



# National Agriculture in the Classroom

*Relevancy and Engagement: [agclassroom.org](http://agclassroom.org)*

## Have a Ball

### Companion Resource

#### Have a Ball

Do you have a complicated issue or problem to discuss with your students? Use a ball to demonstrate why a person might have a different "point of view." This activity helps students recognize that every issue can be seen from different points of view.

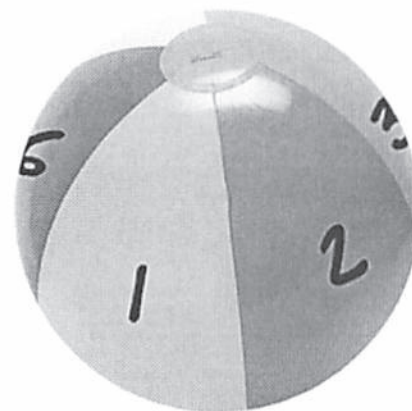
#### Materials

- Ball (beach ball or soccer ball you can write on)
- Marker

#### Procedures

When it comes to current events and real-world issues in science and society, students often have difficulty sorting fact from opinion and viewing issues from multiple perspectives. It is important for students to understand that opinions are often based on biases, beliefs, and values rather than facts and evidence. The educational standards promote using evidence to approach and address conflicts, issues, and differences of opinion. Agricultural issues are relevant and provide students with an opportunity to evaluate evidence and inference, and to incorporate the viewpoints of others to address plausible solutions to complex problems.

1. Write the numbers 1-4 or 1-6 on your ball.
2. Now, stand in the middle of the room and hold the ball up for your students to see. Without rotating the ball, ask students in various points of the room which number(s) they can see. For example, ask a student in the front of the classroom what number he or she sees, followed by the same question to a student in the back of the room and so on. Each student will see all or part of different numbers.
3. Ask your students, "Why, if you are all looking at the same object, a ball, are you seeing different numbers?" Explain that it is because each has a different "point of view." Each student sees different numbers from their point of view. They may see an entire number or part of a number. There will be some numbers that they do not see at all.
4. Use this object lesson to spring into a discussion about a situation or problem that requires that we look at the viewpoints of others to arrive at a workable solution. Explain that each person has a "point of view" and that when looking at or discussing issues people may use facts, opinions, or personal biases to defend and persuade others to see her or his point of view. Resolving issues and evaluating situations requires that we look at the viewpoints of others to arrive at workable solutions, to form realistic conclusions, or to make our own evidence-based decisions. Have a ball, and remind students that it is okay to agree to disagree. Life's problems can be turned into issues that aren't so easy to solve, but by teaching your students to look at the facts in the context of various viewpoints they will hopefully become problem solvers and be able to make decisions.
  - The folktale, "The Blind Men and the Elephant" may also be useful to further note different perceptions.



#### Identifying Credible Sources

This object lesson can be useful in teaching students how to identify credible research sources. As students evaluate information to make their own conclusions, they may need some guidance concerning credible sources. Here are a few tips:

- Recognize the differences between published and unpublished information. Just because something is published doesn't mean it's credible. Be especially careful when evaluating internet sources.
- Consider the date of the publication. Are the facts presented still relevant?
- Check out the authors. What are their credentials? Look at other publications by the same authors to determine any biases and consider the organizations they represent. Is there a conflict of interest?
- Determine if cited facts in a publication are derived from credible, published, peer reviewed, objective sources.
- Look for concurrence of facts between various credible sources.
- Evaluate the organization or the author's use of a particular media choice and tone. Is he or she trying to incite, market to, or manipulate a particular audience? What stake does the author have in getting the reader to agree with him or her?
- Is the source of the information selling a product or service?

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National Agriculture in the Classroom

#### Lessons Associated with this Resource

- [High-Tech Food](#)

[<http://www.agclassroom.org/teacher/matrix/lessonplan.cfm?pid=21>]

Curriculum Matrix: [agclassroom.org/teacher/matrix](http://www.agclassroom.org/teacher/matrix)

# Pests

*Pests are destructive insects or other animals that attack crops. Depending on the crop and the severity of the infestation they can cause minor damage or destroy a crop completely.*

*There are several methods of controlling pests. One method is to spray the plant with a chemical called an “insecticide” to kill the pests. There are also many other methods that do not use chemicals such as beneficial insects, and integrated pest management (IPM).*

# Weeds

*Weeds are unwanted plants that grow in competition to a cultivated plant. Weeds growing in a field take the water and soil nutrients that the crop needs for healthy growth. They also diminish the quality of the harvest.*

*There are several methods of controlling weeds. One method is to spray a chemical called a “herbicide” to kill the unwanted plants. Other organic forms of weed control also exist such as cover crops and using various cultivation practices to minimize weeds.*

# Disease

*Just like people and animals, plants can get diseases which lead to abnormal growth or death of the plant. Plant diseases can be caused by fungi, bacteria, or viruses.*

*Some diseases can be killed or controlled through chemicals such as a fungicide. Non-chemical control methods also exist. In either case, some diseases are very difficult to control and lead to a partial or complete crop loss.*

# Drought

*Water is a natural resource that is crucial to the healthy growth of a plant. Seasons of drought can significantly decrease a crop harvest.*

*Some plants inherently require more water for growth than other plants. Methods of selective breeding can be used to create varieties of plants with deeper root systems and characteristics that allow them to grow with less water.*

# Provide What Consumers Want

*Farmers must produce a crop to meet the demand of consumers. To do this, the crop must be:*

- 1. Safe*
- 2. Affordable*
- 3. Available (enough supply to meet demand)*

# Damage in Shipping

*Many of the plant-based foods we eat must be grown in a specific climate or region and then be shipped to local grocery stores to be purchased. If the product is damaged in shipping consumers are not likely to purchase it.*

# Spoilage

*All food will begin to spoil after a given amount of time, often referred to as a “shelf life.” Some food lasts longer than others. Consumers are not likely to purchase food that has or will begin spoiling before they can use it.*

# Convenience

*As a whole, many consumers choose to purchase food that is quick and easy to prepare. For example they may want fruit and vegetables that can be cut up ahead of time without browning or discoloration.*

# Cost

*Customers prefer to purchase food that is priced low or fair. There are many factors influencing the cost of our food. The business laws of supply and demand apply. Crop failures due to disease, pests, drought or other disasters decrease food supply and therefore increase the cost of food.*

# Flavor

*Taste, flavor, and texture are important to consumers. Each of these factors are influenced by factors such as the plant variety, ripeness, and growing technique.*