



project.org

STUDENT HANDOUT

RED LEVEL
GO DEEPER

Vision Training for Athletes

Grades 5–8 · PE

ADMIT ONE

NAME

DATE

CLASS

Sports vision science. Professional sports teams employ “sports vision specialists” who design training programs to improve athletes’ visual processing. Research shows that visual training can improve batting averages, save percentages, and reaction times by measurable margins.

PART 1

O1

Data analysis

Record your complete performance data and identify patterns:

SKILL	YOUR SCORE	CLASS AVG (EST.)	YOUR RELATIVE PERFORMANCE
Depth (both eyes)	___/5	___/5	Above / Average / Below
Depth (one eye)	___/5	___/5	Above / Average / Below
Peripheral range	___°	___°	Above / Average / Below
Reaction accuracy	___/10	___/10	Above / Average / Below

Analysis: Which visual skill is your strongest? Which needs the most improvement?

PART 2

O2

Design your own vision drill

Create an original drill that trains ONE specific visual skill for a specific sport:

Target sport: _____ Visual skill being trained: _____

Equipment needed:

Drill instructions (step by step):

How would you measure improvement?

Why does this drill mimic real game situations?

PART 3

03

Research connection

Many pro athletes have unusual visual abilities. Research ONE of these topics:

- How do elite baseball hitters track a 95 mph fastball?
- What visual training do Formula 1 drivers do?
- How do hockey goalies use peripheral vision?
- Can video games improve visual reaction time?

Your topic: _____

Key finding:

How does this connect to what we learned today?

PART 4

04

The science of milliseconds

Consider these facts:

- A 95 mph fastball reaches home plate in 400 milliseconds
- The batter must decide whether to swing within 150 milliseconds
- Elite batters can identify pitch type within 100 milliseconds of release

What does this tell you about the importance of visual training?

MINI MUSEUM CONNECTION

Mini Museum deep dive: The stereoscope demonstrates binocular disparity—but some athletes have better stereo acuity than others.

Research question: How do sports vision specialists measure stereo acuity? Can it be improved with training?

Visit: minimuseumproject.org/exhibitions/seeing-is-deceiving

SHARE WITH YOUR FAMILY

Project: Test your family's visual reaction time using an online reaction test (search "human benchmark reaction time"). Record everyone's results. Does age correlate with reaction time? Create a graph of your findings!