



Inquiring Minds Want to Know

Science Activities for Young Minds

Bean Hunters

WHAT YOU'LL NEED

- Plastic utensils (spoon, fork and knife)
- Three types of dried beans (the more varied the size, shape and color, the better). For example: garbanzos, lentils, kidneys, great northern beans, soybeans, split peas, black beans, large lima beans, etc.
- 3-ounce cup for each student
- Stopwatch timer

WHAT TO DO

Remember: The purpose is NOT to teach a specific topic but to help children experience the excitement of **science exploration!**

GETTING READY

Talk to the children about what all animals need to survive. The most basic survival needs are water, food, space and shelter. Explain that they will be predators – hunters – and need to catch food to survive. NOTE: With very small children, the beans have potential to be a choking hazard.

LET'S GO

1. Break the children into three groups. Give each group a different type of utensil to use. Explain to the children that they will be predators, animals hunting down their food to survive. You can give names to the creatures they will be hunting (such as “cyclops” for black-eyed peas or “green goblins” for split peas). Explain to the children that they need to capture and “eat” (put in their cup, not actually eat) enough food to survive to the next round.
*Which predators do you **predict** will get the most food? What food do you think will be captured first?*
2. Spread the dry beans out on a table or floor (the amount of beans will vary depending on the size of your group, but provide at least ½ cup per child). Set the timer for 1 minute and let the children try to catch as many beans as they can to fill their cups. After 1 minute, discuss what the children **observed**.
*Were your **predictions** correct? Why did one group do better than another? What type of beans got “eaten” more? Why? Do you think anything will be different if we do it again?*
3. Students who did not get at least 20 beans (numbers might vary) have to sit out the next round. Remind them that they have an important job: they should **observe** those who survived and see if some people are more successful predators than others.



4. After the second round, have the children who were observers talk about what they **observed** first, and then have all the children discuss.

TALK IT OVER

Which tool worked the best? Why?

(For the observers) What did the most successful predator do differently that allowed him to be successful?

How do you think this is similar to what happens with wild animals in nature?

Did having fewer predators make it easier to capture the beans?

GOOD TO KNOW

Preschool:

- ▶ After the second round, ask the children to come up with different rules for the game, then compare how that changes the outcome. Examples: using one arm, wearing blindfolds, using only the non-dominant hand or having to catch two beans at once.

Upper middle and high school students:

- ▶ Use gloves, tweezers, chopsticks or other utensils.
- ▶ Vary the time spent hunting based on the age of participants. Older kids can hunt for shorter periods of time.
- ▶ Graph the number of prey captured and/or predators that survived.
- ▶ Have students use two utensils (one in each hand). They can be the same or different.

THE SCIENCE BEHIND IT

In nature, all animals require food, water, shelter and space to survive. How well an animal is adapted to its environment affects its ability to survive. Animals that can quickly adjust to environmental changes affecting water, space, shelter or food have a higher chance of surviving. The animals that survive are the ones able to react or adapt to new predators trying to eat them or deal with radical changes to their habitat. The animals that are slower to react or adapt may end up on the threatened or endangered lists. A new type of plant or animal might move into an area, and the existing life needs to change or the new ones will outcompete them. Invasive species such as emerald ash borer, sea lamprey or garlic mustard are examples of this.

RESOURCES

- ▶ Your local university Extension office – <http://msue.anr.msu.edu/county>.
- ▶ Science Blast website – http://4h.msu.edu/programs/science_technology/science_blast.
- ▶ Steve Spangler website – <http://www.stevespanglerscience.com/>.

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