



A CENSUS OF SENSES

By: Christie Vosseller, S2C Ally

ASK SMITHSONIAN was asked to DEBUNK (expose untruths) some "facts" about the human body. Among five popular myths, it was noted that we do not have 5 senses, we actually have between 5 and 33 total senses. ECO-PSYCHOLOGIST Michael J. COHEN notes that we could have as many as 53 total senses! Today we are going to gain a heightened AWARENESS of our total number of senses.



Spell POPULAR Spell FACTS Spell NUMBER

What resource was asked to debunk facts? ASK SMITHSONIAN

What are we talking about today? TOTAL NUMBER OF SENSES

What is the last name of the eco-psychologist? COHEN

What is the lowest number of senses people think we have? 5

How many senses does Cohen think we have? 53

What are the classic first five senses? Sight, or VISION is the first. AUDITION, or hearing, is the second. Smell, or OLFACTION, is the third. Taste, or GUSTATION, is the fourth. And Touch, or TACTITION, is the fifth.

Question Type Key

KNOWN – SEMI-OPEN – PRIOR KNOWLEDGE – MATH – OPEN – VAKT

Spell CLASSIC Spell FIRST Spell FIFTH

What other word for sight did I use? VISION

What sense does audition refer to? HEARING

What sense does tactition refer to? TOUCH

Name one of the classic first five senses, using the common word. SIGHT HEARING
SMELL TASTE TOUCH

Give me one of the technical words to describe a sense. VISION AUDITION, OLFACTION,
GUSTATION, TACTITION

Can you think of another sense beyond the classic five senses?

What senses are you currently using to participate in this lesson?

Beyond the classics, we have many more senses. How about a sense of BALANCE. Or the ability to sense HEAT and TIME. Who determines how many senses we have anyway? The PHILOSOPHER ARISTOTLE is credited with the first numbering of senses. This was done in his work called DE ANIMA. No matter who determines just how many senses we have, it is clear that the main five have been known to us for thousands of years.



Spell NUMBERING Spell DETERMINE Spell YEARS

Name one of the three senses offered in this paragraph. BALANCE HEAT TIME

Who is thought to have first numbered the senses? ARISTOTLE

What was his job title in this paragraph? PHILOSOPHER

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In what written work did he first number the senses? DE ANIMA

Engage your sense of balance. Try standing on one foot!

Most NEUROSCIENTISTS count at least nine basic senses. NEUROLOGISTS define senses as “a group of sensory cells that responds to a specific physical PHENOMENON, that corresponds to a particular region of the brain where the signals are received and interpreted.”

Spell NEUROSCIENTIST Spell PHENOMENON

The definition of senses includes a group of what kind of sells? SENSORY

A physical phenomenon corresponds to a particular region of the what? BRAIN

What happens in the brain with the signals? RECEIVED AND INTERPRETED

When senses OVERLAP, neurological classification can result in as many as 21 senses. Generally agreed upon senses by neurologists include several novel concepts. THERMOCEPTION is the sense of heat. NOCICEPTION is the sense of pain. EQUILIBRIOCEPTION is the perception of balance. This is what keeps us upright and helps us make our way around this world without getting hurt. PROPRIOCEPTION is the perception of body awareness, or knowing which parts of your body are where without looking.

Spell GENERALLY Spell NOVEL

What is the sense of heat called? THERMOCEPTION

Nociception is the sense of what? PAIN

What is the sense of balance called? EQUILIBRIOCEPTION

Proprioception is the perception of what? BODY AWARENESS

Body Awareness means knowing which parts of your body are where without what? LOOKING

Our sense of balance keeps us what? UPRIGHT

Body Awareness? Let's practice proprioception. Close your eyes and touch your nose.

Additional neurologically agreed upon senses include KINAESTHESIA and CHRONOCEPTION. Kinaesthesia is having a sense of movement in your body. Chronoception is how we sense the passing of time.

Spell MOVEMENT Spell TIME

What is the technical term for sense of movement? KINAESTHESIA

What is the technical term for sensing the passing of time? CHRONOCEPTION

Give me an example of Chronoception.

Michael J. COHEN, who we mentioned in the first paragraph, breaks down senses into four categories; RADIATION, FEELING, CHEMICAL, and MENTAL. Radiation senses include sense of color, temperature and moods associated with them. Feeling senses include sensitivity to gravity, air, wind pressure and motion.

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How many categories of senses does Cohen suggest? FOUR

Which category includes a sense of color, temperature and moods associated with them? RADIATION

Which category includes sensitivity to gravity, air, wind and motion? FEELING

Name of the four categories. RADIATION, FEELING, CHEMICAL, MENTAL

Name one thing associated with Radiation senses. COLOR, TEMPERATURE, MOODS ASSOCIATED WITH THEM

Name one thing associated with Feeling senses. GRAVITY AIR WIND PRESSURE MOTION

Continuing with Cohen's four categories of senses, CHEMICAL senses include HORMONAL sense and HUNGER for food, water or air. Finally, MENTAL senses include internal or external pain, mental or SPIRITUAL distress and sense of self.

Hormonal senses are included in what category? CHEMICAL

What category are internal or external pain in? MENTAL

Name one thing associated with mental senses. INTERNAL OR EXTERNAL PAIN, MENTAL OR SPIRITUAL DISTRESS, SENSE OF SELF

ISOLATING senses in study can be misleading. Every day, real world experiences such as eating involve several different senses working together. Flavor is a great example of sensory interaction. The taste of food largely comes from smell rather than actual taste buds. A loss of smell will greatly affect personal eating experience. Flavor experiences are also affected by color, sound, and SPATIAL placement.

What can be misleading? ISOLATING SENSES

Name a real world event that uses several senses. EATING

What is a great example of sensory interaction? FLAVOR

Where does the taste of food largely come from? SMELL

Name one more thing that affects the eating experience. COLOR SOUND SPATIAL PLACEMENT

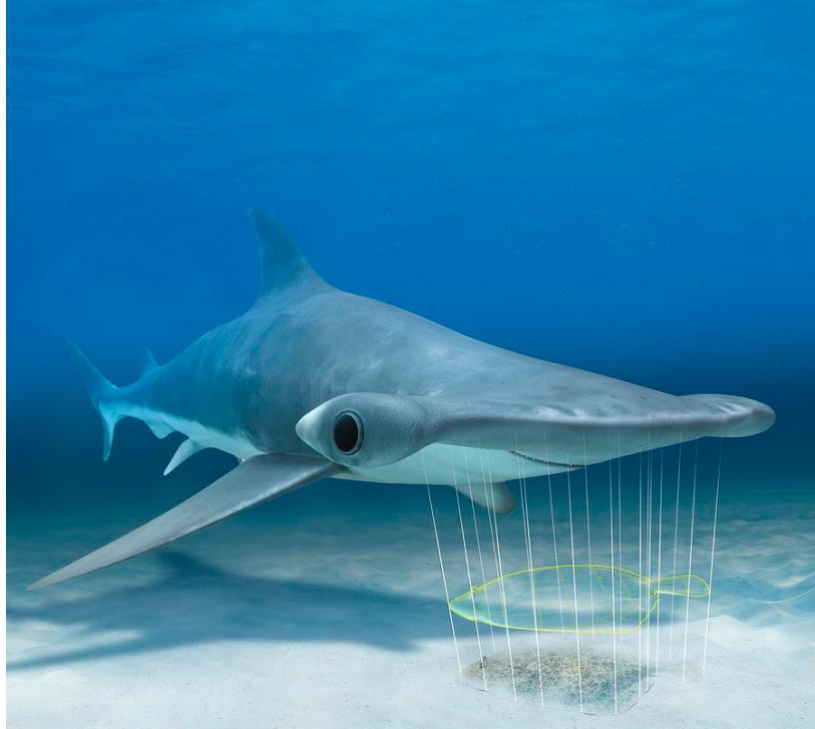
Can you think of another experience that involves multiple senses?

What senses are involved when you are in water or swimming?

According to the World Economic Forum senior writer ALEX GRAY, there are several senses that exist only in the animal world. They include ELECTRORECEPTION and MAGNETORECEPTION. Electroreception is the ability to feel electric fields around us. Sharks are said to have this sense. Sharks can gather information from electrical fields in their environment and fields emitted by prey they cannot even see. Magnetoreception is how mammals, like bats, use the earth's magnetic field to navigate.

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What is the name of the writer? ALEX GRAY

Who does Gray write for? WORLD ECONOMIC FORUM

How many senses do we introduce in this paragraph? TWO

What happens in electroreception? ANIMALS CAN FEEL ELECTRICAL FIELDS AROUND THEM

What animal is said to have this sense? SHARKS

What can sharks hunt using this sense? PREY

What do bats use to navigate the earth? MAGNETORECEPTION

Creative Writing:

Let's make sense! Describe a sense and give it a new, creative name.

Cohen seeks to share that we are all sensory creatures, with senses given to us to help us survive and thrive in the natural world. What sense helps you thrive in our world?

Lesson By: Christie Vosseller

<https://www.tweentribune.com/article/teen/five-false-facts-about-human-body/>

<https://www.sensorytrust.org.uk/information/articles/senses.html>

<https://www.sciculture.ac.uk/2014/06/12/not-5-but-33-senses/>

<https://www.weforum.org/agenda/2017/01/humans-have-more-than-5-senses/>

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