

The Life of a Soccer Ball

Have you ever wondered how soccer balls are made and what happens to them when you're finished playing with them? As with any product, making a soccer ball uses natural resources and energy, which can impact the air, land, and water. Follow the life of a soccer ball to learn more about how it is made and how you can help reduce its environmental impacts.

1 Gathering and Processing Materials

Soccer balls are made both natural and man-made materials, including:

-  Plastic, from petroleum
-  Rubber, from plants or synthetic
-  Cotton, from plants
-  Animal products, including leather

These materials must be processed in factories before they're made into a ball.

Cover: Leather or Plastic



Lining: Plastic or Cotton



Bladder: Rubber



2 Assembly

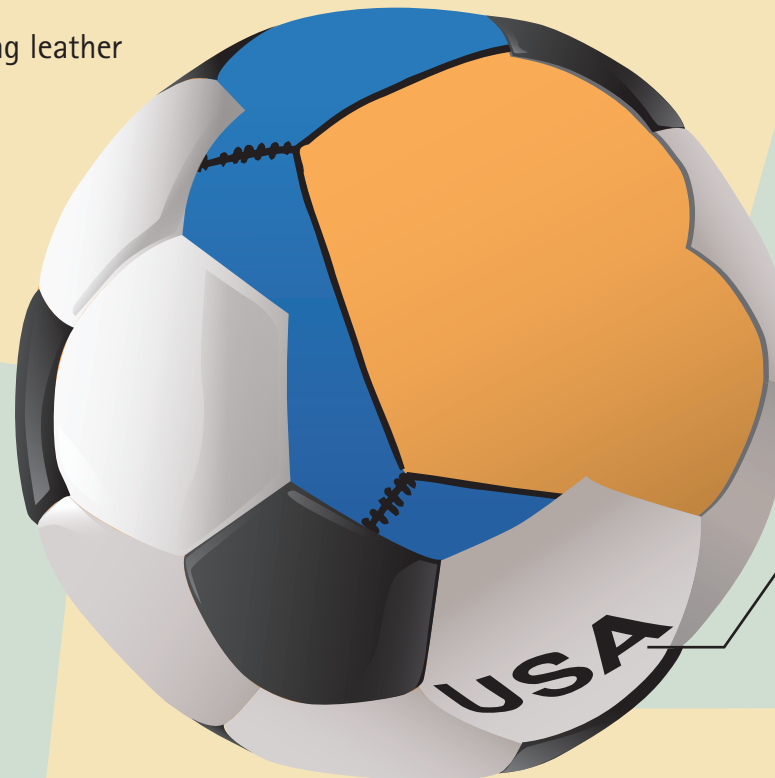
Parts are assembled into a complete ball using glue or stitching.

Cover material is rolled out to make a strong, smooth exterior, and panels are glued or stitched together.

Lining is glued to the cover. Several layers of lining add shape and durability.

The **bladder** goes inside to keep the ball inflated.

Exterior is printed with graphics and logos and coated with plastic for durability.



CO₂ and Climate Change

Did you know that making new products produces carbon dioxide (CO₂), a greenhouse gas? Greenhouse gases trap heat in the atmosphere, making the Earth warm enough to allow creatures to live. Unfortunately, humans are adding too much carbon dioxide to the atmosphere, causing climate change. Changes in climate can result in stronger storms, melting glaciers, and loss of wildlife habitat.

4 Use and Beyond

From backyard practice to game day, you can use and enjoy a soccer ball for a long, long time, especially if you take good care of it. Once it is worn out, though, a soccer ball can be difficult to recycle because the materials in it can't be easily separated. But you can reuse it, or donate it to an organization that will pass it on to someone who will.

Score Big By Taking Care of Your Ball

Do

- Keep your ball inflated.
- Keep your ball clean.
- Play on soft surfaces like grass or clay.

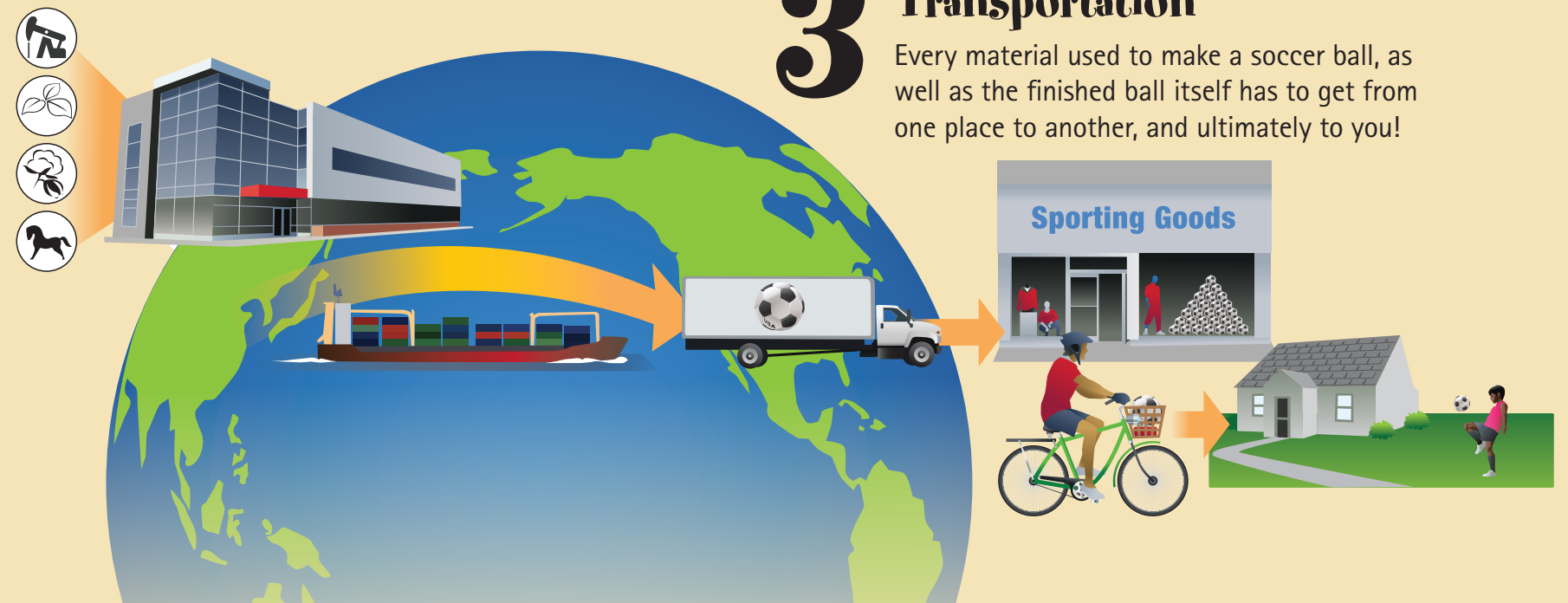
Don't

- Stand or sit on your ball.
- Leave your ball outside overnight or in the rain.
- Play on hard surfaces like concrete or asphalt.



3 Transportation

Every material used to make a soccer ball, as well as the finished ball itself has to get from one place to another, and ultimately to you!



Each stage of a product's life can affect the environment in different ways.

 **Gathering and Processing Materials.** Products are made from materials found in or on the Earth, such as trees or metal. Once materials are gathered, they must be converted into a form that can be used to make products. For example, paper is made from trees, but the wood has to undergo several different processes before it can be used as paper.

Getting to, gathering, and processing materials creates pollution, uses energy, and depletes our limited natural resources. Making new products from recycled materials reduces the amount of raw materials used during manufacturing, decreasing the environmental impact of these products. Also, designing products to be durable and repairable can extend the life of a product or help prevent unnecessary wastes.

 **Assembly.** Products are made in factories, which use electricity and other forms of energy that can produce

pollution. The manufacturing process can also produce wastes that must be disposed of in landfills.

 **Transportation.** Finished products are transported in trucks, boats, planes, and trains to different locations where they are sold. All of these forms of transportation require fuel, which can contribute to air pollution and climate change. Buying products made closer to home may decrease the impacts associated with transportation.

 **Use and Beyond.** Using products designed to be durable and reusable instead of disposable reduces the need to create a new product from scratch. This saves resources and prevents pollution. Taking good care of your products or donating products that you no longer need extends the life of those products. Using products for other purposes or recycling them reduces waste and saves natural resources.

Upcycled Flowerpot

Do you have an old soccer ball that you can't use anymore but can't bear to part with? Why not try to extend its life by turning it into something else?

You will need:

- An old soccer ball
- Scissors
- Two small potted plants
- A pencil

Directions:

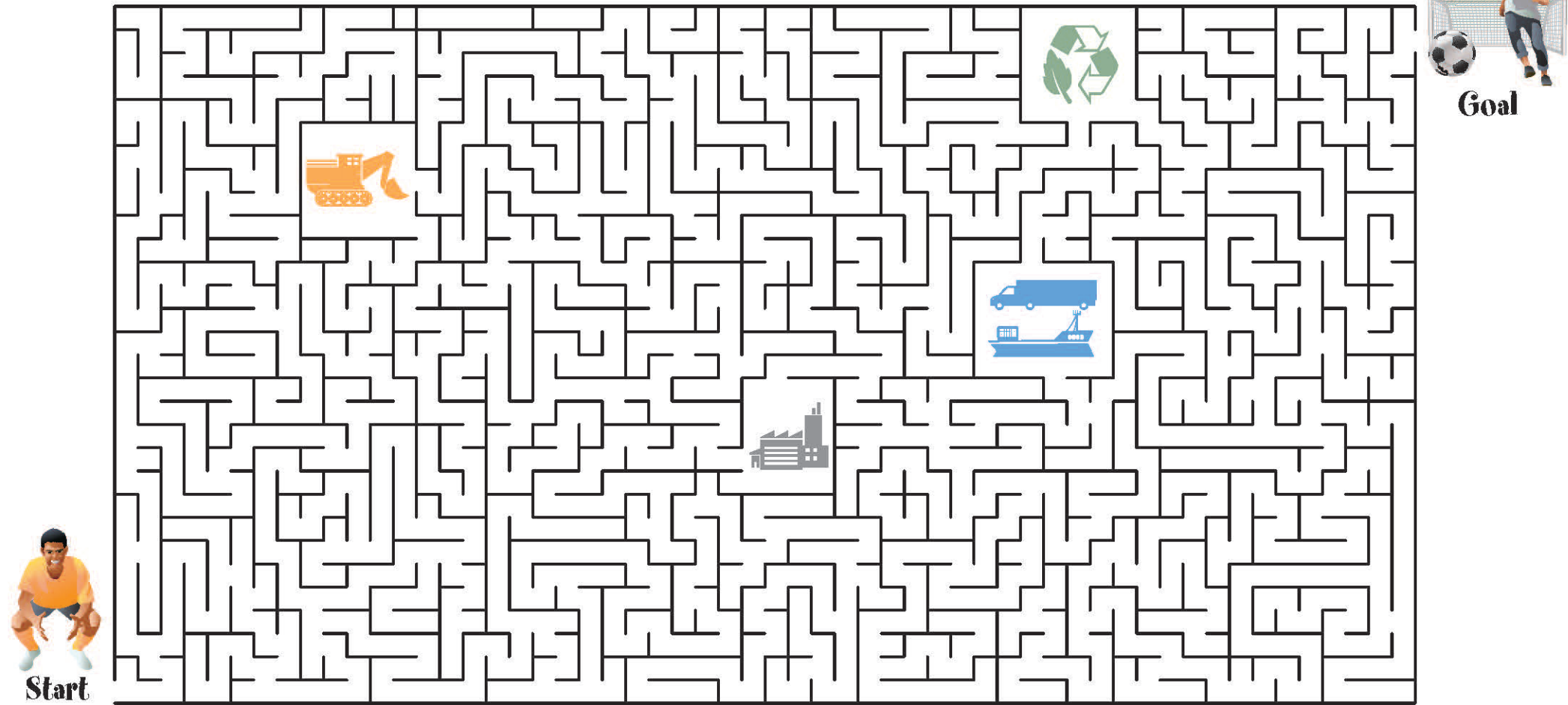
1. With your pencil, draw a line around the center of the soccer ball. This will be the line you follow to cut your ball in half.
2. Get an adult to help you cut the cover of the soccer ball. You may find that it



is easier to cut along the panel stitching rather than trying to cut a straight line.

3. When the soccer ball has been cut, remove the lining and the bladder so that all that is left is the two halves of the cover.
4. Place your potted plant, with its pot, inside one half of the soccer ball. Do the same thing with the second potted plant and the other half of the soccer ball.
5. Place your potted plants in a spot that will help the plants to grow.

Help John find his soccer ball by guiding him through the four stages of the life of a soccer ball. Use the symbols from this poster to help you find all four:



Extra Time Huddle

Now that you know what goes into making a soccer ball, see if you can apply those lessons to other products by thinking about and discussing the questions below.

- Think about some of the items you use each day. What raw materials are they made of? Where are they made? How long do they last?
- Transportation is required at every step of a product's life. What types of transportation are more environmentally friendly? How could they be made cleaner and more efficient?
- Sooner or later, everything gets worn out. What will you do with them when you can no longer use them? What are some ways you can reuse worn out products? Think about sports equipment, toys, beverage containers, etc.
- Sometimes, buying a new product is the only option. What can you do to reduce the environmental impacts of the products you buy? How do you know which products are more earth friendly?