Name: _____ Date: _____

Your Sixth Sense Is Hiding in Your Muscles

Circle group

Close both eyes. Now touch the tip of your nose with one finger. Most people can do it on the first try. But with your eyes shut, how does your brain know where your hand is?

The answer is a sense called proprioception. It tells you where your body parts are and how they move. Tiny sensors sit in your muscles. They are also in your tendons, the tough cords that join muscle to bone. And they are around your joints. When a muscle stretches or squeezes, the sensors send a message to the brain. The brain puts all the messages together. It makes a picture of your whole body. You do not have to think about it.

This sense does a lot of work. It lets you walk down a dark hall. It lets you grab a glass of water while you look at a book. It helps a pianist hit the right keys. When you learn to ride a bike or tie a shoe, your brain is learning to read these body signals.

You can train this sense. Standing on one foot is good practice. Most people get better with tries. Your body has more than five senses, and this is one of the busiest.

Questions

1. What is the sense that tells you where your body parts are called?

_____

_____

2. Where are the sensors for this sense?

_____

_____

3. What are tendons?

_____

_____

4. What does the brain do with the messages from the sensors?

_____

_____

5. Why can you grab a glass of water while you look at a book?

_____

_____

6. Why is learning to tie a shoe partly about this sense?

_____

_____

7. Why might standing on one foot help this sense?

_____

_____

Words to know

proprioception: the sense of where your body parts are and how they move
tendons: tough cords that join muscles to bones
joints: places where two bones meet and can bend
sensors: tiny parts that notice changes and send messages

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Your Sixth Sense Is Hiding in Your Muscles

Triangle group

Ask someone to close both eyes and touch the tip of their nose with a finger. Almost everyone can do it on the first try. Yet with the eyes shut, nothing is telling them where the hand is. How does the brain know?

The answer is a sense that most people have never heard of. It is called proprioception, and it tells you where your body parts are and how they are moving. Tiny sensors sit inside your muscles, in the tough cords called tendons that attach muscle to bone, and around your joints. When a muscle stretches or squeezes, its sensors send messages along nerves to the brain. The brain combines thousands of these messages into a steady picture of your whole body, all without you thinking about it.

This quiet sense does more work than you might expect. It lets you walk down a dark hallway without looking at your feet. It lets you reach for a glass of water while your eyes are on a book. It helps a pianist hit the right keys and a basketball player dribble without staring at the ball. Learning a new skill, from riding a bike to tying a shoe, is partly a matter of teaching the brain to read these body signals more smoothly.

Practice matters because the sense can be trained. Balance games, such as standing on one foot, ask the brain to use position signals carefully, and most people improve with repeated tries. Your body has more senses than the usual five, and this is one of the busiest.

Questions

1. What is the name of the sense that tells you where your body parts are?

_____

_____

2. Where are the sensors for this sense found?

_____

_____

3. What are tendons?

_____

_____

4. How does the brain use the messages from the sensors?

_____

_____

5. Why can you reach for a glass of water while looking at a book?

_____

_____

6. Why is learning to tie a shoe partly about this sense?

_____

_____

7. Why might standing on one foot help improve this sense?

_____

_____

Words to know

proprioception: the sense of where your body parts are and how they move
tendons: tough cords that join muscles to bones
joints: places where two bones meet and can bend
sensors: tiny parts that notice changes and send messages
steady: not changing or shaking

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Your Sixth Sense Is Hiding in Your Muscles

Square group

Invite a friend to shut both eyes and touch the tip of a nose with a single finger. Nearly everyone succeeds on the first attempt. Yet with the eyes closed, nothing visible is reporting where the hand is located. How, then, does the brain know?

The explanation is a sense that many people have never even heard of. It is called proprioception, and it informs you of the position of your body parts and the way they are moving. Microscopic sensors are embedded in your muscles, in the tough cords known as tendons that fasten muscle to bone, and around your joints. Whenever a muscle stretches or contracts, its sensors dispatch messages along nerves to the brain. The brain merges thousands of these messages into a continuous, steady picture of your entire body, and it accomplishes this without any conscious effort on your part.

This unobtrusive sense performs more work than you might expect. It allows you to walk down a dark hallway without glancing at your feet, and to reach for a glass of water while your eyes remain fixed on a book. It guides a pianist toward the correct keys and enables a basketball player to dribble without staring at the ball. Mastering a new skill, from riding a bicycle to tying a shoe, is partly a matter of teaching the brain to interpret these body signals more smoothly.

Practice makes a difference because the sense can be trained. Balance activities, such as standing on one foot, require the brain to use position signals carefully, and most people improve with repeated attempts. Your body possesses more senses than the familiar five, and this is among the busiest of them.

Questions

1. What is the name of the sense that reports the position of your body parts?

_____

_____

2. Where are the sensors for this sense located?

_____

_____

3. What are tendons?

_____

_____

4. How does the brain use the messages that the sensors send?

_____

_____

5. Why can you reach for a glass of water while your eyes stay on a book?

_____

_____

6. Why is mastering a skill like tying a shoe partly about this sense?

_____

_____

7. Why might balancing on one foot improve this sense?

_____

_____

Words to know

proprioception: the sense of where your body parts are and how they move
tendons: tough cords that join muscles to bones
joints: places where two bones meet and can bend
sensors: tiny parts that notice changes and send messages
steady: not changing or shaking

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Your Sixth Sense Is Hiding in Your Muscles

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Your Sixth Sense Is Hiding in Your Muscles

Easier · 207 words · Flesch-Kincaid grade 2.4

1. Proprioception.
2. In the muscles, in the tendons, and around the joints.
3. Tough cords that join muscle to bone.
4. It puts them together to make a picture of the whole body.
5. Your sense of body position tells your brain where your hand is.
6. The brain learns to read body signals better as you practice.
7. It makes the brain use position signals, and practice trains the sense.

Triangle: Your Sixth Sense Is Hiding in Your Muscles

This passage · 261 words · Flesch-Kincaid grade 6.2

1. Proprioception.
2. In the muscles, in the tendons, and around the joints.
3. Tough cords that attach muscle to bone.
4. It combines them into a steady picture of the whole body.
5. Your sense of body position tells your brain where your hand is without needing your eyes.
6. The brain has to learn to read body signals more smoothly as you practice.
7. It makes the brain use position signals carefully, and practice trains the sense.

Square: Your Sixth Sense Is Hiding in Your Muscles

Harder · 281 words · Flesch-Kincaid grade 8.9

1. Proprioception.
2. In the muscles, in the tendons, and around the joints.
3. Tough cords that fasten muscle to bone.
4. It merges them into a steady picture of the entire body.
5. Your sense of body position tells the brain where your hand is without help from your eyes.
6. The brain learns to interpret body signals more smoothly with practice.
7. It requires the brain to use position signals carefully, and practice trains the sense.