MAGIC CANDLE SEESAW

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Step-by-Step Photo Sequence
MAGIC CANDLE SEESAW

...what if you could use some amazing science principles to make a magic seesaw?

Materials
• Pointed-tip scissors
• 2 small birthday candles
• 3 paper clips
• Ruler
• 2 oz. plastic cup
• Thumbtack
• 2 straws
• Matches or lighter
• Newspaper or surface you don't mind getting wax on
• Adult supervision

EXPERIMENT
1. Using the pointed end of the scissors, poke a hole into the bottom of the 2 ounce plastic cup. The hole should be just big enough to slide in the end of one of the straws.
2. When you have the hole in the cup, slide the end of a straw in so that it is sturdy and able to stand.
3. Using the ruler, find the middle of the remaining straw. Once you have found the middle of the straw, poke a hole through it using the thumbtack. Try to keep the thumbtack level as you poke through the straw.
4. Take one of the paper clips and straighten out the smaller loop so that it is almost straight. Take the end of the straightened side and bend it upwards. The shape you end up with should look like an "L" connected with a "J."

5. Slide the "L" end of the paperclip you just bent through the straw where you punched the holes. Slide the paperclip so that the straw is at the bottom of the "L."

6. Now take the "J" side of the bent paper clip and put it into the top of the straw opposite the cup. Your apparatus should look like a seesaw now.

7. Insert the flat "wickless" end of the candles into the two ends of the seesaw straw. To keep the candles in place, paperclip the outside of the straw.

8. Balance the seesaw by sliding the two candles in or out of the straw.

9. Now that you're balanced, set your apparatus on a surface that you don't mind getting candle wax on, light both of the candles, and watch the magic happen.

HOW DOES IT WORK?
The Magic Candle Seesaw is actually based on the physics of Sir Isaac Newton's Third Law. The law states that for every action, there is an equal and opposite reaction. For example, this law of physics makes jet flight possible. The propulsion from the back of a jet makes the jet itself move forward. The initial action is the jet propulsion, the equal and opposite reaction is the movement of the jet.

So what makes this law apply to the Magic Candle Seesaw? It's actually much simpler and on a much smaller scale than the jet example above. If you carefully watch the end of the seesaw that is closer to the ground, you'll notice a drop of wax fall. Believe it or not, this one drop of wax falling is the action that creates an equal and opposite reaction of the seesaw's upward motion. Amazing, right?
HERE IS WHAT YOU NEED

2 OZ PLASTIC CUP
2 STRAWS
3 PAPER CLIPS
2 BIRTHDAY CANDLES
MATCHES
A THUMB TACK
A RULER
POKE A HOLE IN THE BOTTOM OF THE CUP

PUSH ONE STRAW THROUGH THE HOLE

PUSH ONE STRAW THROUGH THE HOLE
POKE A HOLE IN THE OTHER STRAW EXACTLY IN THE CENTER

BEND THE PAPER CLIP TO MAKE A HOOK

WHEN FINISHED IT SHOULD LOOK LIKE THIS
SLIDE THE STRAW ONTO THE PAPER CLIP
PUSH THE HOOK END OF THE PAPER CLIP INTO THE OTHER STRAW

USE A PAPER CLIP TO HOLD THE CANDLES IN THE STRAW

5
ADJUST THE CANDLES TO MAKE THE SEESAW BALANCE