

GRADE 12:

Benchmark C: Data Analysis and Probability

Probability

1. Identify and use various sampling methods (voluntary response, convenience sample, random sample, stratified random sample, census) in a study.

PROCEDURE:

In discussion before viewing *Human Performance: Sampling*, the teacher may consider engaging students in discussion on any of the following topics:

- Human Performance is a field that relies heavily on conducting experiments.
- Math, specifically statistics is a key subject area for Human Performance Professionals.
- Human Performance Professionals collect, analyze, and interpret data.

In discussion after viewing *Human Performance: Sampling*, the teacher may have a follow-up discussion on the same topics discussed before viewing the video.

BEFORE VIEWING:

Have each student complete the “Before Viewing” column on the Agree-Disagree Chart.

WHILE VIEWING:

Students make notes about their impressions of how statistics is used in the field of Human Performance and note how different types of samples are used.

AFTER VIEWING:

Have students complete the “After Viewing” column on the Agree-Disagree Chart. Discuss the changes in their answers.

DIRECTIONS:

Mark whether you agree or disagree with each statement in the left column before viewing the video. After viewing the video, identify whether you agree or disagree with each statement in the right column. Discuss each statement as a group.

<i>Before Viewing</i>	<i>Statement</i>	<i>After Viewing</i>
Agree Disagree	Human Performance relies heavily on the use of statistical sampling.	Agree Disagree
Agree Disagree	Human Performance Professionals must collect, analyze, and interpret data.	Agree Disagree
Agree Disagree	Human Performance Professionals look at different types of data when conducting experiments.	Agree Disagree

PROCEDURE:

Distribute the pre and post-viewing guide on the following page to provide focused viewing for students while watching the *STEM Career Lab* video, *Human Performance: Sampling*.

Before viewing the video, instruct students to read and respond to the “What I Already Know” column of the *Human Performance: Sampling Viewing Guide*. Let students know it's okay if they do not know all of the answers. Play the *Human Performance: Sampling* video and instruct students to now fill out the “What I Learned” column. After playing the video, use the guide to facilitate a post-viewing discussion with students.

1. To ensure that the population is representative and that the findings are generalizable out.
2. Census Sampling, Random Sampling, Stratified Random Sampling, Convenience Sampling.
3. Census sampling is rarely used because it looks at an entire population.
4. The U.S. Census.
5. Convenience Sampling is easy to use because it uses whoever is convenient.

	<i>What I Already Know</i>	<i>What I Learned</i>
1. Why is sampling important when conducting an experiment?		
2. What types of sampling are there?		
3. Why is census sampling rarely used?		
4. What is a good example of census sampling?		
5. Why is convenience sampling easy to use?		