

Jelly bellicus activity

Name _____ Per. _____

Part 1: Cryptic coloration

1. List the eight different *Jelly bellicus* varieties (jelly bean colors) discovered by Captain Dan and his crew.
2. Fill your box lid with the cage litter provided by your teacher.
3. Count the jellybeans in your presorted bag. You should have 10 jellybeans of each color for a total of 80 candies [Safety note: The jelly beans are not fit for consumption. Do not eat them!]
4. Add the bag of presorted jellybeans to your box. Mix them into the cage litter to make them harder to find.
5. On your instructor's direction, take 30 seconds to find as many jelly beans as you can. All four crewmembers should search at the same time.
6. Record the type and number of jelly beans found for each crewmember in the "breakfast" chart below.
7. Put all collected jellybeans back into the box to simulate moving to a new location.
8. Repeat the procedure for "lunch" and "dinner."

Analysis

1. Which jellybeans were easy to find? Why do you think that they stood out?
2. Which jellybeans were hard to find? Why do you think that they were difficult to find?
3. Explain the advantage of cryptic coloration.

Breakfast (Part 1: Cryptic coloration)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Lunch (Part 1: Cryptic coloration)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Dinner (Part 1: Cryptic coloration)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Average								
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Part 2: Mimicry

1. As a group, select a jellybean color (which also has a spotted variety) that is poisonous: _____
2. Place all 80 jellybeans in the box.
3. On your teacher's direction, search for 30 seconds.

4. Avoid the color that you have chosen as poisonous. If you pick up a "poison" jellybean, you must stop and skip the rest of the meal.
5. Record the number and type of jellybeans found for each crewmember in the breakfast chart below.
6. Put all 80 jellybeans back in the box to simulate moving to a new location.
7. Repeat the procedures two more times for lunch and dinner.

Analysis

1. Which jellybean is the model? The mimic?
2. What advantage does the mimic have?
3. What disadvantage does the model have?
4. Give a real example of this type of mimicry.
5. If only those jelly beans who survived could reproduce, which population would grow the most? Which ones would become endangered or extinct?
6. In the natural world, the environment is constantly changing. How would your prediction from #5 change if you used pink bedding instead?

Breakfast (Part 2: Mimicry)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Lunch (Part 2: Mimicry)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Dinner (Part 2: Mimicry)								
Member	Jelly bellicus color							
	1	2	3	4	5	6	7	8

Average								
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Part 3: Extension

Captain Dan and his crew were successfully rescued when a ship passed by the island and saw their S.O.S. signal. This was fortunate for the *Jelly bellicus* who had nearly been wiped out by this new invader. If they hadn't been rescued, Dan and his crew may have eliminated all of the *Jelly bellicus* from the island.

1. How does an ecosystem change with the introduction of a new species (such as the introduction of Dan and his crew to the island)?
2. Describe how humans impact the process of natural selection in the real world.