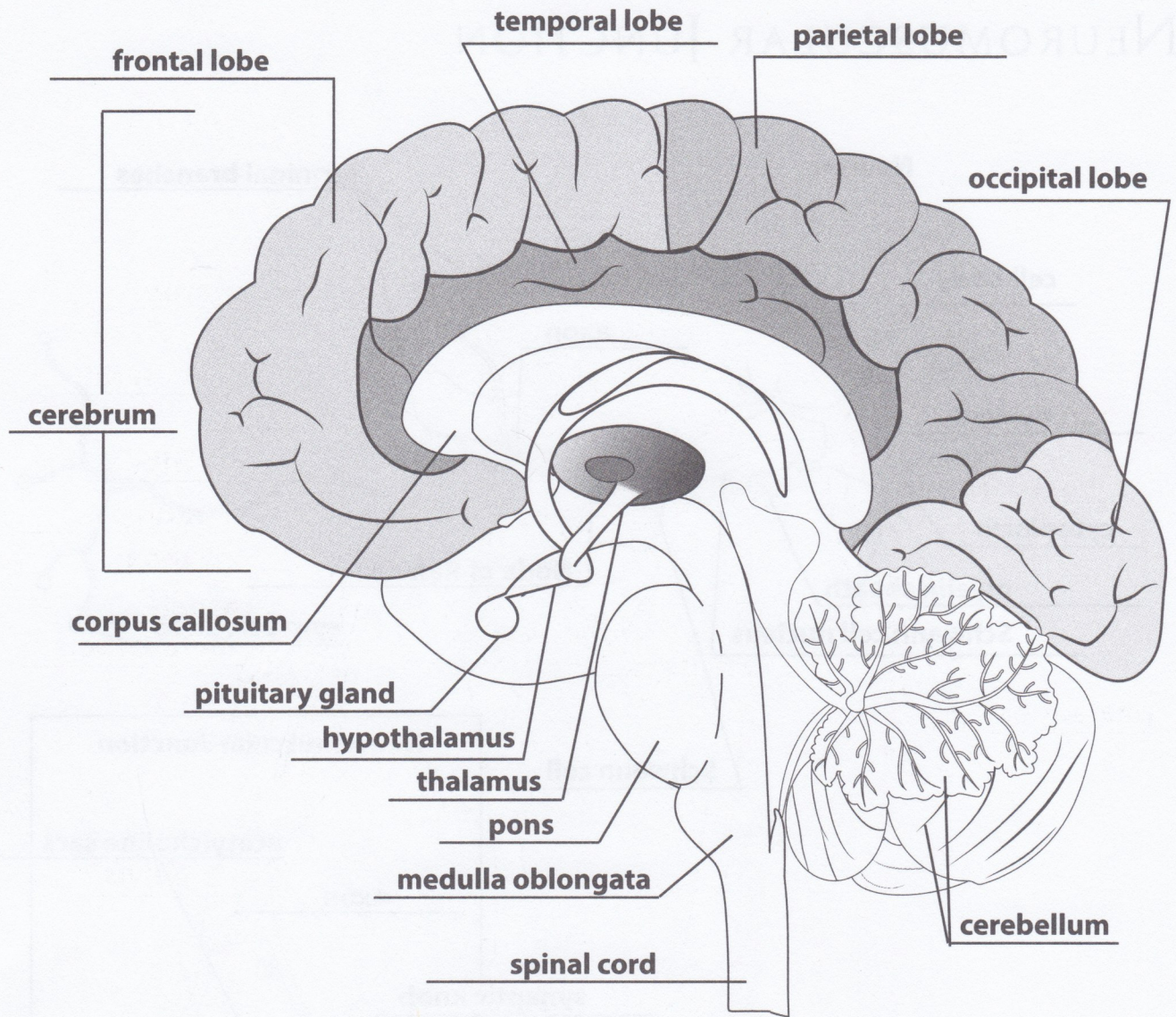


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ANATOMY OF THE SKELETON

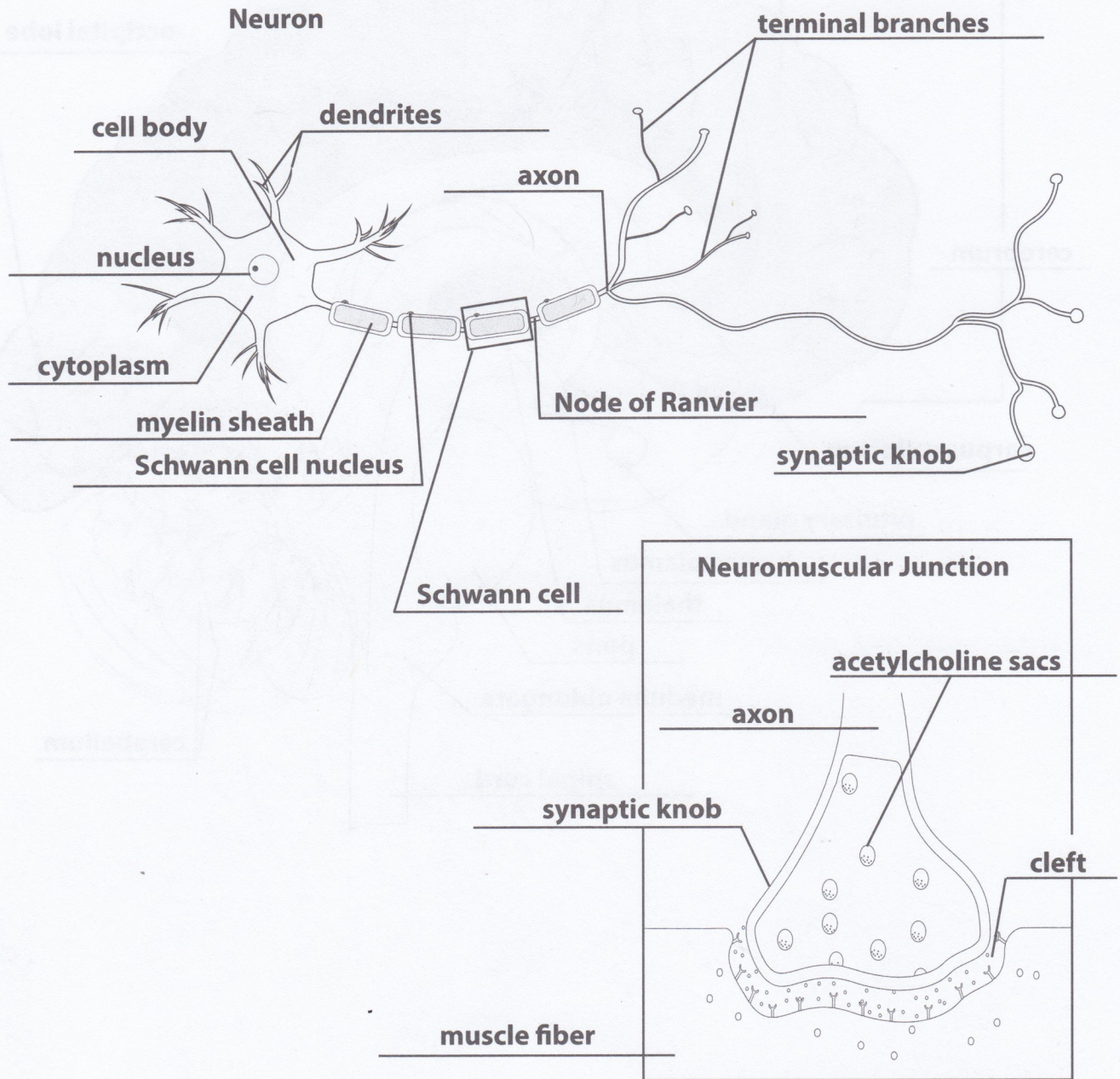


ANATOMY OF THE BRAIN

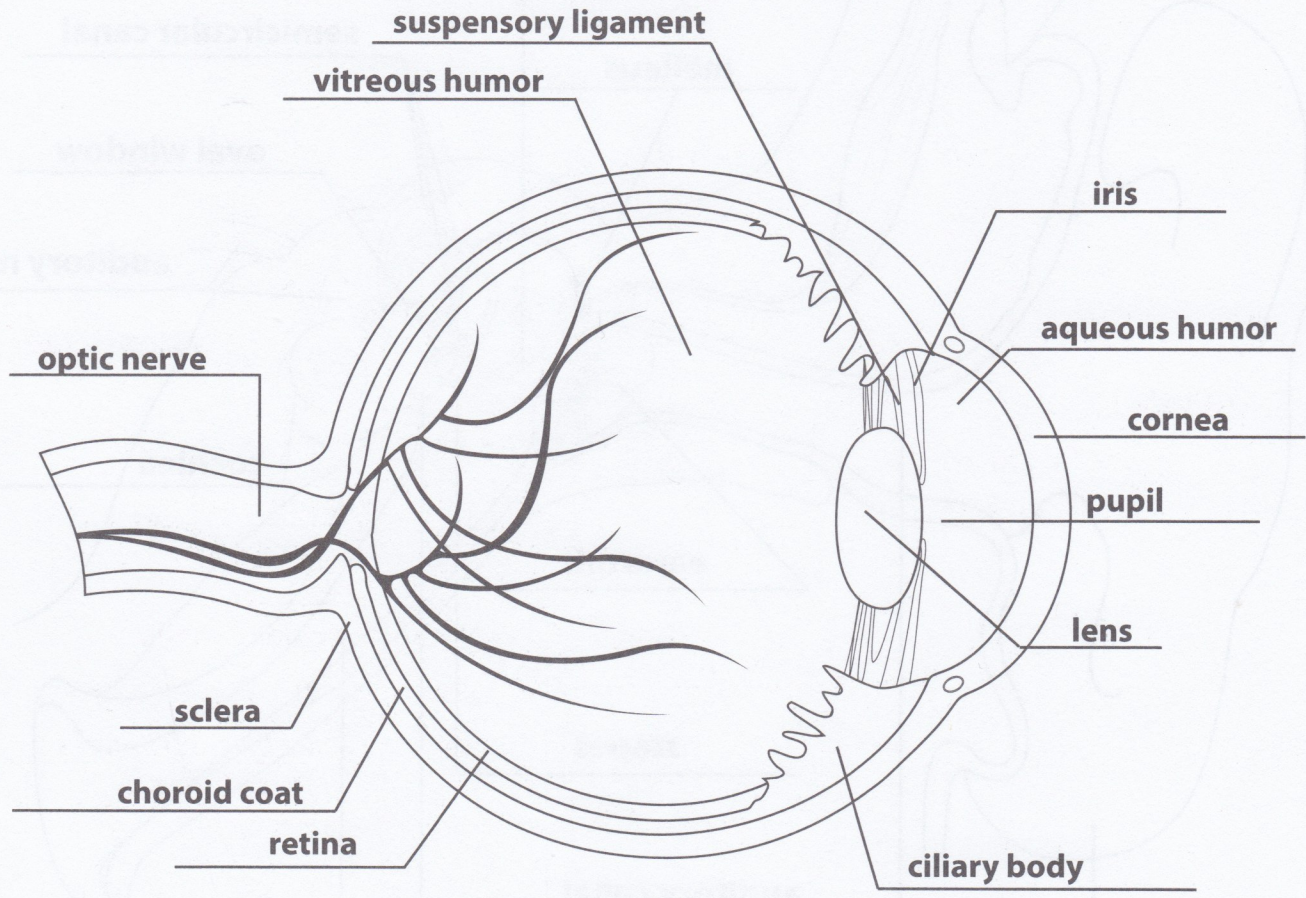


RESEARCH

ANATOMY OF A NEURON AND NEUROMUSCULAR JUNCTION



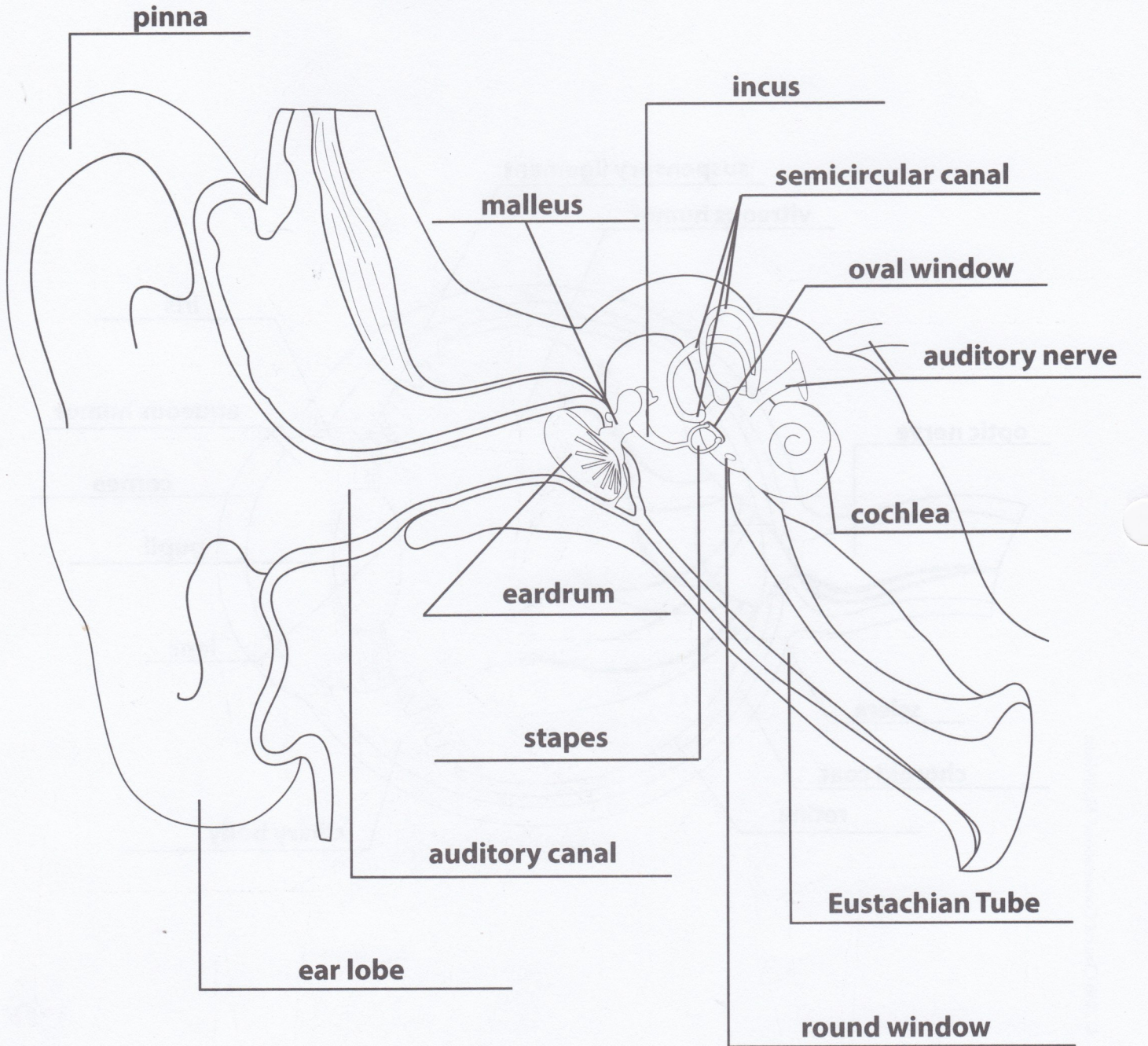
ANATOMY OF AN EYE



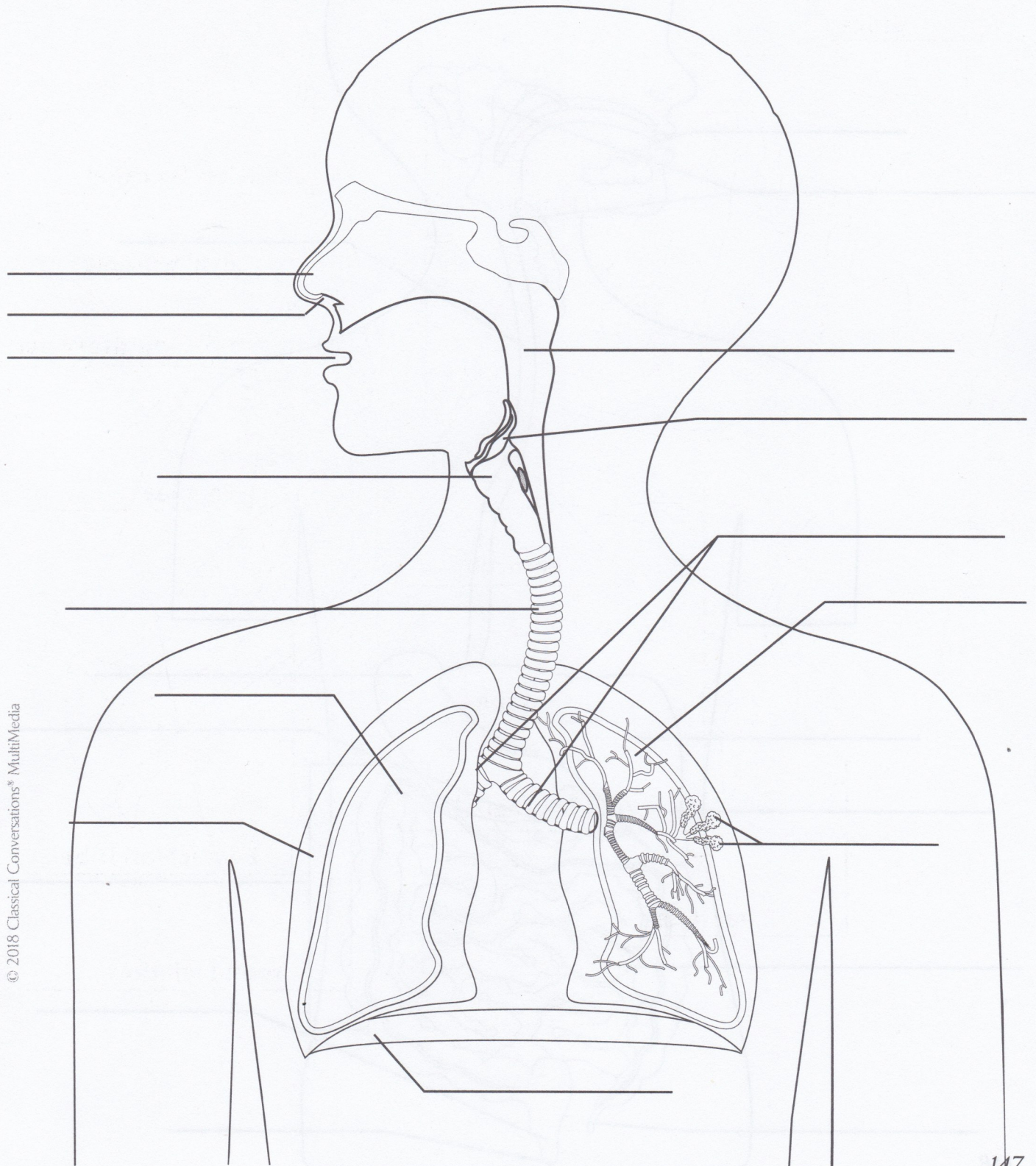
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RESEARCH

ANATOMY OF AN EAR



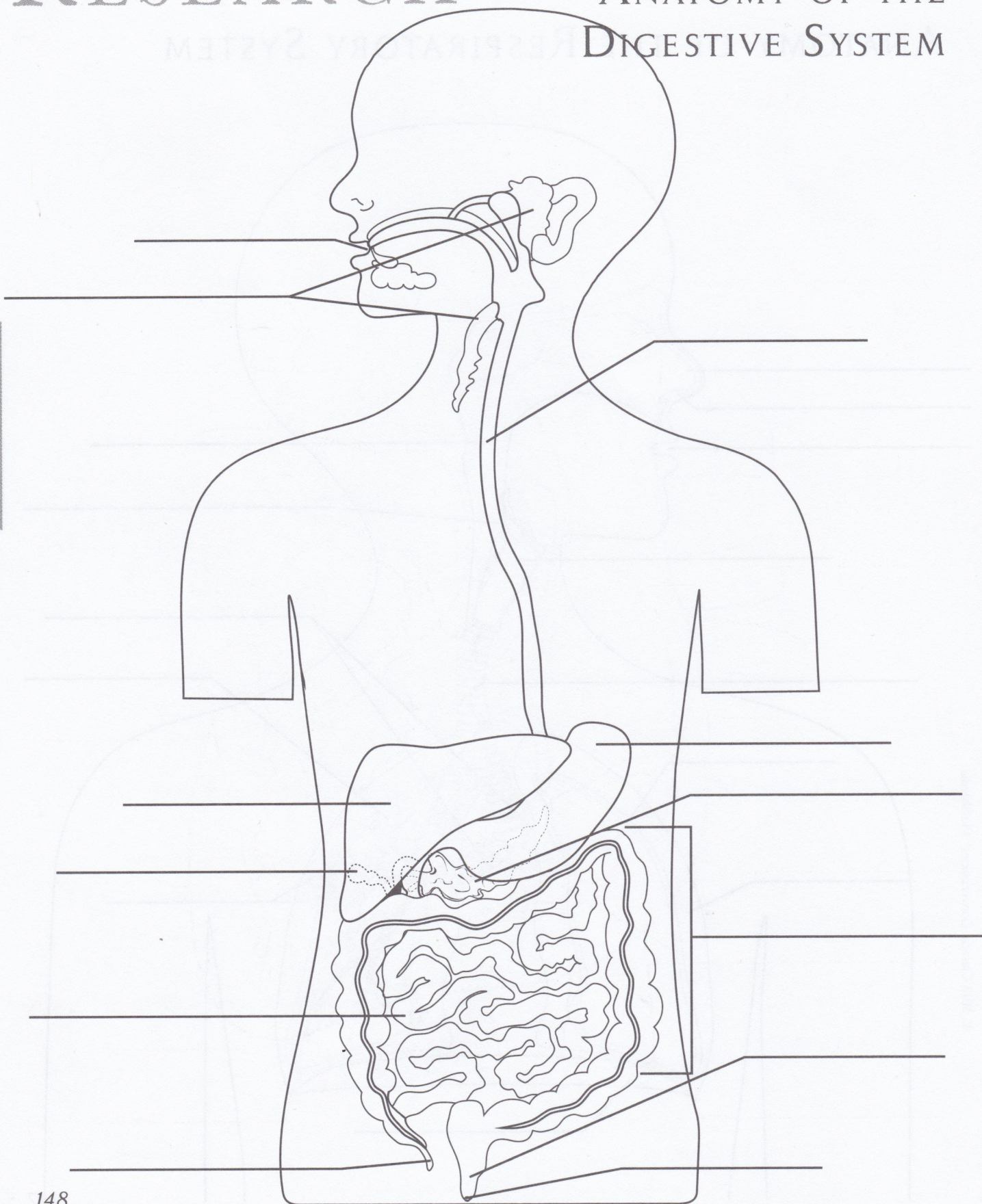
ANATOMY OF THE RESPIRATORY SYSTEM



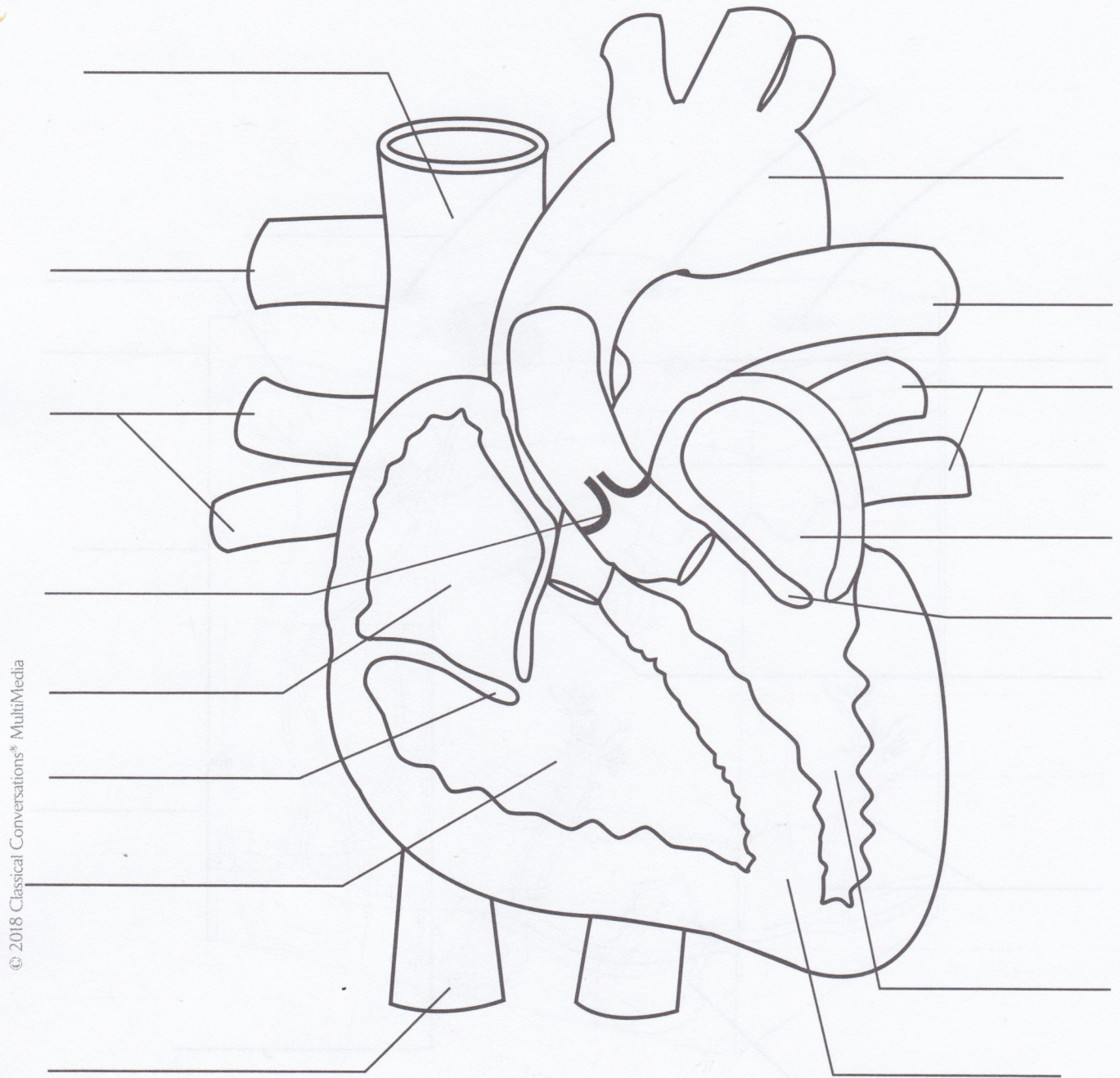
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RESEARCH

ANATOMY OF THE DIGESTIVE SYSTEM



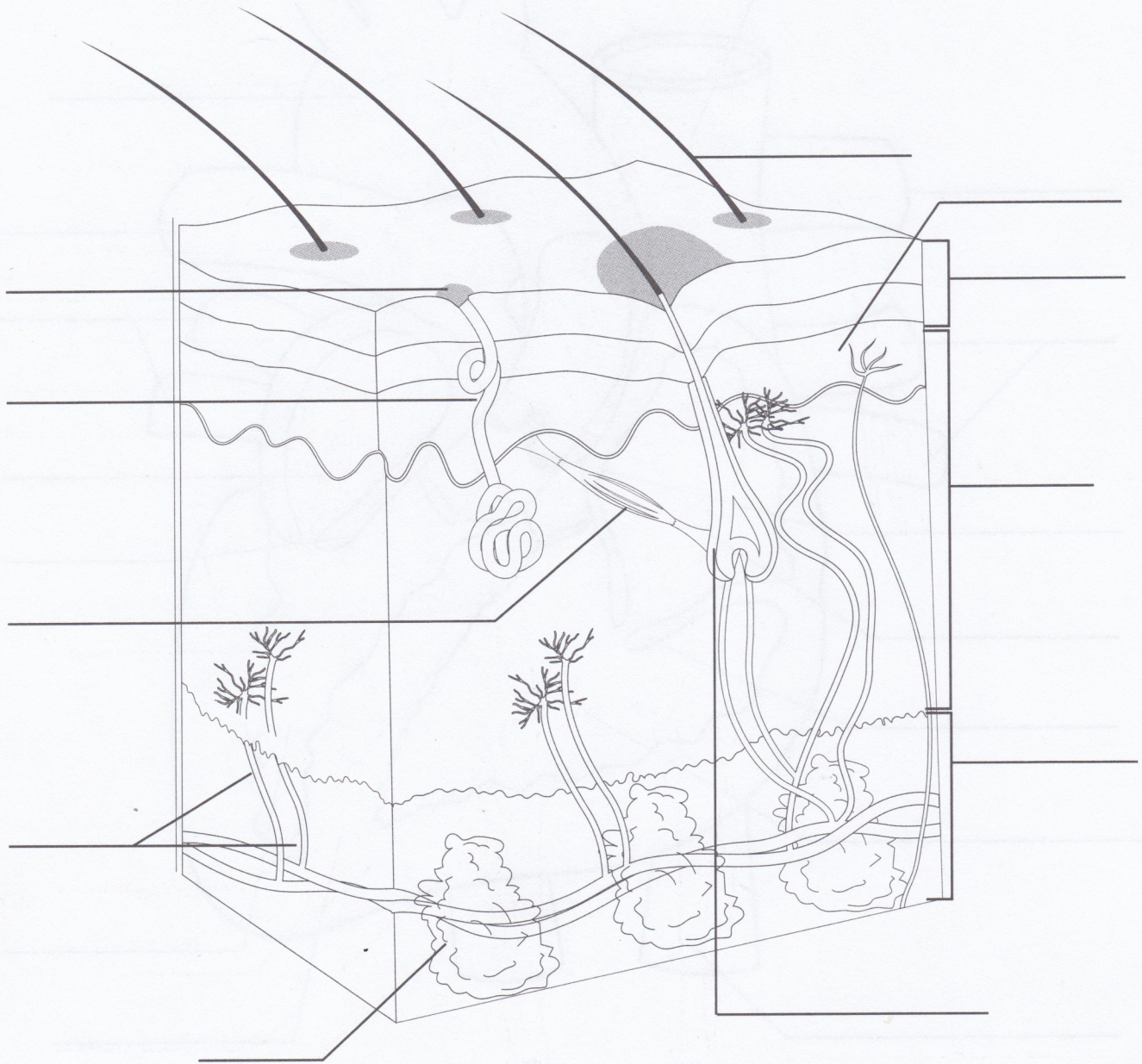
ANATOMY OF THE HEART



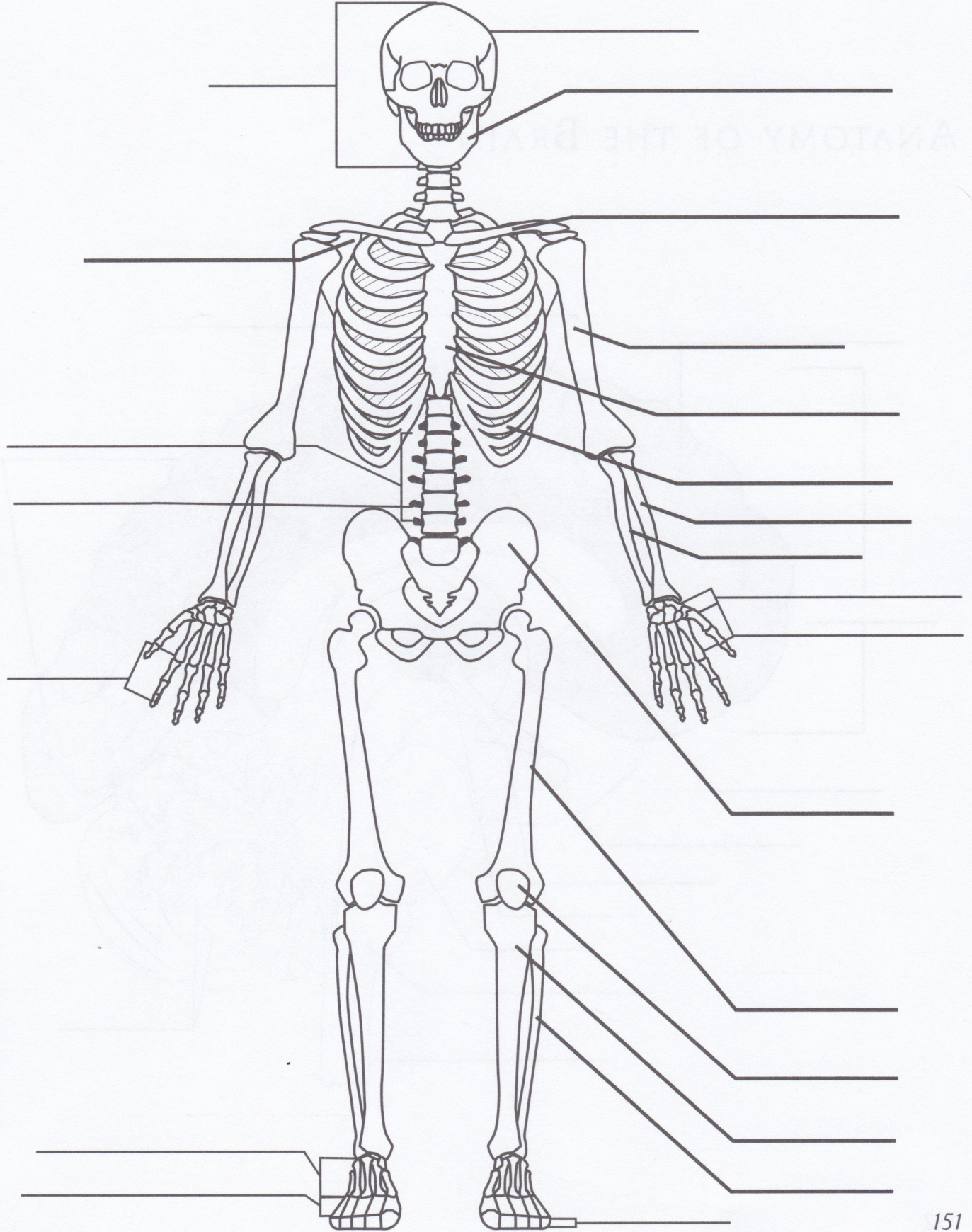
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ANATOMY OF THE SKIN

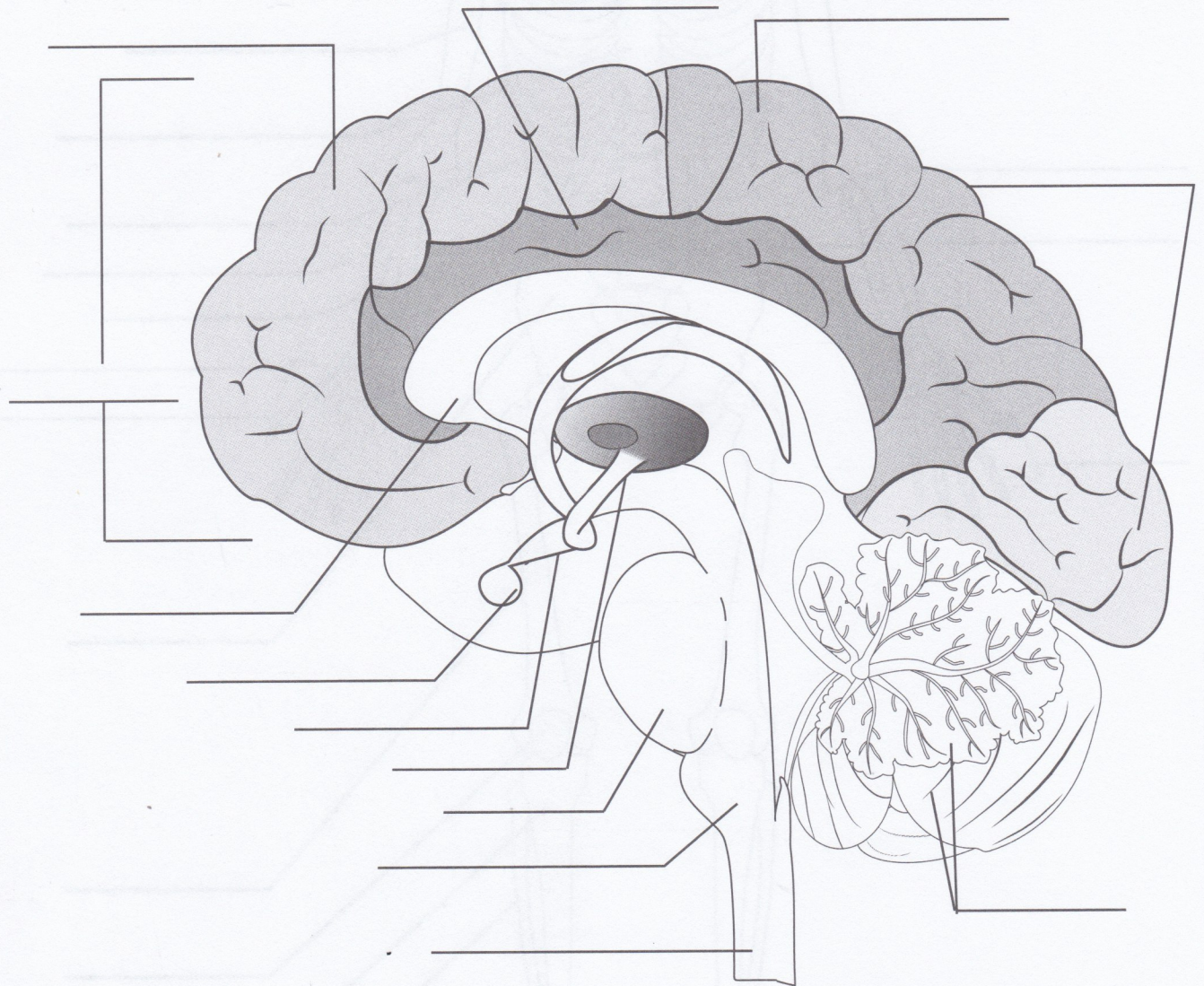


ANATOMY OF THE SKELETON

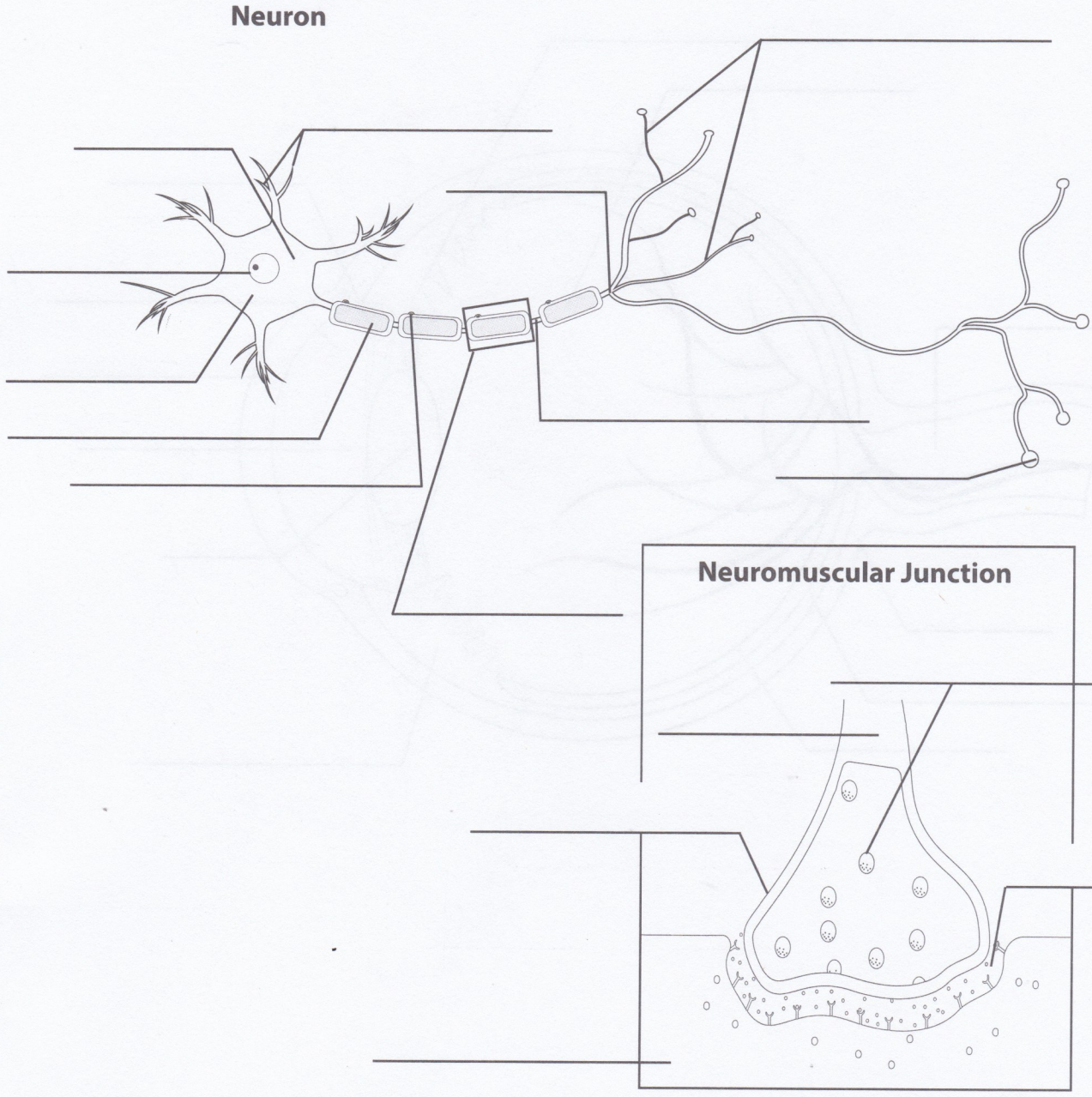


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ANATOMY OF THE BRAIN



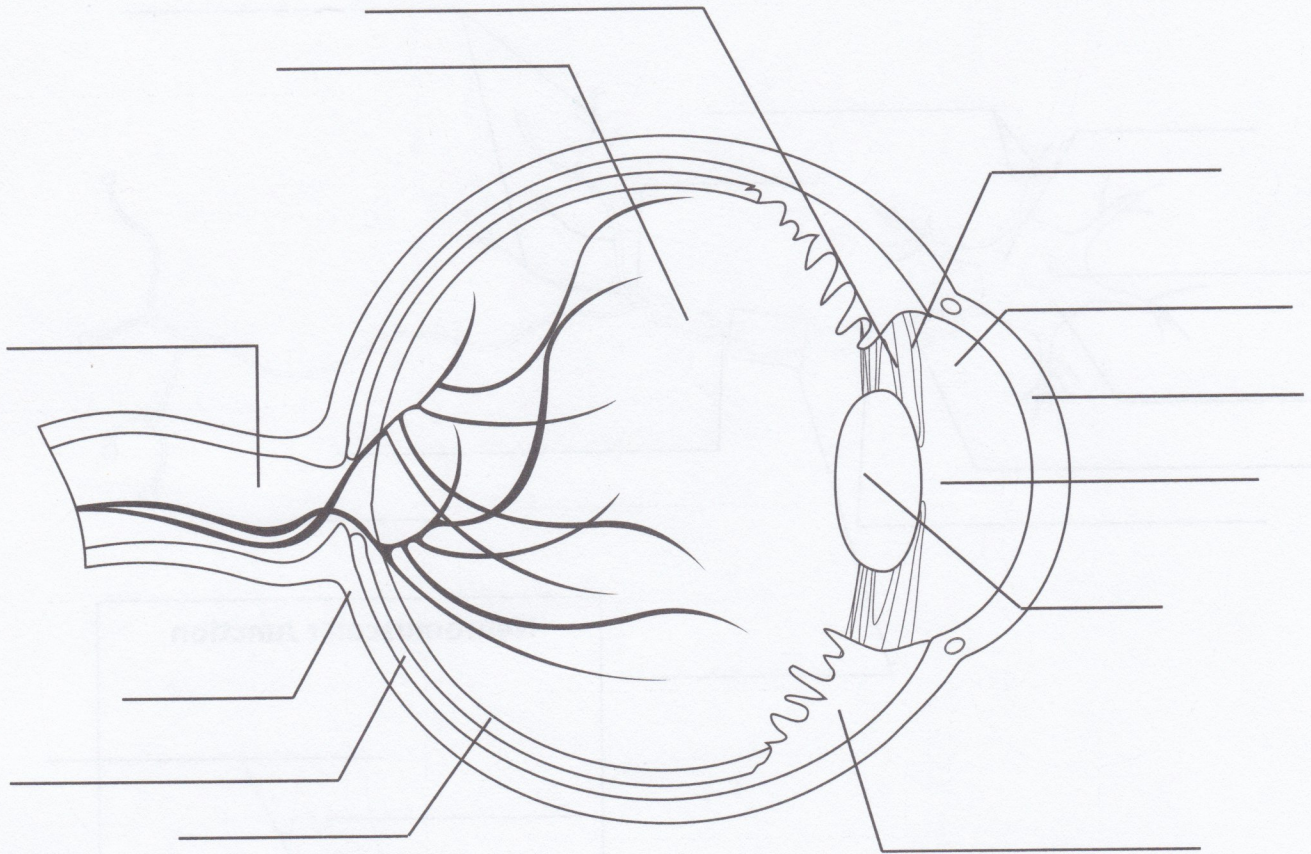
ANATOMY OF A NEURON AND NEUROMUSCULAR JUNCTION



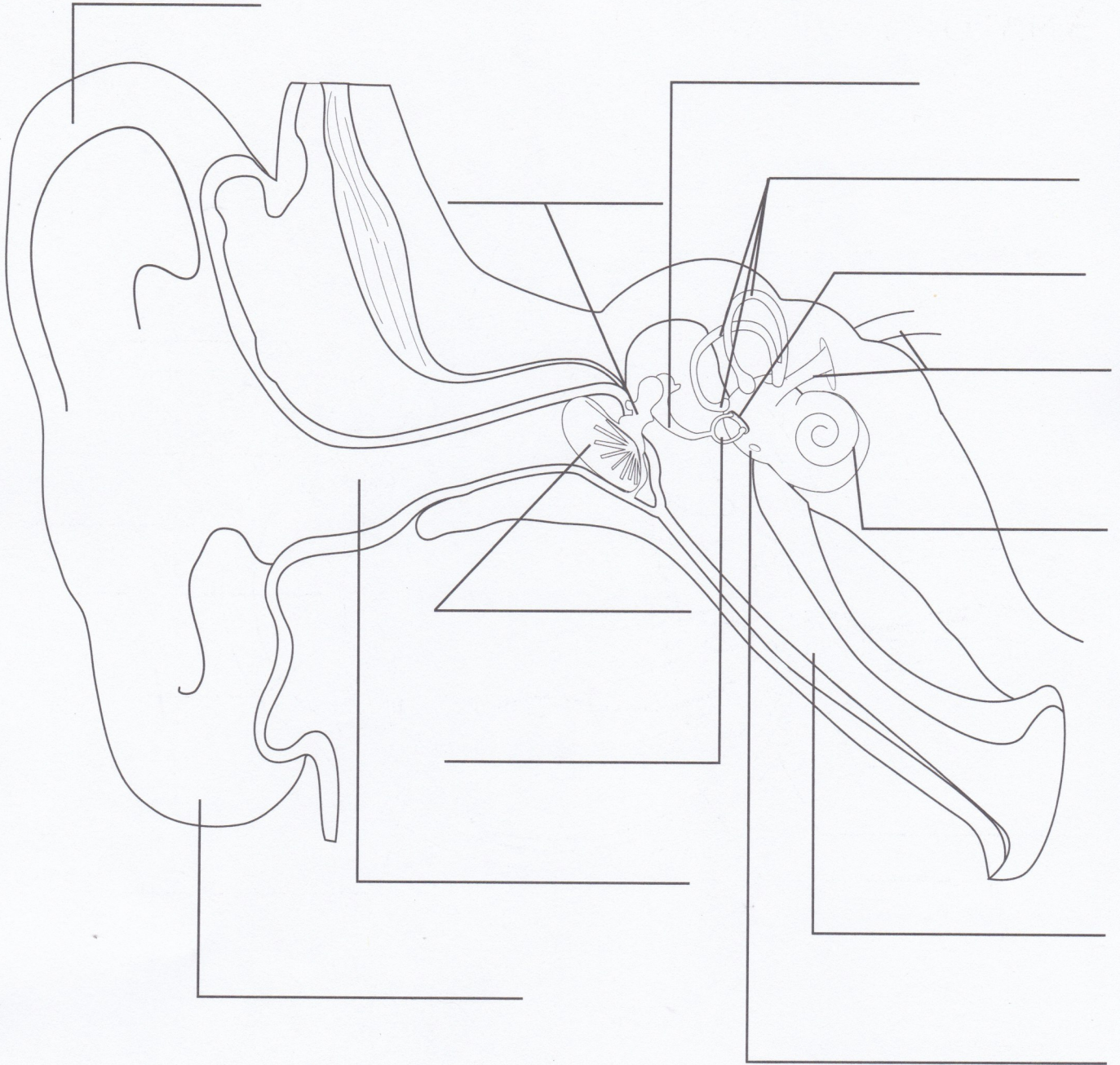
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RESEARCH

ANATOMY OF AN EYE



ANATOMY OF AN EAR



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