

## ***Meet a Chemical Engineer! Transcript***

Hi, my name is Jenny. I am a chemical engineer and I work for Creative Juices Company in the product research department. That means I spend most of my time working with consumers, who are the people who buy and drink our products. Products are the things that a company makes and sells. Creative Juices' products are different kinds of fruit juice.

Product research means finding out what consumers like about a product and what they don't like. This helps us to make juices that consumers will buy and enjoy. We do product research on things like the flavor of the juice, the bottle that the juice comes in, and the color of the juice. Sometimes I bring consumers into my lab and ask them to try different juices and tell me what they prefer. Other times, I ask consumers to fill out surveys telling me what they would like in a juice (and what they would NOT like). After I collect and analyze all of my data, or information, from consumers, I make recommendations to the Creative Juices Company about the best way to make different kinds of juice.

Today, I need your help doing some product research on a new juice flavor that Creative Juices has decided to sell—strawberry orange. This new juice is made for kids, just like you, and we are trying to figure out what color juice the consumers prefer.

Chemical engineers often work on designing and improving food coloring for all different types of foods, from cereals and candy to fruit juice. Sometimes, a food's color can fade or change over time, or the combinations of different ingredients make a yucky color that consumers don't like. Chemical engineers can work to correct these problems using food coloring. Of course, we only use food coloring that is safe for eating and drinking.

Once you have conducted your product research and determined what juice color the consumers prefer, you should write a report to the president of Creative Juices Company, telling her what you have learned. Once she approves the new juice color, I can work to design the process for adding the right color to the strawberry orange juice.

Thanks for helping me with my project! I'm sure you will be great chemical engineers!



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Product Research Survey Data

1. The question we are using product research to answer is:

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*Directions: Complete the bar graph below with the product research survey data from the class.*





Name: \_\_\_\_\_ Date: \_\_\_\_\_

**B**

## Product Research Survey Data

*Directions: Using three different colors, color in each column of the bar graph to show the number of consumers who preferred each juice color.*

<b>Number of Consumer Votes</b>	<b>20</b>			
	<b>19</b>			
	<b>18</b>			
	<b>17</b>			
	<b>16</b>			
	<b>15</b>			
	<b>14</b>			
	<b>13</b>			
	<b>12</b>			
	<b>11</b>			
	<b>10</b>			
	<b>9</b>			
	<b>8</b>			
	<b>7</b>			
	<b>6</b>			
	<b>5</b>			
	<b>4</b>			
	<b>3</b>			
	<b>2</b>			
	<b>1</b>			
		<b>A</b>	<b>B</b>	<b>C</b>
		<b>Juice Color</b>		



A

B

# Product Research Report



**To:** President, Creative Juices Company

**From:** \_\_\_\_\_

**Date:** \_\_\_\_\_

1. The purpose of our product research was to find out:

\_\_\_\_\_

\_\_\_\_\_

2. The consumers that we surveyed are:

**Ages** \_\_\_\_\_ **to** \_\_\_\_\_

3. We surveyed a total of \_\_\_\_\_ consumers.

4. \_\_\_\_\_ consumers preferred juice color A.

\_\_\_\_\_ consumers preferred juice color B.

\_\_\_\_\_ consumers preferred juice color C.

5. Based on the results of our product research, we recommend that you make your new juice: (Circle one answer.)

**Color A**

**Color B**

**Color C**

6. Here are the formulas for our juice colors:

Color	Formula (write the number of drops of each color used)
A	
B	
C	













## Lesson 2 Rubric

Student will be able to...	Novice 1	Apprentice 2	Proficient 3	Distinguished 4
<b>define product research and explain its purpose and importance.</b>	Student does not successfully define product research.	Student defines product research and explains its purpose and importance. Response is incomplete or inaccurate, or student requires significant support.	Student correctly defines and completely and accurately explains the purpose and importance of product research.	Student participates at proficient level is able to articulate insights and connections to the world beyond the activity and the classroom.
<b>identify and explain the role of chemical engineers in conducting product research.</b>	Student does not successfully identify or explain the role of chemical engineers in conducting product research.	Student identifies or explains some part of the role of chemical engineers. Response is incomplete or inaccurate, or student requires significant support.	Student correctly identifies and completely and accurately explains at least two aspects of the role of chemical engineers in conducting product research.	Student participates at proficient level and goes significantly beyond (e.g., by relating responses to other concepts in technology and/or engineering).
<b>analyze product research survey results to draw conclusions about consumer preferences.</b>	Student does not successfully analyze product research survey results to draw conclusions about consumer preferences.	Student draws conclusions about consumer preferences. Response is incomplete or partially inaccurate, or student requires significant support.	Student correctly and completely analyzes and draws conclusions about consumer preferences.	Student participates at proficient level and goes significantly beyond (e.g., by making suggestions for how to do further or better product research).
<b>communicate product research survey results.</b>	Student does not successfully communicate product research survey results.	Student communicates product research survey results. Response is incomplete or partially inaccurate, or student requires significant support.	Student completely and accurately communicates product research survey results.	Student participates at proficient level and goes significantly beyond (e.g., by using multiple modes of communication (verbal, visual, etc.)).



