

CONGRATULATIONS!

You Completed: Creative Convection

You are
STEM
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Be Curious

You can't see the air but it is moving around us and can apply force to things to make them move.

How do you make air move in the way you want it to?

We explored using heat to create convection currents which then act on our spirals. But why does heat make the air move?

Be Creative

We used the principle of convection to be creative. This spiralling paper comes alive using convection currents. Try different sizes and shapes of spiral to see what works best.



Be Courageous

As we are using fire in this experiment it's very important we are careful and safe. Never leave your creative convection experiment running without you watching! Always blow the candle out before you walk away. But just because something has risk doesn't mean we shouldn't do it, we just have to be aware of the risk and make sure we are careful to avoid hurting ourselves.

STEM Facts

When the candle flame heats the air around it, the air particles get excited and bounce around which moves them further apart. This makes the air near the flame less dense so it rises up.

As it floats up the colder air around it fills the space it was in, then this air heats up and rises. As the hot air rises it cools down and floats back down again. This creates a circular motion thermal current around the candle.

The hot air rising pushes on our spiral which makes it spin around. When the thread winds up in one direction, the resistance in the thread is too much to overcome by the convection force so it will stop spinning. Carefully move the candle aside to let it unwind then replace it again and watch your convection creation in action again!

BE CURIOUS.
BE CREATIVE.
BE COURAGEOUS.
FLOURISH THROUGH STEM.