U6 L1-4 **Random Sampling** 7.SP.2

Name _____ Date _____ Hour _____

1. The owner of a local cell phone company wants to conduct a survey to determine what kind of musical ring tones people typically use. The music options are: classical, rock, rap/hip hop, country, other.
   a. If he decides to survey the listeners of a county music station, would the results represent the entire population? Explain why or why not.

   b. If he decides to survey a group of people standing in line for a rock concert, would the results represent the entire population? Explain why or why not.

   c. If he decides to mail the survey to every 200th household in the area, would the results represent the entire population? Explain why or why not.

2. To determine what kind of movies people like to watch, every 10th customer who walks into a video rental store is surveyed. The store carries all kinds of movies. Out of the 210 customers surveyed, 72 said they prefer action movies. Does this present a random sample of the entire population? Explain.

3. A news program asked its viewers to visit a website to vote for their preference for the two presidential candidates. 68% of the viewers who responded preferred candidate A. The news program announced that most people prefer candidate A. Is this a valid conclusion about the data collected? Explain.

4. A middle school principal is planning the 8th grade graduation dance. The principal must decide what the theme of the dance should be. The principal does not have time to contact every member of the 8th grade class, so she will obtain a sample of 25 students to survey. Describe a method the principal could use to select the students to survey. Justify why your answer would create a random sample.

5. The local YMCA is going to buy three new fitness machines. The manager is going to conduct a survey of the YMCA members to see which fitness machine is most frequently used. How could the YMCA manager conduct the survey to create a random sample that is representative of the entire YMCA member population?

U6 L1-4 **Random Sampling** 7.SP.2

Name _____ Date _____ Hour _____

Random Sampling

1. The owner of a local cell phone company wants to conduct a survey to determine what kind of musical ring tones people typically use. The music options are: classical, rock, rap/hip hop, country, other.
   a. If he decides to survey the listeners of a county music station, would the results represent the entire population? Explain why or why not.

      This does not represent the entire population – only people who listen to country music. Bias would most like be toward country music.

   b. If he decides to survey a group of people standing in line for a rock concert, would the results represent the entire population? Explain why or why not.

      This does not represent the entire population – only those at a rock concert. Bias would most like be toward rock music.

   c. If he decides to mail the survey to every 200th household in the area, would the results represent the entire population? Explain why or why not.

      This would represent the entire population. It is a random selection of the whole population. Most responses would not be biased due to their surroundings.

2. To determine what kind of movies people like to watch, every 10th customer who walks into a video rental store is surveyed. The store carries all kinds of movies. Out of the 210 customers surveyed, 72 said they prefer action movies. Does this present a random sample of the entire population? Explain.

   This is a random sample of the entire population. Every 10th person could be a different gender, age, ethnicity, etc. and could prefer any type of movie.

3. A news program asked its viewers to visit a website to vote for their preference for the two presidential candidates. 68% of the viewers who responded preferred candidate A. The news program announced that most people prefer candidate A. Is this a valid conclusion about the data collected? Explain.

   No, this is not a valid conclusion. The results do not present "most people", instead the results only represent the viewers of the news program.

4. A middle school principal is planning the 8th grade graduation dance. The principal must decide what the theme of the dance should be. The principal does not have time to contact every member of the 8th grade class, so she will obtain a sample of 25 students to survey. Describe a method the principal could use to select the students to survey. Justify why your answer would create a random sample.

   Answers will vary. The principal could survey every 5th student, out of the 8th grade students during lunch time.

5. The local YMCA is going to buy three new fitness machines. The manager is going to conduct a survey of the YMCA members to see which fitness machine is most frequently used. How could the YMCA manager conduct the survey to create a random sample that is representative of the entire YMCA member population?

   Answers will vary. The manager could survey every 20th YMCA member for one entire day.