

## STEAMing into Ringwood Public Library

- S**cience
- T**echnology
- E**ngineering
- A**rts
- M**athematics

### What's coming up at RPL...

*Peppermint Science on Dec. 10*

*Hour of Code on Dec. 11*

[See our full schedule here.](#)

*Call the library to register or email [caldwell@ringwoodlibrary.org](mailto:caldwell@ringwoodlibrary.org)*

### Climate Control

On November 23, the library hosted Michaela Schwab and her presentation "Let's Talk Climate." She focused on the overwhelming trash and plastic problem the world is facing and ways to make small changes in our own lives to create positive changes world-wide.

Check out these websites for more information on how to reduce your waste and why:



[climate.nasa.gov/evidence](http://climate.nasa.gov/evidence)

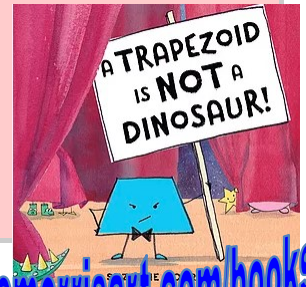
[Recyclingnj.com](http://Recyclingnj.com)

[Sustainablejersey.com](http://Sustainablejersey.com)

## Sci & Tech News!

### New for Young Readers:

*A Trapezoid is Not a Dinosaur*, by local author Suzanne Morris. Learn all about geometry in this engaging story about fitting in and being unique!



<https://www.suzannemorrisart.com/books>

### Video game addiction is real.

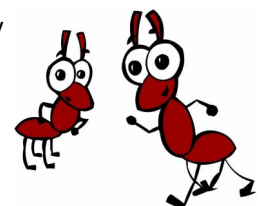
The World Health Organization (WHO) has added *gaming disorder* to its International Classification of Diseases. Addiction to gaming can be associated with serious problems. Whether gaming is the cause of these problems or a symptom of other issues is not yet clear. Find out more at [www.technologyreview.com](http://www.technologyreview.com).

### The Evolution of 3D Printing:

Using liquid polymers, materials scientists in China have created 3D printed objects in a tank of liquid that allows printing without support structures that would later need to be removed. Using this method, biological materials can be created for replacement parts, such as blood vessels and windpipes. Traditional 3D printing, like the printing we do at the library, creates objects by laying down one layer of plastic at a time. Watch a video of a 3D object created using liquid resin and light: <https://youtu.be/UQgowQh19T4>

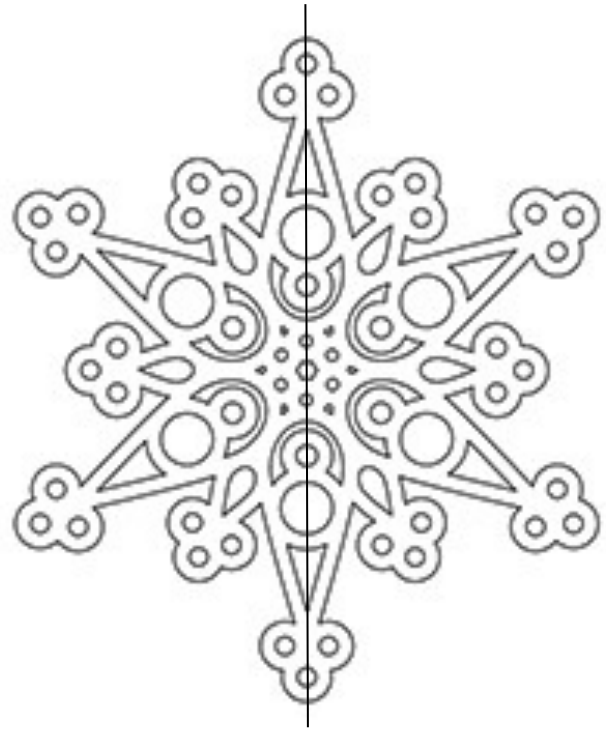
### What could we learn from insects?

Ants are a highly social species. In a social insect population, there are many workers. When they forage (look for food,) there are many of them doing the same job. They are coming and going from the hive along the same route, a situation where there could be many "accidents." But, research has shown that individual ants continually change their direction and speed to prevent colliding with others. Ants have evolved to benefit the whole population, not just their individual selves. Imagine how fewer accidents there could be on the roads if humans were more like ants!



# Science of Snowflakes:

Snowflakes are crystallized water vapor. High in the atmosphere, a water droplet freezes onto a dust particle, forming a crystal. More crystals grow as water vapor continues to freeze to the falling snowflake. The temperature and humidity (amount of water vapor in the air) help determine the shape of the crystals that form. Changing conditions as the flake falls change the direction of crystal growth. Since each flake has a different route to the ground and experiences different conditions, flakes tend to be unique. Each snowflake has 6 "arms" and is symmetrical, which means it looks the same on both sides if you divide the flake in half. Each side is a mirror image of the other. (See the picture to the right.)



## From Mashupmath.com:

There are 20 people in a room. If each person shakes every other person's hand only once, how many handshakes are there altogether? (Find the answer on our [STEAM webpage](#).)



Check out the Nov/Dec issue of Muse Magazine. It's all about the Maker Movement! We have it at the library!

## For Adults and Young Adults...

*The Body: A Guide for Occupants*, by Bill Bryson

As Bryson writes, "We pass our existence within this wobble of flesh and yet take it almost entirely for granted." In typical Bryson fashion, this is a highly readable book about the truths of our incredible bodies. Put it on hold [here](#).

Or, read the Bryson's *A Walk in the Woods*, a hilarious romp through the woods of the Appalachian Trail. Place it on hold [here](#).

