Fair and biased samples worksheet – Grade 5

Grade 5 · Mixed level · 20 questions · **Version X9442**

Name: _____ Date: _____ Score: ___ / 20

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1. Liam wants to find out how long people sleep. Which sample is fair?
   A. only the Grade 1 class **B.** every tenth household on the town list
   C. only people at a night-time bakery **D.** only the people who answer first

2. Which sample is biased when finding out the favourite music in town?
   A. every tenth name on the full list **B.** names picked at random from the full list
   C. only people leaving a jazz concert **D.** people picked at random from the town list

3. To learn the favourite sport at school, whom should Zara ask?
   A. every tenth student on the school list **B.** only the Grade 1 class
   C. only the hockey team **D.** only your best friends

4. To learn the favourite music in town, whom should Hana ask?
   A. people picked at random from the town list **B.** only the Grade 1 class
   C. only people leaving a jazz concert **D.** only your best friends

5. Which group would give the fairest picture of the favourite music in town?
   A. only the people who answer first **B.** only people leaving a jazz concert
   C. only your best friends **D.** people picked at random from the town list

6. Which sample is biased when finding out how much students read?
   A. names picked at random from the full list **B.** every tenth name on the full list
   C. only students in the library **D.** names drawn from a hat with every student's name

7. Liam wants to find out how much students read. Which sample is fair?
   A. names drawn from a hat with every student's name **B.** only your best friends
   C. only students in the library **D.** only the Grade 1 class

8. Zara asks only the hockey team to find out the favourite sport at school. Is this sample fair?
   A. Yes **B.** No

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9. Chloe asks only people at a night-time bakery to find out how long people sleep. Is this sample fair?

   A. Yes **B.** No

10. Which survey question is the fairest?

    A. What is your favourite subject? **B.** Math is the best subject, right?

    C. Why is art better than math? **D.** Don't you hate tests?

11. Leah asks 20 students picked at random from each grade to find out the favourite lunch at school. Is this sample fair?

    A. Yes **B.** No

12. Mateo asks only students waiting at the bus stop to find out how students get to school. Is this sample fair?

    A. Yes **B.** No

13. Dev asks every tenth student on the school list to find out the favourite sport at school. Is this sample fair?

    A. Yes **B.** No

14. Ravi asks every tenth household on the town list to find out how long people sleep. Is this sample fair?

    A. Yes **B.** No

15. 26 of 40 students in a fair sample like chess. What percent is that?

    Answer: _____

16. A fair sample of 20 students has 16 who walk to school. The school has 200 students. About how many walk?

    Answer: _____

17. Which sample usually gives a better estimate?

    A. 250 people picked at random **B.** 50 people picked at random

    C. 50 people from one street

18. In a random sample of 40 people, 10 say yes. About how many would say yes out of 1200?

    Answer: _____

19. Which sample usually gives a better estimate?

    A. 500 people picked at random **B.** 50 people picked at random

    C. 50 people from one street

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20. In a random sample of 25 people, 4 say yes. About how many would say yes out of 250?

    Answer: _____

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Answer key · Version X9442

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1. **B (every tenth household on the town list)**
2. **C (only people leaving a jazz concert)**
3. **A (every tenth student on the school list)**
4. **A (people picked at random from the town list)**
5. **D (people picked at random from the town list)**
6. **C (only students in the library)**
7. **A (names drawn from a hat with every student's name)**
8. **B (No)**
9. **B (No)**
10. **A (What is your favourite subject?)**
11. **A (Yes)**
12. **B (No)**
13. **A (Yes)**
14. **A (Yes)**
15. **65%**
16. **160**
17. **A (250 people picked at random)**
18. **300**
19. **A (500 people picked at random)**
20. **40**

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