

Computer Science, Entrepreneurship, and Design

An Enticing Approach!

About the Project

Introduction. In this project, students plan and create a fictional ice cream shop. Students develop entrepreneurial skills as they conduct market research and design their shop around a theme of their choosing. They learn about the internet, networking, and online safety through the creation of a website, and explore concepts in data analysis and decision-making by creating and administering a survey, then analyzing and reporting results. Learners are also introduced to the engineering design process as they construct 3D models of their storefronts.

Completely Customizable! The individual components of this project are easily adapted to other classroom settings. Each component of the ice cream shop is distinct and has its own key concepts, deliverables, and materials. Components can be re-arranged to adjust the length of the project, the topics covered, and their order! Additionally, it's easy to add entirely new components, adjust on the fly, and differentiate the experience for individual students.

Sample Pacing

	M	T	W	H	F
Week 1	Project Intro	Brainstorming		Logo Design	
Week 2	Static Digital/Print Design (business card, sticker, social post, menu)				
Week 3	Learn about data!	Build survey		Video editing	
Week 4	Video editing		Data analysis and visualizations		

Extra Toppings

In addition to the components we show on this poster, there are many opportunities for additional learning and exploration! Below are just a few “extra toppings” ideas, which can be great for extension activities, making the project longer, or allowing students to pick and choose their own components to create from a list of options!

- research how ice cream is made - make recipes!
- explore the nutrition and health behind ice cream
- consider food safety and preparation
- design, print, and fold custom cone covers
- predict and model costs and revenues
- and so much more - what ideas do **you** have?

Logo Design

Topics Explored:

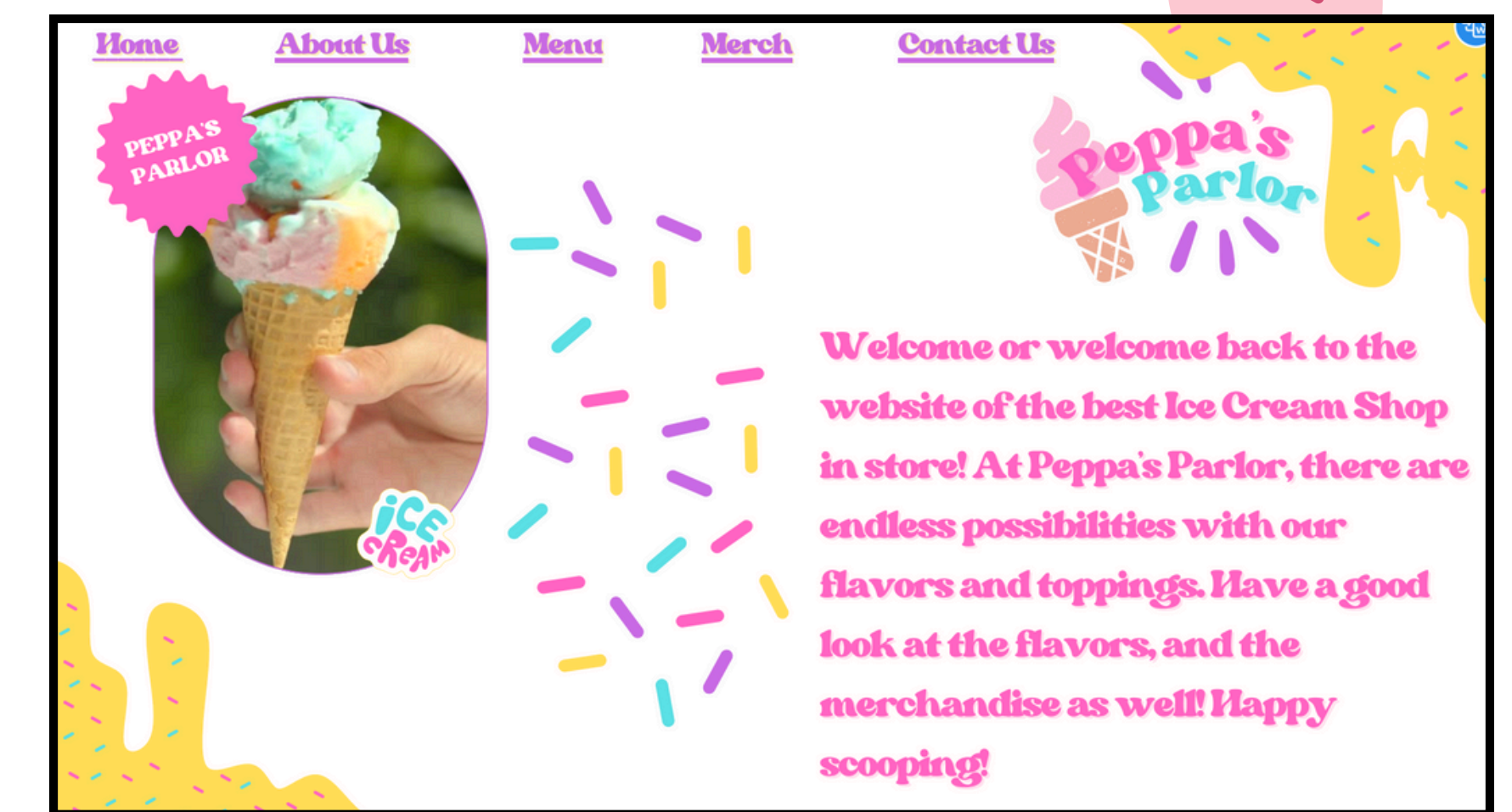
- Famous brands and logos
- Color theory and visual marks
- Visual copyrights and ownership
- Accessibility/readability
- Graphic design (in Canva, Illustrator, etc.)

Digital & Print Design

Topics Explored:

- Graphic design (in Canva, Illustrator, etc.)
- Visual identity and brand consistency
- Social media uses, safety, advertising
- Using technology creatively as a tool!

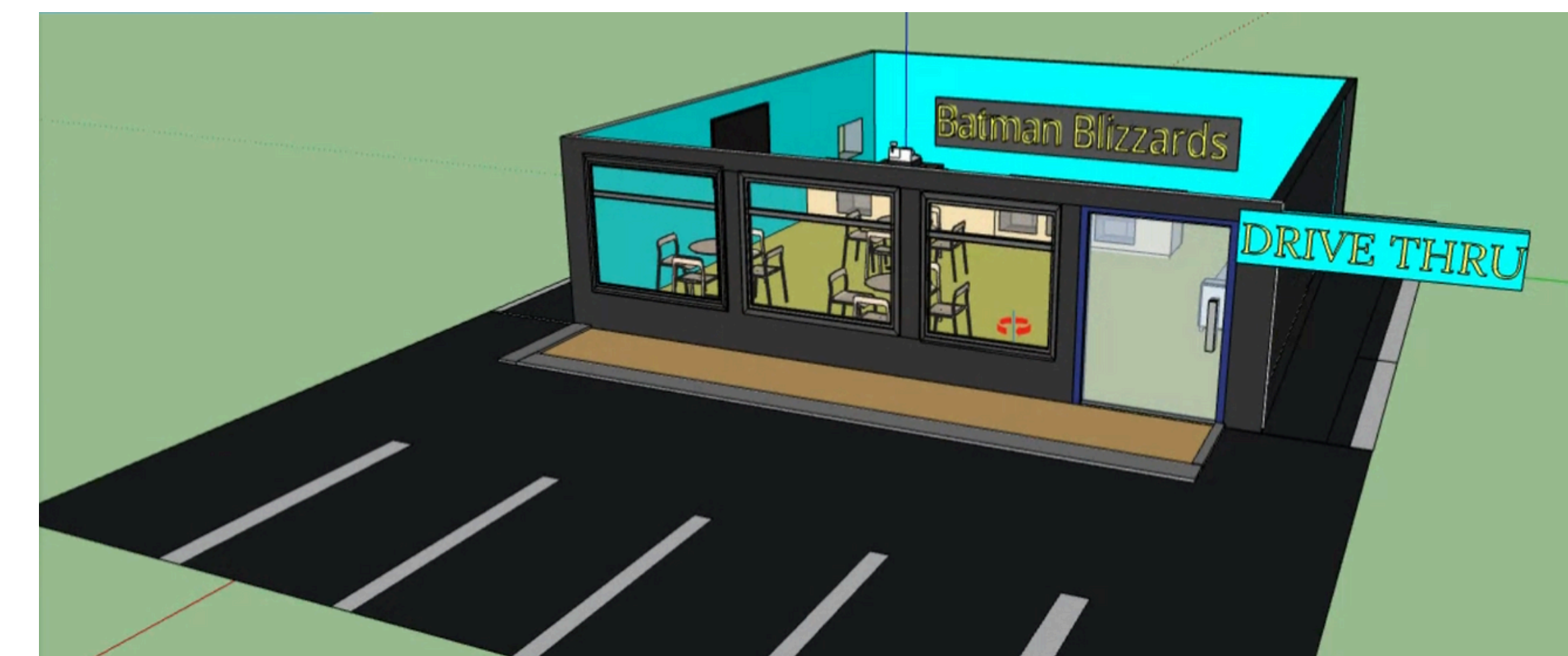
Websites & Networking



Topics Explored:

- The Internet and how it works
- Internet safety, cookies, and privacy
- Parts of a webpage - header, footer, sitemaps, URLs
- Designing and building websites (Canva/Google Sites)

3D Store Modeling



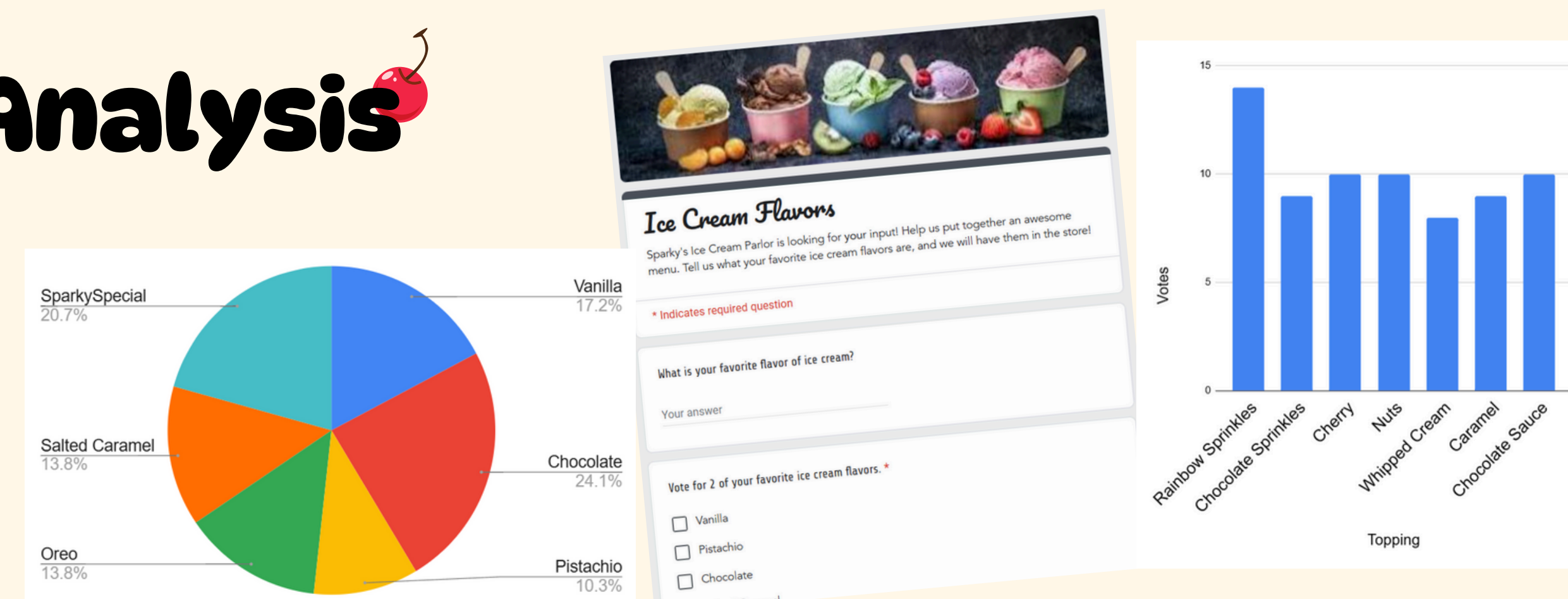
Topics Explored:

- 3D modeling and prototyping
- Creating 3D models in SketchUp
- Navigating 3D designs
- 3D printing
- Measurement

Data Collection & Analysis

Topics Explored:

- Using surveys to collect data
- Organizing data in spreadsheets
- Creating data visualizations with graphs
- Making decisions based on data



Educator Resources

Topic Brief: What is the Internet?
Roselle Park Middle School | Rutgers EDE: Extending the CS Pipeline

Course Name | Website Design
Grade Level | 8
Course Days | 3

Day 1 - Intro to the Internet

(Day 1, 7 minutes) Class starter activity

(Day 1, 12 minutes) What is the internet, really? [YouTube Video](#) (Ted Talk)

(Day 1, 20 minutes) Class debrief discussion. Emphasize the main points of the video, and really try and demystify the concept of the internet. There is no magical cloud - we know that everything a computer does boils down to 0s and 1s, so the internet is a complex web of networks that enables us to talk to a computer (a web page) made of 0s and 1s from somebody else's computer, get it sent to our computer, open it and view it, and potentially send information back to other places. Some questions to guide the discussion:

- How has technology, especially the rise of smartphones and constant internet connectivity, changed our relationship with the physical world?
- What did the speaker find surprising about the physical infrastructure of the internet? What did you find surprising?
- How does understanding the physical components of the internet change your perception of it?
- Why is it important to know about the physical aspects of the internet, such as data centers and undersea cables? Do you think many people know this about the internet?
- What are the benefits and challenges of increased global connectivity?
- What are the environmental and economic impacts of maintaining the physical infrastructure of the internet?

Day 2 - Packets & Tablets of Stone

(Day 2, 5 minutes) Class starter activity

(Day 2, 20 minutes) Coding video on Packets - [https://www.youtube.com/watch?v=...](#) After watching the video, have a class discussion to reflect on the important points. The big idea is that the messages we want to send are too big for the modes we have

Website Development - Beta Testing Info Sheet

Student Assignment Sheet

Site Title	
Site Description	
Areas Ready for Review	
Things that are NOT Ready for Review	
Questions to Beta Testers	

Website Development - Exploration

Student Assignment Sheet

Link to Site	Description	Things I Liked	Things I Didn't Like	Idea for My Own Site

Website Development - Daily Check-ins

Student Assignment Sheet

Please use the link below to access any reference materials for this assignment.

Student Resource Document

Day 1

1. How much progress do you feel as though you made today?

- Lots of progress
- A good amount of progress
- Some progress
- Not much
- Almost nothing

2. Was anything challenging for you today?

➔ [Answer given here](#)

3. Based on your work today, do you need to change your plan at all for developing your site?

➔ [Answer given here](#)

4. What did you learn today while working on developing your site?

➔ [Answer given here](#)

...and so many extra scoops!



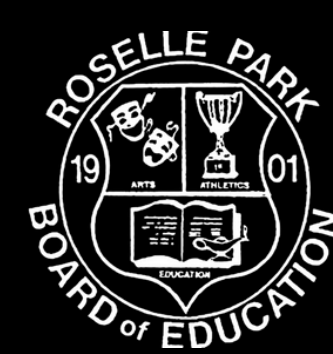
Looking for Sprinkles?

View our shared online folder for more student products (like websites and videos) as well as lesson downloads! Grab a card or take a picture - it'll last longer!



Need another scoop?

For more information and resources, check out the online drive at go.rutgers.edu/csicecream



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Rutgers University & Roselle Park School District



This collaboration was funded by the U.S. Department of Education Office of Elementary and Secondary Education Under Grant #S411C200084