

# Week 6 Presentation: Hubel's Eye, Brain, and Vision

## Hubel's Eye, Brain, and Vision

### Introduction:

This presentation delves into David Hubel's foundational work on the primary visual cortex, exploring how the brain deconstructs the visual world into oriented lines and edges.

**Brainstorming Questions:** 1. **The Cat and the Line:** Hubel and Wiesel showed kittens lines to see how they learned to see. Explain, as if you were talking to, a 6-year-old that our brain has to "learn" to see straight lines just like we learn to read, and if we don't practice during the "critical period," we might be blind to them forever.

2. **Building Blocks of Sight:** The brain builds vision from simple information. Explain, as if you were talking to, your grandpa that the brain is like a construction crew: it starts with simple bricks (lines/edges in V1), then builds walls (shapes), and finally a whole house (an object), so we need the simple stuff to see the big picture.
3. **Feature Detectors:** Explain, as if you were talking to, a child that we have special "brain neurons" that only wake up for specific things—like a line tilting left or a line tilting right. It's like having a choir where one singer only sings when they see a specific note.

### Recommended Readings:

- Hubel, D. H. (1995). *Eye, brain, and vision*. Scientific American Library.