

2. Duct Tape Wallets

Can you make a wallet with strips of duct tape?

MATERIALS



- ❖ Duct Tape
- ❖ Scissors
- ❖ Pencil
- ❖ Ruler

GET SET UP

1. Cut 4 strips of duct tape, each 9" long. With the adhesive side up, stick the duct-tape strips to one another in a row, with a 1/4" inch overlap. Make a 2nd sheet. Carefully stick the adhesive sides of the 2 duct-tape sheets together, lining up the edges.
2. Cut another 9" strip of duct tape. Make a small cut in the center of one end of the duct tape. Tear the strip into 2 straight 1" strips.
3. Fold and adhere the 1" duct-tape strips to the 9" ends of the sheet. This will make a smooth, clean finished edge.
4. Trim the sides of the sheet making it 8 1/2" wide.
5. Fold the sheet vertically in half .
6. Tear (2) 1"x4" duct-tape strips and attach one to each end. Fold them over the sides of the wallet, and trim the excess.
7. To make a smaller pocket for cards, cut 2 strips of tape each 5" long and stick the 2 pieces (adhesive sides) together.
8. Fold and adhere a 1" strip onto the 5" edge. Trim the pocket to 4" long.
9. Using 1/2" strips of duct tape, stick the pocket in place as shown above. Trim the strips flush.

DID YOU KNOW...

Making is the process of taking available materials and creating a specific object. It may seem difficult at first but with a little imagination and some pre-design (a sketch or a diagram), you'll start to get better. And that's really all it is—a process. Making is important because it is the first step to becoming an engineer. Just like an engineer, the main task of a maker is to solve problems.

Duct tape was invented in World War II. It's strong, flexible, long-lasting and waterproof. It was used to seal canisters, repair cracked windows and repair trucks. The first ingredient of duct tape is a cotton mesh that gives it strength while being easily torn in different directions. The cotton mesh is coated in a plastic that makes it stronger and waterproof. Its glue, is rubber-based and strong, allowing it to stick very well to many things (especially itself) while forming a tight seal. The adhesive in Duct tape is actually a **polymer**, or a large overlapping chain of molecules that are strung together to make a giant molecule. And, of course, it is fun! What other projects can you make with duct tape?



CHALLENGE

1. What is making and why is it an important concept to learn?
2. Can you make a separate card holder for your wallet that can be removed easily?
3. Can you make your wallet out of other types of tape?

STEAM Challenge: Your wallet is 8.5 inches long and 4 inches wide and is in the shape of a rectangle. The perimeter of a rectangle is $2(L+W)$. What is the perimeter of your wallet. If you want in even more accurate perimeter measure your wallet and place those numbers into the formula. What if your wallet was 19 inches long and 13 inches wide. What would the perimeter be?