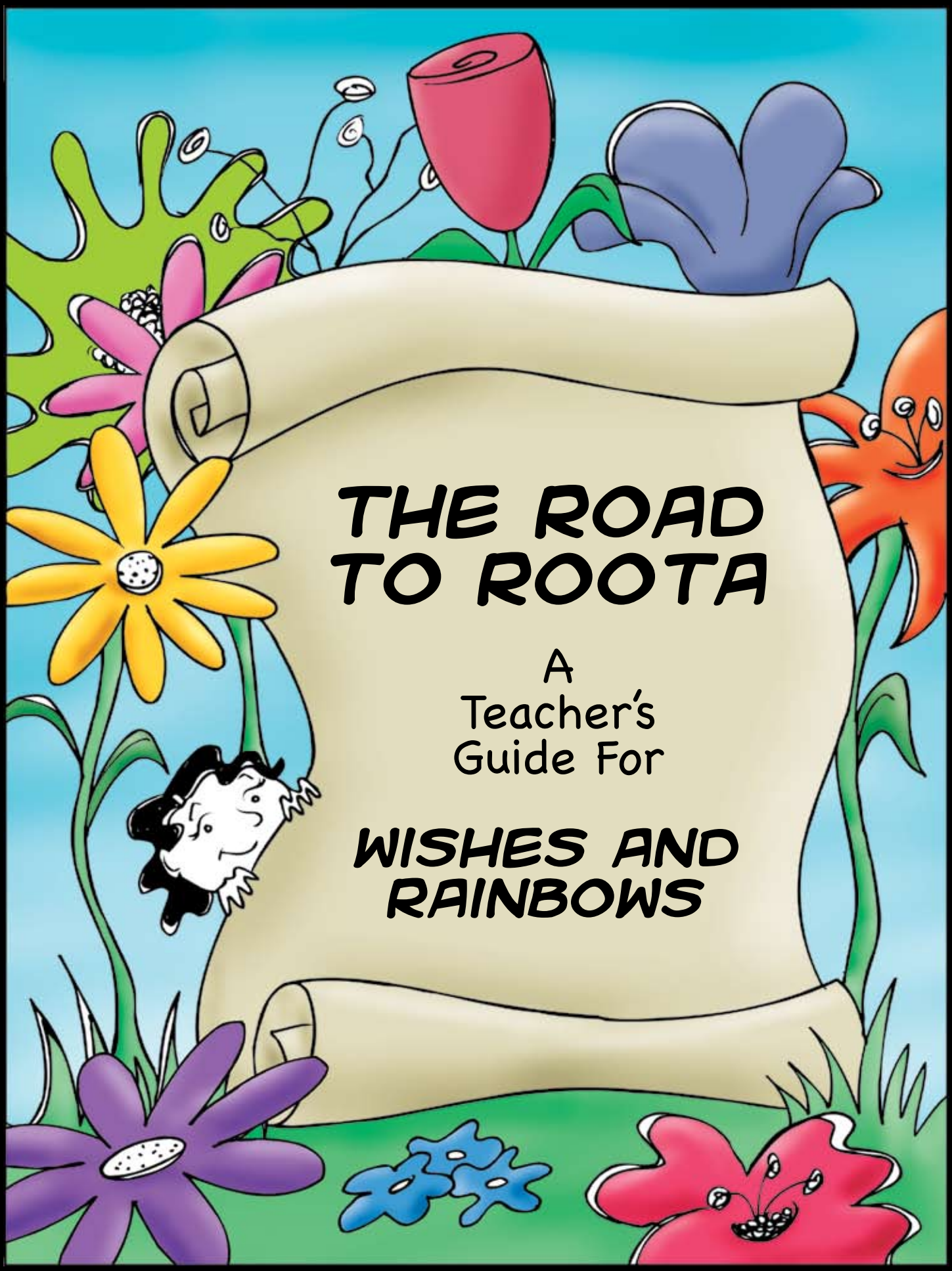
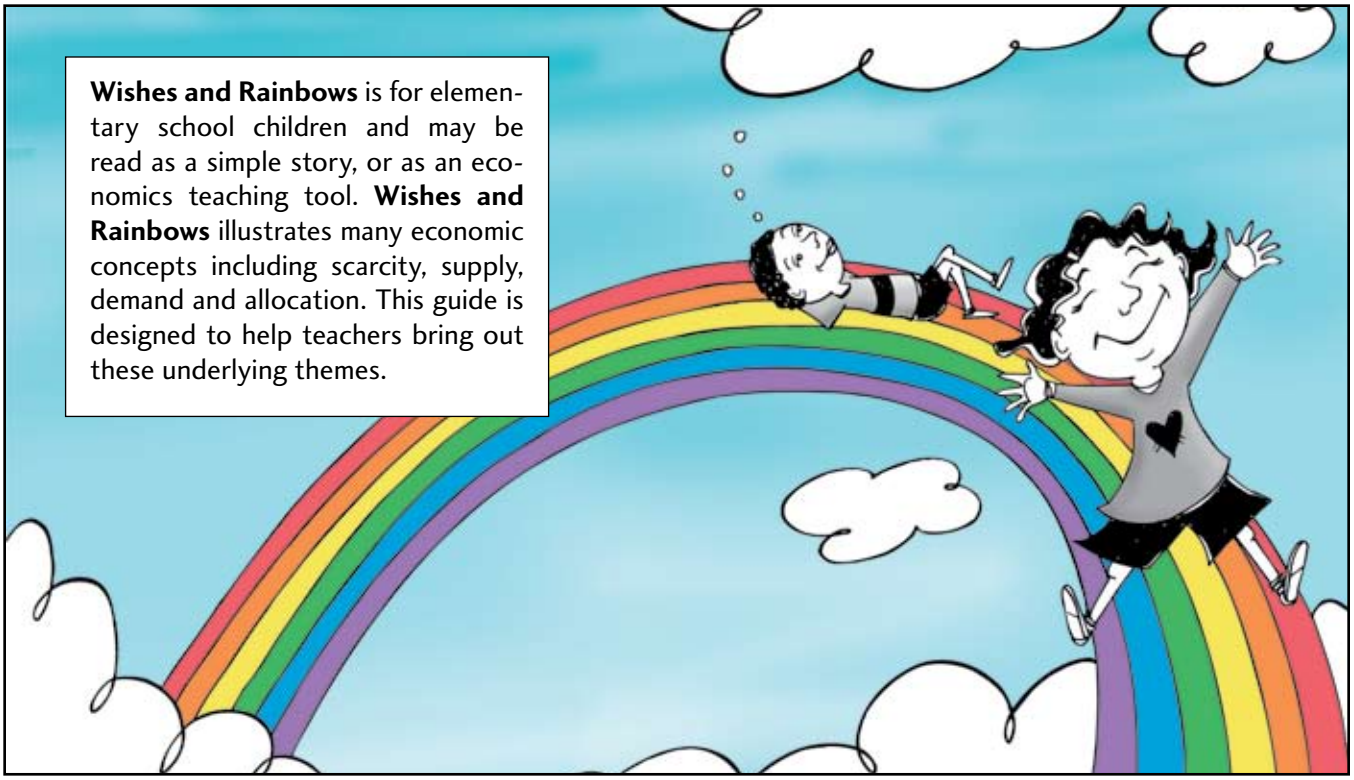

THE ROAD TO ROOTA
A Teacher's Guide For
WISHES AND RAINBOWS



Wishes and Rainbows is for elementary school children and may be read as a simple story, or as an economics teaching tool. **Wishes and Rainbows** illustrates many economic concepts including scarcity, supply, demand and allocation. This guide is designed to help teachers bring out these underlying themes.

Introduction

Scarcity* is the constant that underlies all economic problems. People, with unlimited wants and needs, live in a world of limited resources. Since there is not enough of most resources to satisfy everyone, all societies face the problem of how to allocate scarce resources. They must choose, among many alternatives, the ways in which to use their scarce resources.

In the United States (or, as some might argue, throughout the world), allocation of resources is determined mainly through **supply, demand,** and **prices. Consumers** make known the kinds of goods and services they want (demand) through their purchasing choices. Producers respond by using resources to supply those goods and services. When supply and demand are equated through the mechanism of prices, equilibrium exists. If demand for a product increases and exceeds supply, prices should begin to rise, both lowering amounts demanded, and ultimately stimulating producers to increase supply. Similarly, if supply exceeds demand, producers may reduce prices so that consumers will purchase increased amounts of their product. In this way, the price of an item both influences, and is influenced by, supply and demand.

Demand for some items is more sensitive to price change than is demand for other items. Demand that is very responsive to a change in price is called **elastic;** if demand remains relatively constant despite price changes, it is said to be **inelastic.** Since people have to eat, demand for food in general is inelastic. However, people often alter their diets to reflect food prices, so that the demand for a specific food item is often quite elastic.

On some occasions, such as during war, a government may decide that allowing prices to be set purely by supply and demand would cause intolerable hardship. It therefore intervenes in the distribution process, through either price controls or **rationing.**

Rationing is the allotment of set amounts of scarce items to each individual. It is an attempt to control demand because allowing prices to rise to equilibrium levels is deemed contrary to the national interest. However, unlike rising prices, rationing does nothing to diminish demand, and often results in an illegal underground market.

If prices are not set at equilibrium, the resultant distortion causes an imbalance between supply and demand. If a product is priced at an artificially high level, not all of it will be consumed and a **surplus** will be created. If the price is set too low, demand will be stimulated and production depressed, resulting in a **shortage.**

* Items in bold are defined in the **Glossary** on page 5.

Natural resources are the raw materials necessary to satisfy people's needs and wants. Natural resources can be divided into three categories: exhaustible resources, such as fossil fuels; renewable resources, such as plants, animals and soils; and inexhaustible resources, such as sunlight or wind. Not all natural resources are available throughout the world.

A society's economic way of life is largely determined by its available natural resources. People who live near the ocean may tend to rely on fishing; those who live on rich soil become farmers; and so on. But wants and needs are not necessarily limited to those items that are readily produced by available resources. This fact motivates people to attain scarce resources by a variety of different methods.

One means of adding to the supply of a scarce resource is to increase **production.** This can sometimes be accomplished through **investment.** A second method of augmenting the supply of a scarce resource is the use of a **substitute.** A third and extremely important way of solving the problem of limited resources is trade. The simple practice of **barter** and other exchange among individuals, and complex trade agreements about **imports** and **exports** among nations, are attempts to adjust to resource shortages or abundance.

Finally, the search for limited resources often causes population shifts. The mobility of Native Americans on the Great Plains in search of buffalo, the westward migration of gold prospectors in the California Gold Rush, and the increase in Alaska's population as a result of the oil pipeline are all examples of such quest-inspired migration.

Money

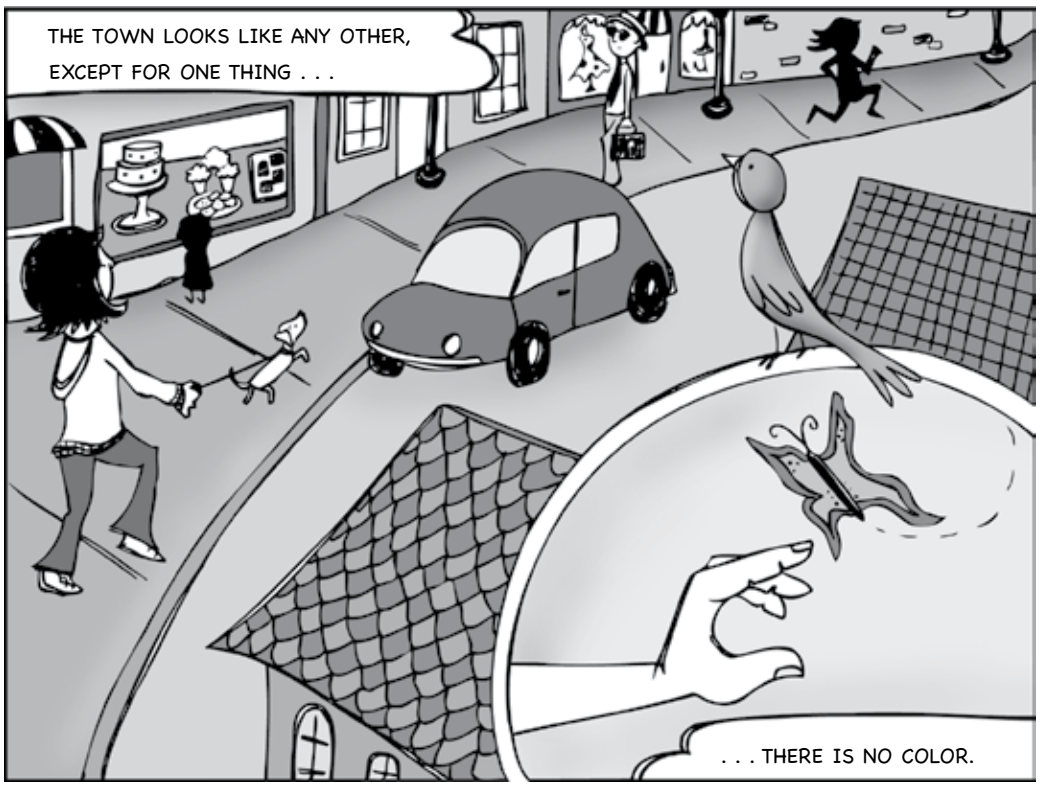
One critical function that scarce commodities have often served is as commodity money. The scarcity of an item is one quality that makes it suitable for use as money, since limitations on supply serve to enhance its value. In addition, rarity precludes a sudden influx of the commodity, which could trigger a decrease in the money's value and result in inflation. Some items that have been used as money because of their scarcity include gunpowder, tobacco, animal skins, and precious metals.

Money may have value simply because people believe it will be accepted when they need to use it, not because the substance used as money has some special worth. It can be a tool, serving as a unit of account, a medium of exchange, a standard of value, and a way to store value. Through the use of money (in whatever form), people can trade, compare values, and save. The most useful type of money should be not only relatively scarce, but also easily carried, able to be divided into smaller amounts of proportional worth, and durable rather than spoiling or rusting after a time.

The Avenue of Approach

Wishes and Rainbows is the story of one society and its attempts to assimilate, with least disruption, a rare and much coveted new resource.

The scarcity of colored flowers is the critical element to the story. Because of the lack of the essential natural resource, sunlight, the supply of colored flowers is



acutely limited. The demand, however, is overwhelming; not only is the flower that Roota brings from Colorland the first flower in Pebbleton, but it is also the only color that any of the Pebblepeople have ever seen!

On the first page of **Wishes and Rainbows,** the reader is told that, except for the lack of color, Pebbleton is much like any other town. Presumably, therefore, the Pebblepeople have a built-in distribution system for allocation of resources. Just how this system works the reader can only guess. It may be capitalism, socialism, or feudalism (so that the flowers would belong to the nobility). The flowers could all be publicly owned and shared (which seems to have been Roota's original idea when she planted the first flower in the town square). They could be auctioned and sold to the highest bidder. Some distribution methods are suggested on page 14 of the comic book, and one can readily imagine many others (lottery, contests, rewards for public service, etc.).

Why is Pebbleton's traditional distribution structure abandoned in the case of the colored flowers? The unusual nature of the new resource, along with the overwhelming disproportion between supply and demand, create a politically sensitive situation. The mayor, who is at first perfectly willing to take one of the flowers for himself, realizes from the clamor for flowers that whatever distribution method is chosen is likely to dissatisfy certain elements of society. Even if he declares public ownership and sharing, he may be accused of asserting too much governmental control. The demand of the color-starved Pebblepeople for the flowers seems both urgent and insatiable. The mayor therefore assigns Roota the unenviable task of deciding upon a method of distribution that will satisfy everyone.

Roota's distribution system is ingenious. By using an allocation system that is based on seniority, Roota establishes goodwill with an important segment of society. Meanwhile, those who must wait to receive flowers are comforted by the knowledge that their turn will come. Finally, Roota's decision satisfies her personal desire to add color to her grandmother's life. After all, her grandmother, who first told her of Colorland and who "dreamed of seeing . . . a flower's softly tinted petals," will be one of the earliest recipients of a flower.

The fact that Pebbleton will never be the same following the appearance of the colored flowers seems clear. On the basis of what we know about economics and the way societies tend to react to the scarcity of important resources, is it possible to predict what changes are likely to occur?

For one thing, it is possible that Roota's "rationing" system will have to be modified or will cease to work. What will happen if the wealthiest person in town decides not to wait his or her turn, and offers to pay huge sums of money for flowers? Will the flower owners be allowed to sell? If not, will an illegal market develop?

Will the Pebblepeople try to develop new ways of obtaining colored flowers? Will they form corporations to explore the caves thoroughly in the hope of finding new entrances to Colorland? Will local carpenters race to build ladders tall enough to reach the hole in the ceiling of the sunlit cave? Will engineers compete in developing new drilling methods to bore more holes in the ceiling to let in more sunlight for a larger crop of flowers? And will the lure of simply being able to own as many flowers as one wants be enough to stimulate all this economic development? Or will the incentive of

being able to sell the flowers garnered by these new methods be an essential ingredient? Finally, should the mayor of Pebbleton announce that the town itself will undertake some of these projects, raising taxes to finance them and distributing all the proceeds from the venture equitably?

Will the town's scientists and engineers start investing their time and energy to develop substitutes, seeking ways of synthesizing colors and perhaps ultimately making artificial flowers? If any of the above means of increasing the supply of color and flowers succeeds, what will happen to demand for them? To their value? Will there be a surplus? Will Pebbleton start to export colored flowers to the nearby communities of Gopher Junction and Boulder's Ridge?

Beyond these scenarios, many other "futures" may be suggested in classroom discussion.

Discussion Questions for Younger Students

1. According to Roota's grandmother, what are the two reasons Pebblepeople do not go to Colorland?

2. How does Roota find Colorland?

3. What does Roota's grandmother tell her to do with the flower? Why?

4. Why did the first flower die?

5. What were some of the methods of distribution suggested by the Pebblepeople on page 14? Can you think of any other methods that could be used?

6. What two things limit the number of flowers Roota and Rockie can grow?

7. Will the Pebblepeople ever have enough flowers?

8. Why is the story called **Wishes and Rainbows?** What other possible titles can you think of?

Glossary

barter	The direct trading of one good for another without using money.
consumer	An individual who uses goods or services.
demand	The desire to obtain a good or service.
elastic demand	The amount demanded changes easily when price changes.
export	To sell goods or services to a foreign country.
import	To buy goods or services from a foreign country.
inelastic demand	The amount demanded does not change easily when price changes.
investment	The use of resources to increase future productive capacity.
natural resources	Wealth supplied by nature, such as mineral deposits, soil, sunlight, timber, water, and wildlife.
price	Value expressed in terms of money.
production	The process of making goods and services.
rationing	The allocation of goods and services among users. Rationing may be by price or some other means.
scarcity	The limited quantity of resources in proportion to human wants and needs.
shortage	Insufficiency of supply in relationship to demand.
substitute	A good or service that can replace another.
supply	The quantity of a good or service available.
surplus	Excess of supply in relationship to demand.

Discussion Questions for Older Students

1. What distribution system does Roota choose, and why? Is this a fair system? What other possible systems might she have chosen?

2. Will the Pebblepeople accept Roota's distribution system? What might happen if they don't? Should those who have been given flowers be allowed to sell them? How should the price be set?

3. If color becomes easily obtainable in Pebbleton, what new products will be available to consumers? What existing products would become more desirable?

4. What other changes might take place in Pebbleton as a result of the introduction of colored flowers? What economic changes? What industries might benefit? What new jobs might be created?

5. What ways might the Pebblepeople find to reduce the shortage of color and flowers? What industries and occupations might help in these efforts? What sorts of investments might be called for? How might the town's government help?

6. In what circumstances might the Pebblepeople consider exporting flowers to Gopher Junction and Boulder's Ridge? Will citizens of those towns have as great a demand for colored flowers as Pebblepeople have? Do you think that every resident of Pebbleton will own at least one flower before trade with other towns occurs?

7. What resources are scarce in the United States today? What happens to the price of scarce resources? What steps have been taken to address such scarcity?

8. What are some important resources whose introduction helped make our economy what it is today? What would happen if one of these resources (oil, steel, electricity, computers, airplanes, television, fish, cotton, maple syrup) could no longer be produced in this country? What substitutes might be found? What industries would disappear? What would happen to the value of such resources?

9. The mayor of Pebbleton announces that, since the colored flowers are so rare and valuable, they are going to be used as money, with petals for change. Is this a good idea? What qualities does a good form of money have? Why? Which of these qualities do flowers have and which do they lack? What would happen to Pebbleton's economy if someone then discovered a new sunlit cavern with thousands of flowers growing in it? Should someone control the growth of those flowers? Who?

Classroom Activities

1. Have students ask adults they know if they remember when photographs, movies and television programs were only available in black and white. What was that like? Why do the adults or the students think color was introduced?

2. Have students trace Roota's profile on page 6 of **Wishes and Rainbows.** Then, instead of a field of flowers before her, have students draw numerous natural or manufactured items. Have each student choose from among those items the one that Roota should take back to Colorland, and write a paragraph explaining why.

3. Have students ask adults they know about products that have been scarce at various times in their lives. Was there any particular reason for the scarcity? Were any special arrangements made for distributing the scarce goods? Introduce and discuss the concept of rationing.

Has this analysis of the social and economic implications of **Wishes and Rainbows** *overstretched the metaphor? For anyone who may think so, we call attention to the market for tulips in seventeenth-century Holland. The following is a excerpt from Sir Kenneth Clark's* **Civilization***:*

"It is really rather touching that the first classic example of boom and slump in capitalist economy should have been not sugar or railways or oil, but tulips. It shows how the seventeenth century Dutch combined their two chief enthusiasms-scientific investigation and visual delight. The first tulip had been imported from Turkey in the sixteenth century, but it was a professor of botany at Leiden, the first botanical garden in the north, who discovered its attribute of variation which made it such an exciting gamble. By 1634 the Dutch were so bitten by this new craze that for a single tulip called the Viceroy, one collector exchanged one thousand pounds of cheese, four oxen, eight pigs, twelve sheep, a bed and a suit of clothes. When the bottom fell out of the tulip market in 1637, the Dutch economy was shaken."

Revised 2/2007
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WISHES AND RAINBOWS

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