

COLLAPSING CARDS

For your first lever challenge, perform a simple task using one type of lever—a domino. Dominoes act as third class levers when you set them on end. The end on the table is the fulcrum. The domino itself is the arm, and when it falls, it applies force to the middle of next domino.

The Challenge Identified: Build a simple contraption made of dominoes to destroy a house of cards.

Brainstorm ideas and supplies: Well, you'll need dominoes and playing cards, but... *What happens if you don't have these supplies?* What else could be used like a domino? Could you make your own cards cut out of cereal boxes?

<i>Other things that could be used like dominos</i>	<i>Other things that could be used like cards</i>

Draw a plan: This is a pretty simple challenge, dominos and cards are supplied – draw a quick sketch below of your plan with your group. Included measurements of how far apart parts of the machine will be.

Build: Set up your house of cards. Steady hands! Stand your dominoes on end in a line, making sure the last one is close enough to the card house to knock into it when it falls.

Test: Ready? Knock over that first domino. Watch the chain reaction of one lever (a domino) falling into the other.

Evaluate:

Did the dominoes fall like you expected?

Did your house of cards fall?

What went well?

If the cards didn't fall, you need more force. Try moving the last domino closer to the house. You might also add larger, heavier dominoes to the chain.

Redesign: How could you adjust your plan to make the chain reaction work? Draw a sketch of the changes below. If it work, how could you make the chain reaction BIGGER? Draw sketch below.