Sample Plan Sort

How does each plan choose its sample?

S.DC.1.2 "Compare and contrast the benefits of different sampling techniques."

NAME _____ DATE _____

SIMPLE RANDOM SAMPLE

Choose the whole sample at random from one complete list, without splitting the list into groups. This is straightforward, but a small group might be missed.

A swimming pool randomly chooses 40 entry records from its full list for the season.

STRATIFIED RANDOM SAMPLE

Split the population into groups, then choose at random from each group. This takes more planning, but it makes sure every group is included.

An art festival randomly chooses six paintings from each exhibit room using separate room lists.

1 SORT

8 items

For each plan, circle SIMPLE or STRATIFIED, then choose one item from each category and explain the clue that helped you sort it.

1.	A city randomly chooses 80 addresses from one list of all homes.	SIMPLE STRATIFIED
2.	A coach mixes all team member names and draws 12 names.	SIMPLE STRATIFIED
3.	A factory randomly selects 15 day-shift workers and 15 night-shift workers from separate rosters.	SIMPLE STRATIFIED
4.	A park office randomly chooses 25 permits from its full permit list.	SIMPLE STRATIFIED
5.	A survey team randomly picks 30 weekday bus trips and 30 weekend bus trips from separate lists.	SIMPLE STRATIFIED
6.	A clinic randomly selects 20 patients under 18 and 20 patients 18 or older from separate lists.	SIMPLE STRATIFIED
7.	A store randomly draws 40 receipt numbers from its full list for the month.	SIMPLE STRATIFIED
8.	A wildlife crew randomly selects 10 oak trees and 10 pine trees from separate lists.	SIMPLE STRATIFIED

2 PROVE IT

Explain your thinking

Choose one item from each category and explain the clue that helped you sort it.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new sampling plan for each category, and name one benefit of each plan.

SIMPLE _____

STRATIFIED _____

CHALLENGE

A school has 900 day students and 100 evening students. A simple random sample of 20 could miss evening students. Write a stratified random sampling plan for 20 students that includes both groups, and explain one trade-off.

ANSWER KEY # Sample Plan Sort

HIGH SCHOOL · S.DC.1.2

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	A city randomly chooses 80 addresses from one list of all homes.	**SIMPLE**	The sample is chosen at random from one complete list.
2	A coach mixes all team member names and draws 12 names.	**SIMPLE**	The names are drawn from one combined group.
3	A factory randomly selects 15 day-shift workers and 15 night-shift workers from separate rosters.	**STRATIFIED**	Workers are selected at random within each shift.
4	A park office randomly chooses 25 permits from its full permit list.	**SIMPLE**	The sample is chosen from one complete list.
5	A survey team randomly picks 30 weekday bus trips and 30 weekend bus trips from separate lists.	**STRATIFIED**	Trips are selected at random within each time group.
6	A clinic randomly selects 20 patients under 18 and 20 patients 18 or older from separate lists.	**STRATIFIED**	Patients are selected at random within each age group.
7	A store randomly draws 40 receipt numbers from its full list for the month.	**SIMPLE**	The numbers are drawn from one complete list.
8	A wildlife crew randomly selects 10 oak trees and 10 pine trees from separate lists.	**STRATIFIED**	Trees are selected at random within each type.

PART 2 · PROVE IT

Task: Choose one item from each category and explain the clue that helped you sort it.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **SIMPLE**: A bakery randomly draws 25 order numbers from its full list. This plan needs only one list.
- **STRATIFIED**: An airport randomly chooses 12 domestic flights and 12 international flights from separate lists. This ensures both flight types are included.

Challenge: Make separate lists of day and evening students. Randomly select 18 day students and 2 evening students. Both groups are included, but making and using two lists takes more planning.

For Part 2, accept explanations that identify one complete list for a simple random sample or random selection within separate groups for a stratified random sample. A simple random sample does not guarantee that every subgroup will appear.