

dinos included, then there will be no plateosaur in the display.

$$\begin{aligned} Y &\rightarrow P \\ P &\rightarrow \neg Y \end{aligned}$$

Rule #5

If the velociraptor is included, then the ultrasaur is not included. And if the ultrasaur is included, then the velociraptor is not. This rule can be simplified to state that the velociraptor and the ultrasaur cannot both be selected.

$$V \leftrightarrow \neg U$$

Rule #6

This rule is difficult to diagram. If both the lambeosaur and the ultrasaur are included, then at least one of them is not mauve. In other words, at least one of those two dinosaurs must not be mauve.

$$L + U \rightarrow \text{NOT BOTH } M$$

The Deductions

In this game, it is all about mauve. Mauve, mauve, and a little bit more mauve. The first rule states that there must be exactly two mauve dinosaurs included in the display. The remaining rules, directly and indirectly, eliminate a number of dinos from being either of these two mauve dinosaurs.

- The stegosaur must be red.
- The iguanadon can only be green and the plateosaur can only be yellow, so neither of them can be mauve.
- Either the lambeosaur or the velociraptor can be mauve, but they cannot both be mauve.
- This only leaves three options for the two mauve dinosaurs that are included: *the tyrannosaur, the velociraptor, and either the lambeosaur or the ultrasaur.*

$$M \rightarrow 2 \text{ OF THE FOLLOWING } 3: T, V, L/U$$

The Questions

Question #12

The best approach to a question like this is to use the rules to eliminate the four incorrect answer choices.

- The stegosaur must be included, which eliminates (D).
- The velociraptor and the ultrasaur cannot both be included. So kick (A) and (E) to the curb.
- Either the tyrannosaur or the velociraptor must always be included since at least one of them must be one of the mauve dinosaurs. (C) includes neither one, so (C) is gone.

- (B) is the last man standing, so (B) is the undisputed champion.

Question #13

This question relies crucially on the deductions that were made in the beginning of the game. You are told that the tyrannosaur is not included.

- If the tyrannosaur is not included, then the velociraptor must be one of the mauve dinosaurs.
- If the velociraptor is included, the ultrasaur cannot be included.
- The lambeosaur must be included and it must be mauve.
- The iguanadon must be included and it must be green.
- The plateosaur must be included and it must be yellow.

C:	<u>M</u>	<u>M</u>	<u>R</u>	<u>G</u>	<u>Y</u>			
DINO:	<u>V</u>	<u>L</u>	<u>S</u>	<u>I</u>	<u>P</u>		<u>T</u>	<u>U</u>
			IN				OUT	

- A mauve ultrasaur cannot be included in the display, so (D) is the answer.

Question #14

This question is seeking two dinos that could be included in the display together, but it again ties back to our original deductions about the options for mauve dinosaurs.

- (A) If a mauve velociraptor is included, then the ultrasaur is not included. However, the other mauve dinosaur could be the tyrannosaur. There could also easily be a green lambeosaur, so (A) could be true. It feels early to find the correct one, but (A) is going to work.

C:	<u>M</u>	<u>M</u>	<u>R</u>	<u>G</u>	<u> </u>			
DINO:	<u>V</u>	<u>T</u>	<u>S</u>	<u>L</u>	<u> </u>		<u>U</u>	<u> </u>
			IN				OUT	

- (B) If the lambeosaur is green and the tyrannosaur is yellow, the only dinos left that could be mauve are the velociraptor and the ultrasaur. Those two cannot be selected together, so (B) doesn't work.
- (C) If the lambeosaur is green and the ultrasaur is yellow, both the tyrannosaur and the velociraptor would have to be mauve. However, the ultrasaur and the velociraptor cannot both be selected, so (C) is gone.
- (D) If the tyrannosaur is yellow and the ultrasaur is green, the only two dinos that could be mauve are the lambeosaur and the velociraptor. However, the ultrasaur and the velociraptor cannot both be selected, so (D) goes bye-bye.
- (E) If the tyrannosaur is yellow and the velociraptor is red, the only dinos that could be mauve are the lambeosaur and the ultrasaur. However, the ultrasaur and the velociraptor cannot both be selected, so (E) is another loser.

Question #15

You should be getting the idea by now: this game is all about mauve.

- If the tyrannosaur is yellow, then the velociraptor must be one of the mauve dinosaurs.
- If the velociraptor is included, the ultrasaur cannot be included.
- The lambeosaur must be the one remaining mauve dinosaur.

C:	<u>M</u>	<u>M</u>	<u>R</u>	<u>Y</u>	<u> </u>		
DINO:	<u>V</u>	<u>L</u>	<u>S</u>	<u>T</u>	<u> </u>		<u>U</u> <u> </u>
			IN				OUT

- The display must include a mauve velociraptor, so (E) is the credited response here.

Question #16

On this question, both the iguanadon and the ultrasaur are included in the display.

- If the ultrasaur is included, then the velociraptor cannot be included.
- If the velociraptor is not included, then the two mauve dinosaurs must be the tyrannosaur and either the ultrasaur or the lambeosaur.

C:	<u>M</u>	<u>M</u>	<u>R</u>	<u> </u>	<u> </u>		
DINO:	<u>T</u>	<u>U/L</u>	<u>S</u>	<u> </u>	<u> </u>		<u>V</u> <u> </u>
			IN				OUT

- The display must include a mauve tyrannosaur, so (A) should look pretty attractive at this point.

Question #17

One more challenge of this game: now the display must include two green toys.

- If there are no yellow toys included, then the display cannot include a plateosaur.
- Since the display cannot include both an ultrasaur and a velociraptor, the other dinosaur that is not included must be one of those two options.

C:	<u>M</u>	<u>M</u>	<u>R</u>	<u>G</u>	<u>G</u>		
DINO:	<u> </u>	<u> </u>	<u>S</u>	<u>I</u>	<u> </u>		<u>P</u> <u>U/V</u>
			IN				OUT

- (A) The display cannot include any yellow toys.
- (B) The tyrannosaur must be included and it could be green. As long as the lambeosaur and the velociraptor are both included as the mauve toys, (B) could be true.**
- (C) The lambeosaur must be included in the display.
- (D) The tyrannosaur must be included in the display.
- (E) Either the ultrasaur or the velociraptor must be included in the display, although they cannot both be included.