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TEACHER LESSON PLAN

Vision and Athletics

How Your Eyes Affect Performance · Grades 5–8 · PE · 25 minutes

Students discover how visual perception affects athletic performance through hands-on drills testing depth perception, peripheral vision, and hand-eye coordination.

THE 25 MINUTES

3 min
HOOK

4 min
INSTRUCTION

15 min
ACTIVITY STATIONS

3 min
CLOSING

LEARNING OBJECTIVE

Students will understand how visual perception directly affects athletic performance, experience how depth perception and peripheral vision impact sports skills, and practice drills that improve hand-eye coordination and visual reaction time.

STANDARDS ALIGNMENT

- **SHAPE America Standard 2:** Applies knowledge of concepts, principles, strategies and tactics related to movement and performance.
- **SHAPE America Standard 4:** Exhibits responsible personal and social behavior that respects self and others.

MATERIALS NEEDED

- Tennis balls or similar soft balls (one per pair)
- Cones for marking stations (8–12)
- Stopwatch or timer
- Eye patches or paper/tape to cover one eye (optional)
- Different colored balls or objects (for color recognition drill)
- Optional: Student handouts (three levels available)

HOOK · 3 MINUTES

The one-eye challenge

Quick demonstration: Ask for a volunteer. Have them stand 10 feet away and toss them a ball to catch—first with both eyes open (easy catch), then with one eye covered (much harder).

“Why was that so much harder with one eye? Your two eyes work together to create depth perception—the ability to judge how far away things are. When you lose one eye’s input, catching becomes really difficult because you can’t tell exactly where the ball is in space. Today we’re going to explore how your vision affects your athletic performance!”

Three visual skills in sports

O1

Depth perception

- Both eyes judge distance
- **Critical for:** catching, hitting, shooting
- A 90 mph baseball gives you <0.5 sec to judge position

O2

Peripheral vision

- “Corner of your eye” vision
- **Critical for:** soccer, basketball, hockey
- Athletes train to notice more at the edges

O3

Reaction time

- Speed of visual processing
- **Critical for:** goalkeeping, batting
- Pros vs amateurs = milliseconds

“Professional athletes train these visual skills just like they train their muscles. Let’s try some of their drills!”

ACTIVITY STATIONS · 15 MINUTES

Set up three stations. Students rotate through each (4–5 minutes per station).

STATION 1

Depth perception challenge

Setup: Partners 10–15 feet apart. Toss ball with both eyes (count catches out of 5), then one eye covered (repeat). Switch roles.

Discussion: *“How much harder with one eye? This is why depth perception matters!”*

STATION 2

Peripheral vision drill

Setup: Student faces forward, partner to the side. Partner slowly moves ball from behind toward field of vision. Student says “NOW” when they first see it (without moving eyes). Repeat on other side, switch.

Challenge: Can you detect the ball earlier with practice?

STATION 3

Reaction time challenge

Setup: Partners face each other with colored objects. Partner A holds up color; Partner B calls color AND performs action (Red = clap, Blue = jump, Yellow = touch ground). Count correct out of 10, switch.

CLOSING · 3 MINUTES

Connect to the exhibition

“Your brain constantly processes visual info and makes predictions—sometimes wrong (illusions), sometimes right (catching). The more you train your visual system, the better your predictions become.”

MINI MUSEUM CONNECTION

Option 1 — Visit: The stereoscope shows how two slightly different images create depth perception.

Option 2 — Virtual:

minimuseumproject.org/exhibitions/seeing-is-deceiving

ASSESSMENT

- **Participation:** Observe engagement and willingness to challenge themselves.
- **Understanding:** Can students explain WHY each drill improves performance?
- **Exit question:** *“Name one visual skill and one sport where it’s important.”*

DIFFERENTIATED STUDENT HANDOUTS

GREEN LEVEL

Record basic results, simple reflection

YELLOW LEVEL

Track performance data, analyze patterns

RED LEVEL

Design custom drill, research athlete training