



**STEM**  
*sports*<sup>®</sup>

science • technology  
engineering • math • sports

**FOOTBALL**

Module 8.1

Properties and Behavior of Footballs

GRADES 6<sup>th</sup> – 8<sup>th</sup>



MODULE  
**8.1**

GRADES  
**6-8**

## What Do You Need?

### Supplies Provided

[Worksheets](#), Youth Footballs,  
Foam Footballs, Scale and Tape  
Measures

### Materials Needed

Various 3D Objects (Cylinder:  
paper towel rolls; Cone: party hat,  
ice cream cones; Sphere:  
basketballs), Pencils and  
Calculators



## Test Your Knowledge

Have your students take this lesson's assessment prior to engaging by visiting: <https://stemsports.com/assessments/>. If you have limited digital capability, please email [Info@STEMSports.com](mailto:Info@STEMSports.com) to access the Assessment & Key.

# Engage

How do the footballs  
feel and behave  
differently?



# Explore

Based on a football's unique shape, review the [worksheet](#) to better understand its shape and function.

# Explain

Discuss how to find the volume of an oddly shaped object. What formula is used to find this information?

## Elaborate

Determine the mass of each football by its density with the [worksheet](#).

# Evaluate

Make a claim about density and its affect on the ball. Use the [worksheet](#).





## What Did You Learn?

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**Extend**

## **Challenge Yourself!**

How much air should be in the football?  
How does it differ from the foam football?  
Compare and Contrast their densities.



# What is your Dream Job?

## STEM Jobs in Sports

- Equipment Manager
- Systems Engineer
- Assistant Coach
- Team Merchandise Designer
- Sports Equipment Manufacturer



To access Worksheet Keys, please visit [www.STEMSports.com/digitaltools](http://www.STEMSports.com/digitaltools)

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