

Sample Spaces of Compound Events

The **sample space** of an event is the set of all possible outcomes. To find sample spaces of compound events, you can use tree diagrams, tables, or organized lists.

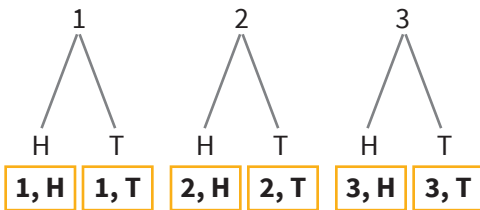
Let's try it!

Find the sample space of spinning the spinner below and flipping a coin.



The spinner can land on 1, 2, or 3. The coin can land on heads (H) or tails (T).

Tree Diagram



Table

	Heads	Tails
1	1, H	1, T
2	2, H	2, T
3	3, H	3, T

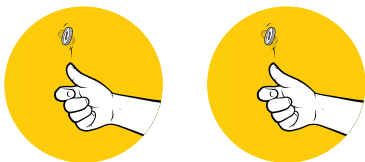
Organized list

{(1, H), (1, T),
(2, H), (2, T),
(3, H), (3, T)}

The tree diagram, table, and organized list all show that there are **6 possible outcomes** in the sample space.

Find the sample space. Use a tree diagram, table, or organized list to help. Then write the number of possible outcomes in the sample space. **Representations of sample spaces may vary.**

1. Find the sample space of flipping two coins.



	Heads	Tails
Heads	H, H	H, T
Tails	T, H	T, T

There are
4
possible outcomes in the sample space.

Sample Spaces of Compound Events

Keep going! Find the sample spaces. Use a tree diagram, table, or organized list to help. Then write the number of possible outcomes in the sample space. **Representations of sample spaces may vary.**

2. Find the sample space of spinning the spinner below and flipping a coin.



	Heads	Tails
1	1, H	1, T
2	2, H	2, T
3	3, H	3, T
4	4, H	4, T

There are
8
possible
outcomes in the
sample space.

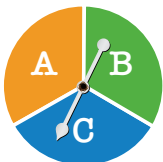
3. Find the sample space of flipping a coin and rolling a six-sided die.



	1	2	3	4	5	6
Heads	H, 1	H, 2	H, 3	H, 4	H, 5	H, 6
Tails	T, 1	T, 2	T, 3	T, 4	T, 5	T, 6

There are
12
possible
outcomes in the
sample space.

4. Find the sample space of spinning the spinner below and rolling a six-sided die.



	1	2	3	4	5	6
A	A, 1	A, 2	A, 3	A, 4	A, 5	A, 6
B	B, 1	B, 2	B, 3	B, 4	B, 5	B, 6
C	C, 1	C, 2	C, 3	C, 4	C, 5	C, 6

There are
18
possible
outcomes in the
sample space.

Sample Spaces of Compound Events

Keep going! Find the sample spaces. Use a tree diagram, table, or organized list to help. Then write the number of possible outcomes in the sample space. **Representations of sample spaces may vary.**

5. Find the sample space of spinning the two spinners below.



	A	B	C	D
1	1, A	1, B	1, C	1, D
2	2, A	2, B	2, C	2, D
3	3, A	3, B	3, C	3, D

There are 12 possible outcomes in the sample space.

6. Find the sample space of rolling two six-sided dice.

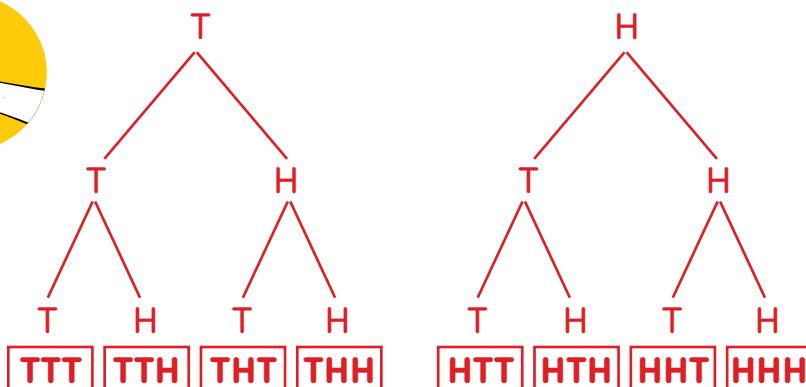
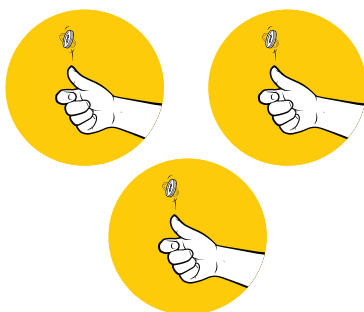


	1	2	3	4	5	6
1	1, 1	1, 2	1, 3	1, 4	1, 5	1, 6
2	2, 1	2, 2	2, 3	2, 4	2, 5	2, 6
3	3, 1	3, 2	3, 3	3, 4	3, 5	3, 6
4	4, 1	4, 2	4, 3	4, 4	4, 5	4, 6
5	5, 1	5, 2	5, 3	5, 4	5, 5	5, 6
6	6, 1	6, 2	6, 3	6, 4	6, 5	6, 6

There are 36 possible outcomes in the sample space.

Challenge yourself! Find the sample space. Use a tree diagram or organized list to help. Then write the number of possible outcomes in the sample space. **Representations of sample spaces may vary.**

7. Find the sample space of flipping three coins.



There are 8 possible outcomes in the sample space.