December STEAM Challenge:
COOKIE CHEMISTRY

Step 1: Think
Baking cookies is a great way to learn about chemistry! When a cookie is baked in the oven, it goes through several chemical and physical changes. What do you know about making your favorite cookies?

Here are some things to think about:
• What ingredients do the cookies include?
• What is the baking process like? What temperature do they need to reach?
• How does the cookie dough change when it is cooked?

Step 2: Find
Explore the resources below and other resources you can find on the topic.

Video: Watch this month's STEAM Challenge video on YouTube.

TV Show: Watch Magic School Bus Season 1, Episode 9 Get Ready, Set, Dough on Hoopla

Game: Play Ruff’s Cookie Creator at PBSkids.org

Contact your local LCPL branch for more resources.
December STEAM Challenge:
**COOKIE CHEMISTRY**

**Video:** Watch The Chemistry of Cookies on YouTube.

**Ebooks:** Look through some digital cookbooks on Hoopla and find some recipes you would like to try.

### Step 3: Create & Explore
#### Cookie Comparison

1. Make a batch of cookie dough with an adult. You can use any cookie recipe you like. Before putting your cookies in the oven, print and fill out the first column of the Cookie Comparisons worksheet found on the next page.

2. Bake your cookies and allow them to cool completely. Give your cookies a taste and fill out the rest of the cookie comparison worksheet.

3. Your cookies changed when they baked. Can you use what you learned this month to explain how these changes happened?

Contact your local LCPL branch for more resources.
## Cookie Comparisson

<table>
<thead>
<tr>
<th></th>
<th>Raw Dough</th>
<th>Baked Cookies</th>
<th>What changes did you notice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texture</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Smell</td>
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<td>Shape</td>
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<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Taste</td>
<td>![Warning] Skip this box- Do not eat raw dough.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>