**Reading Outline for Plotnik’s Introduction to Psychology, 4th Edition**

**Module 5 “Sensation”**

**Introduction**

***Three Characteristics of All Senses***

 1. Transduction

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 2. Adaption

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 3. Sensations

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1. **Eye: Stimulus, Structure, & Function**

**Wavelengths – What’s visible and what isn’t?**

 Invisible – too short

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 Visible – just right

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 Invisible – too long

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*What happens when you see a giraffe?*

1. Light waves.

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 2. Image reversed.

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 3. Cornea.

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 4. Pupil.

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 5. Iris.

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 6. Lens.

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 7. Retina.

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 8. Eyeball.

 8a. Normal vision -

 8b. Nearsighted -

 8c. Farsighted -

**Retina: A Miniature Computer**

*The process of transduction*

1.

2. **Rods**

3. **Cones**

4.

5.

**Visual Pathway: Eye to Brain**

1. Retina.
2. Optic nerve.
3. Primary visual cortex.
4. Association area.
5. Information processing.
6. Stimulation or blindness.

**Color Vision**

*Making Colors from Wavelengths*

1.

2.

3.

**The Trichromatic Theory** –

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**Opponent-Process Theory** –

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The theories combined

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**Color Blindness**

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Monochromats –

Dichromats -

**B. Ear: Stimulus, Structure, & Function**

**Stimulus: Sound Waves**

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 *Relationship: Amplitude and Loudness*

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 *Relationship: Frequency and Pitch*

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**Decibel Levels**

**Hearing or Auditory System**

1. Outer Ear.

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1a.

1b.

1. Middle Ear.

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1. Inner Ear.

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3a.

3b.

3c.

1. Brain: Auditory areas

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4a.

4b.

*Information from Sound Waves*

 Judging Direction

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 Judging Pitch

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 Judging Loudness

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**C. Vestibular System**

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**Motion Sickness**

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**Meniere’s Disease and Vertigo**

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**D. Chemical Senses: Taste and Smell**

 **Taste** –

1. Four basic tastes.

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2. Surface of the tongue.

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 3. Taste buds.

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 4. All tongues are not the same.

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 5. Taste and Smell

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**Smell or Olfaction –**

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1. Stimulus.

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2. Olfactory Cells –

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3. Sensations.

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*Functions of Olfaction*

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**E. Touch: Stimulus, Structure, & Function**

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**Skin**

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**Hair receptors**

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**Free nerve endings**

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**Pacinian corpuscle**

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**Brain Areas**

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**F. Cultural Diversity: Different Tastes**

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G. **Research Focus: Pain & Placebos**

 *Research Question: Does the Mind Make Pain Go Away?*

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**H. Pain: A Different Sense**

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 **Gate Control Theory**

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 *Is Pain Purely Physical?*

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 **Endorphins**

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 **Acupuncture**

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**I. Application: Artificial Senses**

***Artificial Visual System***

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1. Eye and retina.

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2. Brain Implant.

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3. Functional vision.

***Artificial Hearing System***

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 **Conduction Deafness**

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 **Neural Deafness**

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*How Well Do Cochlear Implants Work?*

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