



Links to Agriculture
The Colorful Soybean



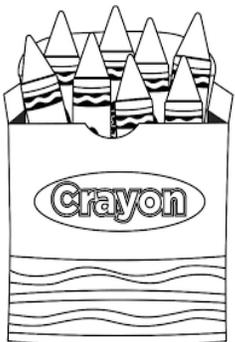
In 1997, the first new crayon in nearly 100 years was produced by the Prang Company. The main difference between Prang crayons and regular crayons is the natural resource used to make them.

The basic natural resource used for making regular crayons has been petroleum oil. Petroleum for wax crayons comes from oil wells which are mostly located outside of the United States. It is a liquid created beneath the Earth's surface over millions of years. It is made from large amounts of tiny dead plants and animals under high temperatures and pressure. Since humans cannot make petroleum, there is a limited supply of this **non-renewable resource**.

The basic natural resource used for making Prang crayons is soybean oil. Soybean oil comes from soybeans which are grown by American farmers. Farmers in at least 31 different states grow over 4 billion bushels of soybeans each year. America is one of the world's largest producers of soybeans. Since soybeans can be replanted each year, they are a **renewable resource**.



In the production of Prang crayons, soybean oil provides 85% of the necessary ingredients. The soybean oil from one bushel of soybeans will make 2,112 crayons. One acre of soybeans can produce 82,368 crayons!



So, how do soybean crayons compare to wax crayons? Wax crayons do not blend well since wax won't color over wax. Since there is no wax in soybean crayons, blending is easy. In tests done by children aged 3-10 years old, Prang soybean crayons were preferred because they were smoother, brighter, and less flaky. Soybean crayons also cost slightly less than the leading brand of wax crayons. Try them out today and use something made from a renewable resource!

What Did You Learn?

1. Fill in the chart below with information from the article you read.

Crayon Characteristics	Wax Crayons	Soybean Crayons
Natural resource used		
Renewable or non-renewable		
Cost		
Brightness		
Flakiness		
Ability to blend		

2. Which of the things you read about the soybean crayon do you find most interesting?

3. Why would a crayon made from soybean oil be a better choice for our environment than a crayon made from petroleum oil?

Experiment with Color

Since Prang's soybean crayons can easily be blended, complete this experiment to see what new colors can be created by "blending" red, yellow, and blue!



Materials needed:

- Red, yellow, and blue food coloring
- Very warm water
- Cold water
- Clear plastic cups (6-8)
- Ice cube trays

Steps

1. Use the food coloring and cold water to make red, yellow, and blue ice cubes.
2. Fill the plastic cups about halfway with very warm water.
3. Put two different colored ice cubes in one cup of warm water.

What

new color is formed? Fill in the chart below.

4. Continue making new colors. Can you predict what color the two cubes will make?
5. What happens if you add a third color to the cup? What color do you get?

red + blue = _____

_____ + _____ = _____

_____ + _____ = _____

_____ + _____ + _____ = _____

Soybean Trivia

- Soybeans grow in pods like peas.
- Soybeans have been grown in Asia for centuries. They were first brought to North America in 1765.
- Many breads, cookies, crackers, pies, and cakes contain soybean oil.
- Soybean oil is also used to make machine oil, paint, candles, and beauty products.
- Soybean oil is used to make an environmentally friendly fuel for diesel engines.



Did You Know ...?

- NASA selected the soybean crayon to fly on the Space Shuttle Columbia in 1997. This crayon was truly out of this world!
- Prang made the world's largest soybean crayon. It was a whopper that weighed 330 pounds and was 10 feet long. It made the Guinness Book of World Records!



Joke Time

How many soybeans
can you put in
an empty bag?



Joke Answer:

One. Once you add
one bean, the bag is
no longer empty.



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