



MATH

PRE-LESSON PLAN

Lesson Title

- The Numbers Behind the Game: How Math Shapes Football and Entertainment.

Basic Information

- Grade Level: 4–8.
- Duration: 60 minutes.
- Subject Areas: Math, Career Exploration, English Language Arts, Financial Literacy.

Lesson Objectives

- Build curiosity about how math connects to real jobs in football and entertainment.
- Help students see math as a problem-solving tool, not just numbers.
- Prepare students to watch the video with predictions about careers and responsibilities.

Learning Objectives

- Students will:
 - Connect familiar math skills (fractions, percentages, problem-solving) to decisions about money, resources, and planning.
 - Practice explaining their reasoning in clear, simple language.
 - Predict how math shows up in football administration and event accounting.
 - Record questions they'll carry into the video.

Standards Alignment

Next Generation Science Standards (NGSS)

- 3-5-ETS1-1: Define a simple design problem reflecting a need or want with specified criteria for success.
- MS-ETS1-1: Define criteria and constraints of a design problem with sufficient precision to ensure a successful solution.

Common Core Math Standards

- 6.RP.A.3: Use ratio and rate reasoning to solve real-world problems.
- 7.EE.B.3: Solve multi-step real-life problems using rational numbers.

Common Core ELA Standards

- RI.4–8.1: Refer to details and examples to explain and infer.
- SL.4–8.1: Engage effectively in collaborative discussions.
- W.4–8.2: Write informative/explanatory texts.

Career Technical Education (CTE) Standards

- CRP 2: Apply academic and technical skills.
- CRP 5: Consider environmental, social, and economic impacts of decisions.
- CRP 8: Utilize critical thinking to make sense of problems and persevere in solving them.

Vocabulary

- **Salary Cap** – A budget that limits how much an NFL team can spend on players.
- **Budget** – A plan for how money will be used.
- **Percentages** – A way to show a part of a whole, often used to divide resources.
- **Accounting** – Tracking money that comes in and goes out of an organization.
- **Revenue** – The money a business or team earns.

Lesson Components & Educator Guidance

1. Warm-Up: Math Gallery Walk (15 min)

Post four large pieces of chart paper around the room with following prompts, or others that you think will generate good conversation and thinking around how math and football/sports and entertainment are connected:

- Where do you think math shows up in football?
- Where do you think math shows up in concerts or events?
- What kinds of math do you use in your everyday life?
- Why might people say “I’m not a math person?” Do you see yourself that way?

Students rotate to each of the four pieces of paper, writing their ideas or drawing quick sketches on each chart.

Teacher tip: Encourage multiple contributions per student. If a student sees something they agree with, they can add a check mark or +1. This builds visible data for discussion.

After the students rotate, highlight themes that appear in student responses and prompt students to consider whether these may be present in the video they are about to watch.

2. Vocabulary Mini-Lesson (10 min)

Introduce the vocabulary terms using accessible examples. You can use the suggestions below, or develop any you like/think your kids will relate to:

- A **salary cap** is like a budget that limits how much money a team can spend on players.
 - Imagine building a video game team with 100 points: if one superstar costs 40 points, you only have 60 left to spend on everyone else.
- **Revenue** is like ticket money collected at a school carnival or bake sale.

Teacher tip: Remind students that these are the same terms real professionals in sports and entertainment use every day.

3. Activity: Math Detectives (25–30 min)

Distribute the [Math Detectives Worksheet](#) and frame the task. You can use this suggested language, or come up with something you like better:

- You’re about to meet two professionals who use math in their jobs. One manages budgets for football players, and one manages money for concerts. Before you meet them, this activity will help you go deeper into how you think math is connected to the game of football and events at Hollywood Park and the kinds of math you think are involved in that work.

Students complete the worksheet individually, then compare with a partner.

Teacher tip: Circulate and ask probing questions. Consider the options below, or use others you like

- What kind of math might be used to decide how to divide money fairly?
- Why might percentages matter in these jobs?
- How do you think these math professionals got their jobs? What kinds of training or schooling do you think they had before they got their first job?

4. Share & Reflect (10–15 min)

Students share one prediction or question from their worksheet with a partner. A few volunteers share with the whole class.

Teacher Tip: Whenever possible, connect student predictions, questions or class dialogue to the video students are about to watch, and then prompt them to consider those things as they move into watching it. Use this language if you like, or choose something you think fits better:

- You're about to see how two real people use math in their work. Watch closely! Check to see if your predictions were on target.

Materials Needed

- Chart paper and markers
- Math Detectives Worksheet
- Pencils

Assessment

- Completed worksheet
- Contributions to gallery walk
- Quality of reasoning during discussions