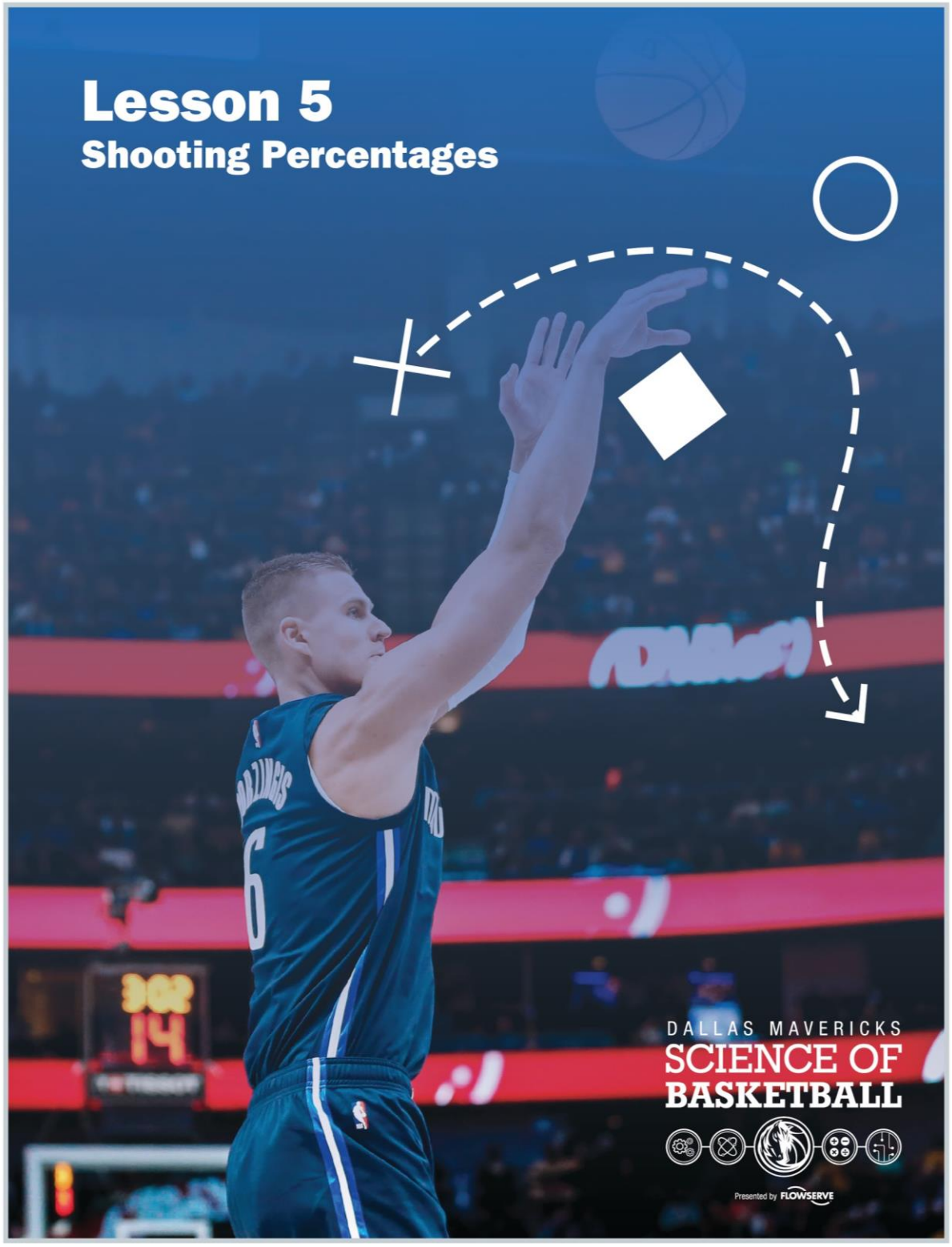
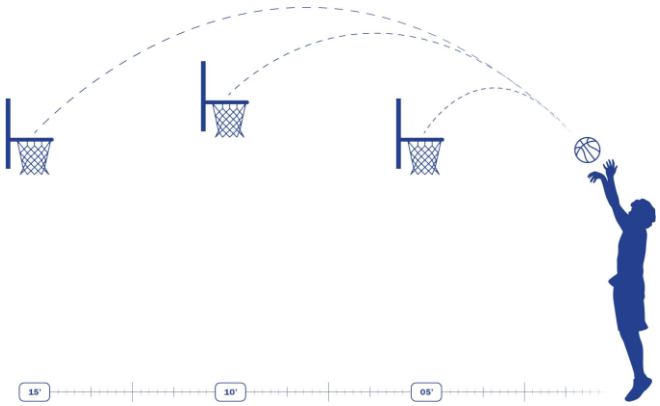

Lesson 5
Shooting Percentages
DALLAS MAVERICKS
SCIENCE OF
BASKETBALL
Presented by FLOWSERVE

Lesson 5 - Shooting Percentages

Description

Scholar athletes calculate the shooting percentages of Mavericks players, then calculate their own shooting percentages, from different distances, and shooting with both their dominant and non-dominant hands.



Materials

1. Lesson 5 Worksheet
2. Basketballs (2)
3. Basketball hoops (2)
4. Measuring tape
5. Painter's tape
6. Cones
7. Pro Mini Hoop

Answers

1. 3-point %: 50%; 2-point %: 75%; Free throw %: 100%; Total points: 14
2. 3-point %: 40%; 2-point %: 100%; Free throw %: 50%; Total points: 9
3. Answers will vary, however,
   5'-shot %s must be either: 0%, 20%, 40%, 60%, 80%, or 100%
   10'-shot %s must be either: 0%, 25%, 50%, 75%, or 100%
   15'-shot %s must be either: 0%, 33 1/3%, 66 2/3%, or 100%

TEKS - Math

- 6.4.E - Represent ratios and percents with concrete models, fractions, and decimals.
- 6.4.F - Represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers.
- 6.4.G - Generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.
- 6.5.B - Solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

TEKS - Science

- 5.2.A - Describe, plan, and implement simple experimental investigations testing one variable.

- 6.2.D - Construct tables and graphs, using repeated trials and means, to organize data and identify patterns.

TEKS - Physical Education

- 5.1.C - Demonstrate attention to form, power, accuracy, and follow-through in performing movement skills.
- 5.1.K - Demonstrate competence in manipulative skills in dynamic situations such as overhand throw, catch, shooting, hand dribble, foot dribble, kick, and striking activities such as hitting a softball.
- 5.2.A - Identify common phases such as preparation, movement, follow-through, or recovery in a variety of movement skills such as tennis serve, handstand, and free throw.
- 6.1.F - Throw a variety of objects demonstrating both accuracy and distance such as frisbee, softball, and basketball.

Website Reference

https://www.youtube.com/watch?v=1YHwhdZncXk
Video (Begin video and watch until 3:00): "Luka Doncic's Best Plays From the 2018-19 NBA Regular Season" (published on 4/11/19)

"Overtime" Opportunity

Scholar athletes can be given the opportunity to calculate shooting statistics from other distances with the pro mini hoop in the classroom or with a regulation hoop in a gym or playground.

Lesson 5 Teacher Guide

Go to: https://www.youtube.com/watch?v=1YHwhdZncXk, and have the scholar athletes watch the "Luka Doncic's Best Plays From the 2018-19 NBA Regular Season" video.

Have the scholar athletes complete the Lesson 5 Worksheet.

Worksheet 5

Answer the questions below.

1. In their 107-104 win over the Houston Rockets on December 8, 2018, Dorian Finney-Smith made two of his four 3-point shots, made three of his four 2-point shots, and made two of his two free throw attempts. What was his shooting percentage for his 3-point shots, 2-point shots, and free throws?

   3-point shot %: _____ 2-point shot %: _____ Free throw %: _____

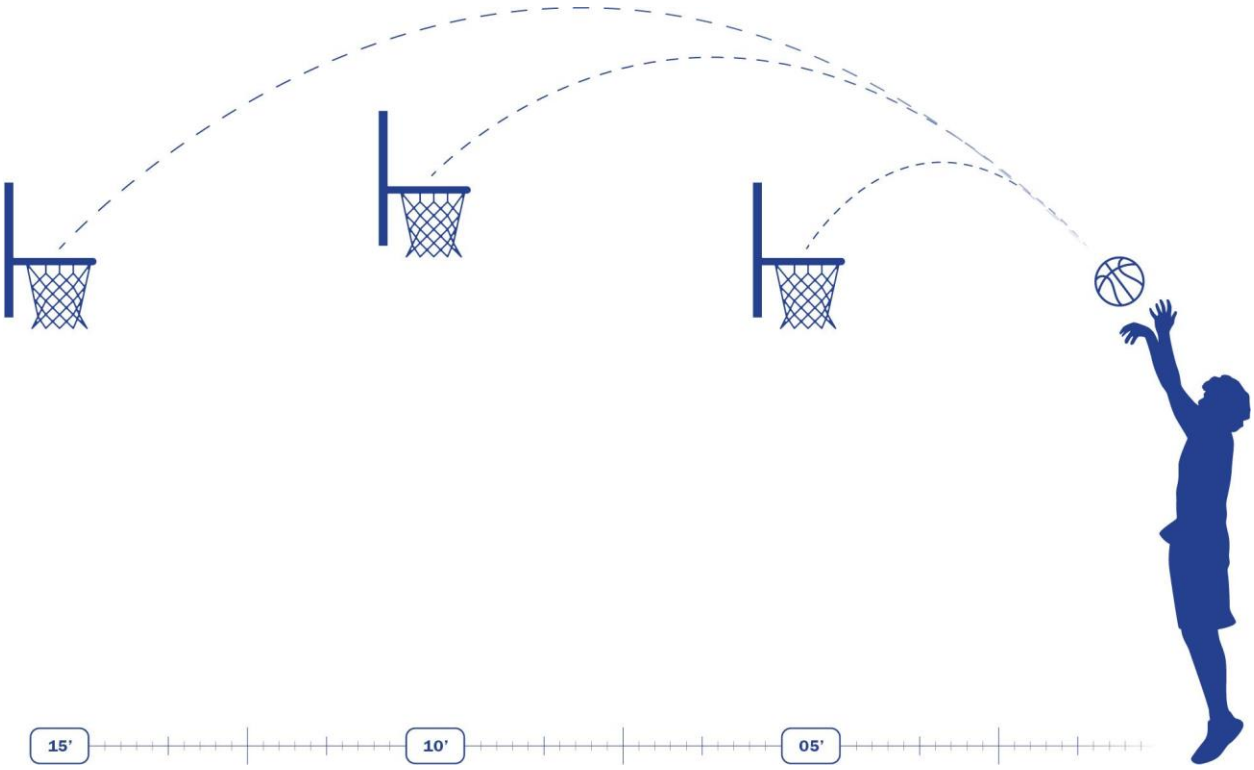
   How many total points did Finney-Smith score in the game? _____

2. In their 111-102 win over the Portland Trail Blazers on December 4, 2018, Devin Harris made two of his five 3-point shots, made his one 2-point shot, and made one of his two free throw attempts. What was his shooting percentage for his 3-point shots, 2-point shots, and free throws?

   3-point shot %: _____ 2-point shot %: _____ Free throw %: _____

   How many total points did Harris score in the game? _____

Place each of the two basketball hoops in locations in the classroom with at least 15 feet of clearance for scholar athletes to shoot with an unobstructed view of the basket. From the front edge of the backboard, measure 5 feet, 10 feet, and 15 feet, and place the tape at each of those distances for each hoop.



1. Select two scholar athletes, one at each hoop, to shoot 5 times from the 5-foot distance, 4 times from the 10-foot distance, and 3 times from the 15-foot distance. Record the shooting statistics and percentages for each scholar athlete using the "SCHOLAR ATHLETE SHOOTING STATISTICS" chart. Repeat for additional pairs of scholar athletes.

2. Select two scholar athletes, one at each hoop, to shoot 5 times from the 5-foot distance with their dominant hand, then 5 times from that distance with their non-dominant hand. Record the shooting statistics and percentages for each scholar athlete using the "SCHOLAR ATHLETE SHOOTING STATISTICS - DOMINANT VS. NON-DOMINANT HAND" chart. Repeat for additional pairs of scholar athletes. Have scholar athletes discuss why there might be a difference in their shooting percentages.

3. Select two scholar athletes, one at each hoop, to shoot as many times at whatever distances they choose for 60 seconds. A shot made at the 5-foot line is worth 1 point, a shot made at the 10-foot line is worth 2 points, and a shot made at the 15-foot line is worth 3 points. Record the shooting statistics and percentages for each scholar athlete using the "SCHOLAR ATHLETE SHOOTING STATISTICS - 60 SECONDS" chart. Repeat for additional pairs of scholar athletes. Based on the data produced, have scholar athletes discuss what strategies they believe will result in the most number of points in 60 seconds.

SCHOLAR ATHLETE SHOOTING STATISTICS						
Name	5' shots made (out of 5)	5' shot %	10' shots made (out of 4)	10' shot %	15' shots made (out of 3)	15' shot %

SCHOLAR ATHLETE SHOOTING STATISTICS - DOMINANT VS. NON-DOMINANT HAND				
Name	5' shots made (out of 5) with dominant hand	5' shot % w/dominant	5' shots made (out of 5) with non-dominant hand	5' shot % w/non-dominant

SCHOLAR ATHLETE SHOOTING STATISTICS - 60 SECONDS				
Name	5' shots made (1 point each)	10' shots made (2 points each)	15' shots made (2 points each)	Total Points