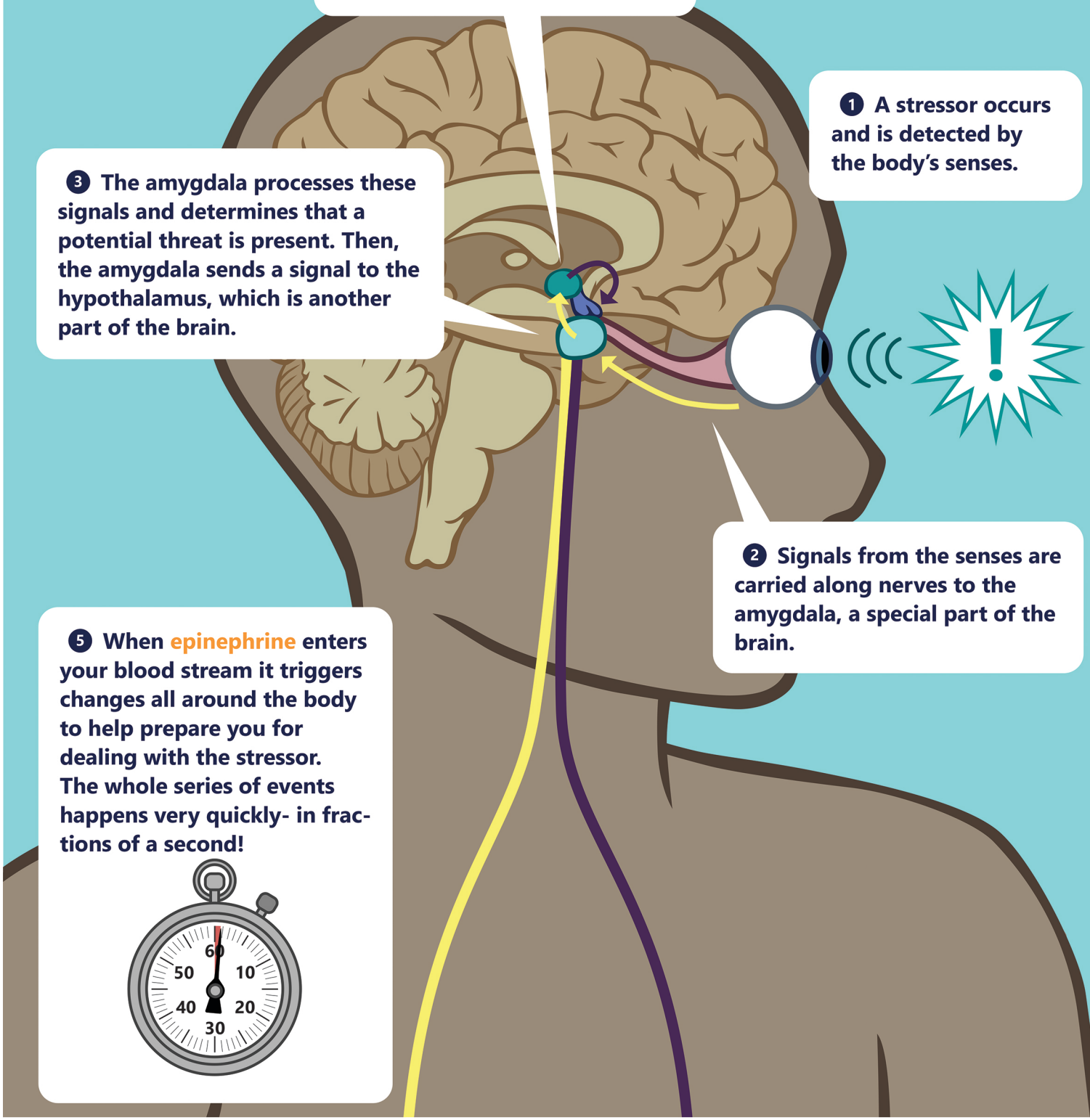
The Physiology of the Stress Response

❻ After epinephrine has been released, the hypothalmus sends a separate signal to the pituitary gland in the brain.

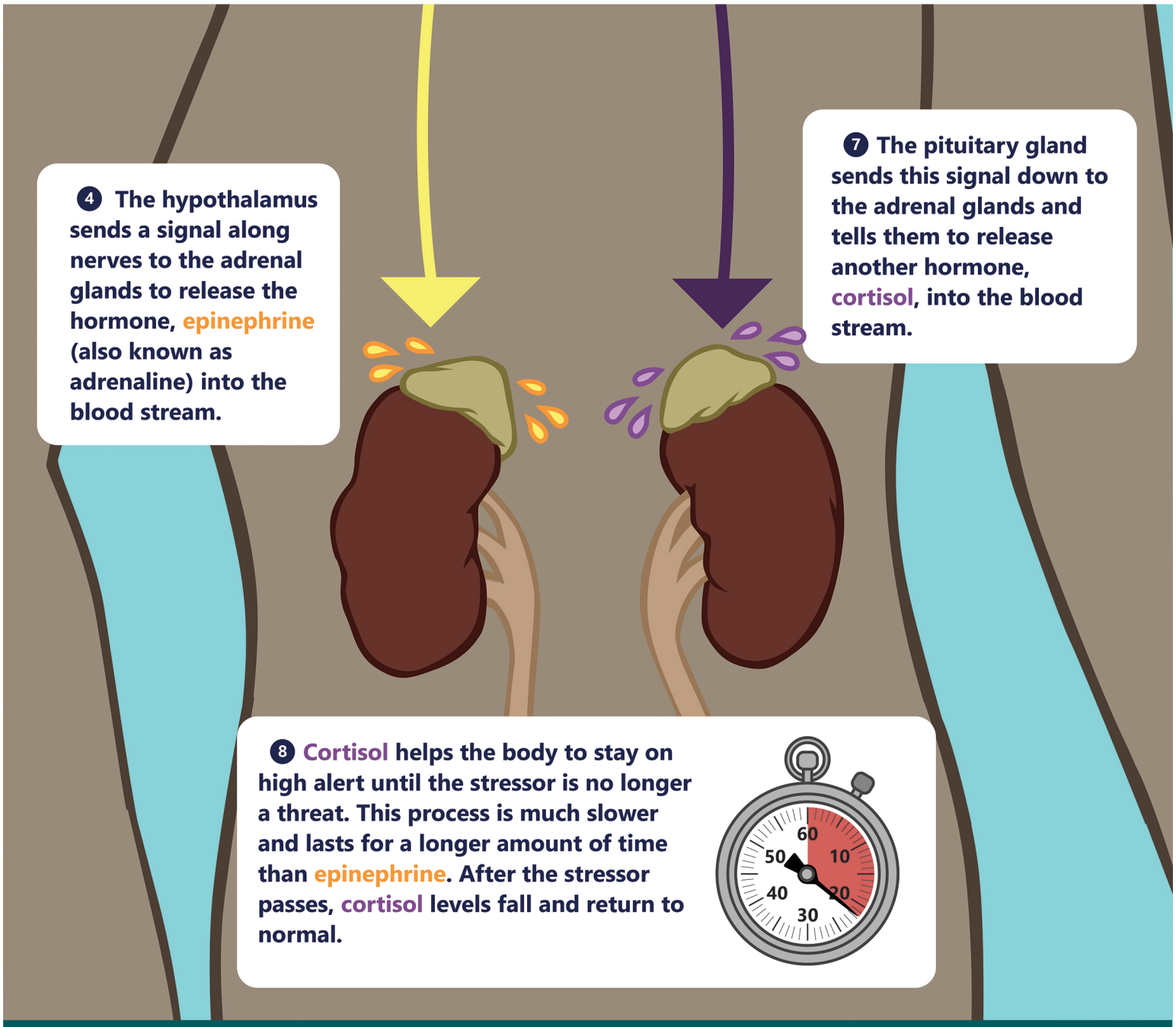
❶ A stressor occurs and is detected by the body's senses.

❸ The amygdala processes these signals and determines that a potential threat is present. Then, the amygdala sends a signal to the hypothalamus, which is another part of the brain.



❷ Signals from the senses are carried along nerves to the amygdala, a special part of the brain.

❺ When epinephrine enters your blood stream it triggers changes all around the body to help prepare you for dealing with the stressor. The whole series of events happens very quickly- in fractions of a second!



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Adapted from: B.S. McEwen, J.C. Wingfield, in Encyclopedia of Stress (Second Edition), 2007. Retrieved from https://www.health.harvard.edu/staying-healthy/understanding-the-stress-response

Physiology of the Stress Response Interfactive Worksheet

Name _____ Date _____

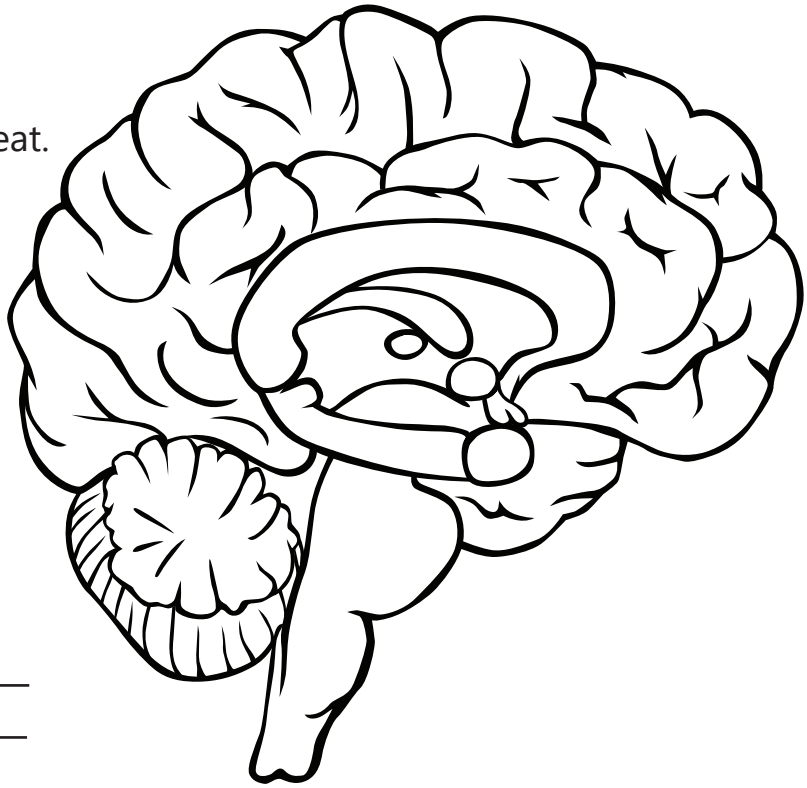
1. Imagine a stressful stimulus. In a few sentences describe what the stimulus is, and which senses are involved in detecting it.

_____

_____

_____

2. Color in the part of the brain that determines if the stimulus is a threat.



3. From where is adrenaline released?

_____

4. The hypothalamus is involved in sending signals to two places, what are they?

_____

_____

5. There are 2 hormones released from the adrenal glands, each having different effects. Match the hormone to how quickly it is released.

Hormones	Speed
epinephrine	more slowly
cortisol	very quickly

6. What needs to happen for cortisol level to return to normal?

_____

_____

Answer Key

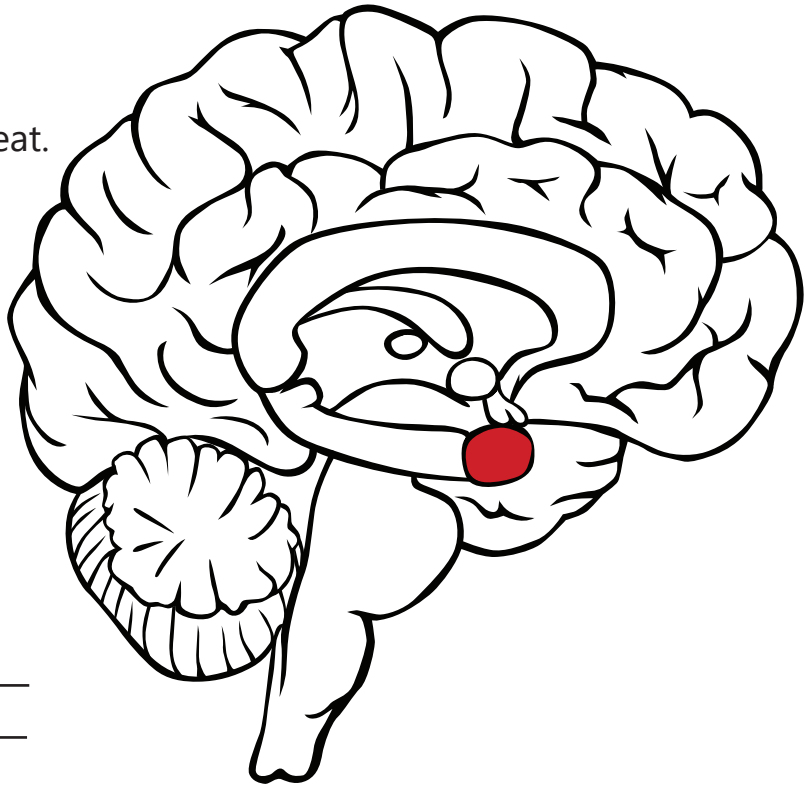
Physiology of the Stress Response Interfactive Worksheet

Name _____ Date _____

1. Imagine a stressful stimulus. In a few sentences describe what the stimulus is, and which senses are involved in detecting it.

Student answers will vary.

2. Color in the part of the brain that determines if the stimulus is a threat.



3. From where is adrenaline released?

the adrenal glands

4. The hypothalamus is involved in sending signals to two places, what are they?

the adrenal glands and the pituitary gland

5. There are 2 hormones released from the adrenal glands, each having different effects. Match the hormone to how quickly it is released.

Hormones	Speed
epinephrine	very quickly
cortisol	more slowly

6. What needs to happen for cortisol level to return to normal?

The stressor needs to no longer be a threat.