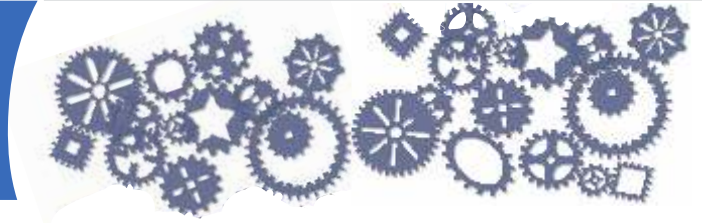


No. R58624

Gear Stencils



Gears are science in motion! These 15 interlocking gear stencils represent round, square and oval gears in many sizes. The stencils can be used with pencils, crayons, markers, or even paint to create a mechanical masterpiece. Interior teeth on several gear stencils increase the options and add interest, allowing the artist (or engineer!) to fit the gears together in a wide variety of ways. Use the information below to think about the science behind how things work.

Excited about STEAM? (Science, Technology, Engineering, ART, and Math) Look for additional creative learning products at www.roylco.com such as

- Straws & Connectors – R6085, R6090 & R60880
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Let's Talk About Gears!

Gears are used in machines, and they have an important job. Gears transfer power from one place to another within a machine. Your bicycle has GEARS! How does it work? The bicycle pedals are connected to gears, and the gears are connected to each other with the help of a chain. The "teeth" on the gears grip the chain. You use your energy on the pedals. The pedals rotate the gears. The gears spin the wheels, and o you go! Gears in pairs can do one of three things: increase speed, increase power, or send power in a different direction.

Increase speed: If the first gear is bigger, and has more teeth, the second (smaller) gear turns faster in order to keep up. This increases speed.

Increase power: If the first gear is smaller, the second (larger) gear with more teeth will turn more slowly than the first, but with more power.

Send power in a different direction: When gears work together on an angle, the power shifts accordingly! There is one last thing to learn about gears. There is a trade-o. If you use gears to speed up, then you naturally lose power. If you use gears to get more power, you will slow down. Think back to that bicycle. You need more power to go up a hill. So, you move your bike to a lower gear. You get the power you need to climb the hill. You have to pedal faster, but the bike doesn't go faster. You are trading speed for power!

Use our gear stencils to create your own simple machine. Your machine can be as real or as fanciful as you'd like! Gears are used in lots of real machines, such as clocks, bicycles, oscillating sprinklers, washing machines and dryers. You can also use your imagination to invent your own mechanical creation, such as a robot or a flying car. All the gears t together and interlock, as a working machine would. Use tape if needed to hold the stencils in place while tracing. Use washable paint on the Gear Stencils, and the plastic will come clean easily with soap and water.

