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Wayward Nosh

A Capstone Project Submitted in Partial Fulfillment of the
Requirements of the Renée Crown University Honors Program at
Syracuse University

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and Renée Crown University Honors
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Honors Capstone Project in Industrial Design

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Date: April 23, 2014

Wayward Nosh

By Alexandra O'Neil



How do you tell your child they can never eat a Snickers bar?

Design Challenge

How do you get 4-8 year olds to understand their food allergy well enough to communicate it to others?

When parents learn their child has a food allergy, for them, it is a stressful, life-changing discovery. For the child, this knowledge has no meaning, yet. Here, there is the opportunity to break down connotations associated with allergies. Through design intervention, this book explores the possibilities of transforming food from problems into assets. For instance, Superman might be “allergic” to kryptonite, but he also has superpowers. Rather than label the child with allergies, why not rebrand allergies to turn a perceived negative circumstance into a relatively positive one?

There is a moment when a child with food allergies needs to leave their parent’s side for the first time to go to kindergarten. They are plunged into a world of rules and expectations. That alone can be overwhelming for a developing mind, but to add the challenge of having a food allergy on top of it all makes this day all the more intense. The project looks to redesign the overall food allergy experience for both children and their parents, from the moment a parent has that life-changing conversation with their child to when the child is eating lunch at school everyday with their peers.

Research for this project was a combination of listening the stories of those people affected by food allergies, gathering literature on the topic of food allergies, market research, and reaching out to professionals with insight into various related topics, such as teachers, librarians, and doctors.

The design process was a cycle of sketching, creating, testing, analyzing, refining, and repeat. The idea of having a system of objects that work together to reinforce a narrative began in early design stages. The design process then became about developing a character to use as a vehicle for communicating to children. Wolfelopes are fictional creatures, part wolf, part antelope, designed specifically for this project. In the end, the final prototypes included a children’s book, *The Wolfelopes: An Allergy Adventure*, a character-based lunch box, and packaging. Each object addresses different design goals, but when they come together, a larger story is created. The collection of objects work together to rewrite the experience children and parents have of learning about and coping with food allergies.

The Wolfelopes, the book is meant to be used as a tool by parents to help introduce food allergies to their child. The book can then be brought to show-and-tell and shared with the class. This will help the child with food allergies learn to communicate their allergy to their teachers and peers.

While the wolfelope lunch box functions as a toy for the child, it is also a physical representation of a parent’s effort to prepare their child for the world. Further the lunch box signals to carers (i.e. teachers) which students might have food allergies. Since the design works to associate these characters with food allergies, the child will subtly adopt the habit of being conscious of their food allergy during meal times.

The book and the lunch box are packaged in a box that, when opened, becomes a toy tray and a poster. The intention of having the revelation of the dominant objects be a process reminiscent of receiving a present is to attach positive connotations to The Wolfelope Kit. In conclusion, these objects each play a role in empowering children with food allergies by turning a perceived flaw into an asset.

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Research Book 15

Includes research conducted during the Fall 2013 semester as a part of the Industrial Design Thesis class.

A bibliography concludes the end of this section.

Process Book 131

Consists of a three-phase design process from the Spring 2014 semester as a part of the Industrial Design

Thesis class. A bibliography concludes the end of this section as well.

Appendix: 248

Poster

The Wolfelopes: An Allergy Adventure

This children’s book is a component from a collection of objects that make up the final design solution.



Once upon a time there was a kindergartener, Robby with a food allergy. He brought his EpiPen to school and attempted to write with it as though it were a writing utensil. This young boy quickly concluded that his pen would not write. His friend, Gavin offered to help by shaking the pen and hitting it against his hand; consequently, he accidentally injected himself with epinephrine. Gavin ran into the bathroom and started crying because he was afraid he would get in trouble. Robby told the teacher, who then had to inform the school nurse and principal before contacting the mother by the end of the day. The mother was upset because she heard about the incident hours later.

This is a true story.

The Challenge

How do you get 4-8 year olds to understand their food allergy well enough to communicate it to others?

Introduction

In most situations, kindergarten is the first time a child with a food allergy is separated from the parent for regular, extended periods of time. There is a new level of responsibility placed on a child at this time and her other carers. As a result, there is a lot of pressure on parents and teachers to make sure nothing goes wrong. Every situation has a degree of uniqueness since personalities and circumstances differ, but all seem to have the same desired outcome —everyone wants the child to be safe. This project on helping to raise cultural awareness, on individual responsibility and on shaking off the stigma of food allergies, is approached from an industrial design perspective. After gathering information, the project is now a small group of objects that help address some of the challenges children face when trying to cope with food allergies.

As mentioned earlier, for this project, the primary stakeholders involved are 4-8 year old children with food allergies. Other stakeholders affected include the peers of these children, parents of children with allergies, and anyone responsible for overseeing these children and their health and well-being, such as a teacher.

Goals

If allergies are compared to Superman's kryptonite, then what are the "superpowers" kids with allergies have?

There are several design goals that informed the final design. First, the design empowers children with food allergies. Rather than be a kid that others need to take care of, this design is intended to encourage children to take responsibility over their health. Second, the design breaks down the stereotypes and connotations surrounding food allergies and rephrases these in order to develop a positive connotation of what it means to have an allergy. Third, the final design takes responsibility for promoting the growth of healthy habits for coping with food allergies. Fourth, the group of objects work together as a system to reinforce one another as a brand so they can be understood as one entity. Fifth, allergies are presented as an asset and not a flaw.

The Final Design

What food allergy related object could exist that a child would want to bring to show and tell?

The final design consists of two objects, a children's book and a lunch box. The two items rely on the fictional creatures called, "wolfelopes" to be the medium that introduces this new way of experiencing life with food allergies. "Wolfelopes" are a hybrid between wolves and antelopes. The use of fictional creatures with an un-emphasized food allergies give me greater freedom to accomplish my goals and helps children relate to the story by intuition rather than through a rational, positivistic slant. The two main goals of the children's book are, one, to teach peers of the child about allergies and, two, to facilitate the discussion about allergies between parents and children. Overall, the children's book is a communication tool intended to serve the child with allergies. Through creating a space for imagination and discussion without a direct focus on the

child as 'flawed' or negative, the story can be used to teach children and to give the child tools, in the form of imaginary characters and what they do when presented with a food challenge, to share what they have learned with others.

The story is about the friendship between Wesley and Willow, both of whom are wolfelopes. The narrator, Wesley talks about his best friend, Willow who loves to cook for the pack of wolfelopes. Through this story, Wesley discusses his food allergies and how they relate to the diet of the rest of the pack. One day Willow runs out of ideas for recipes. Wesley's unique diet allows him to share his knowledge of other ingredients that are less familiar to Willow. With Wesley's help, the two friends make great tasting and healthy food for the whole pack. Wesley is declared "Keeper of Ingredients" and given "The Wand of the Wolfelope" because he knows how to look after everyone's eating needs. In this way, his allergy becomes an asset. The back of the book contains pages for kids to color themselves in to the story. For instance, there is an illustration of Wesley and below it says, "Wesley says you can be Keeper of Ingredients too. Draw yourself next to Wesley." This creates a link between Wesley's skills and the child's own as able to look after themselves and share their knowledge with others.

The Wand of the Wolfelope is illustrated to resemble an EpiPen. There is minimal attention paid to the EpiPen in the book because the story focuses more on the social aspect of coping. However, there is a page in the back of the book titled, "The Wand of the Wolfelope Pledge." Here, kids can then fill in their name and pledge to use the wand responsibly. This transforms the EpiPen into a precious object with more of a proud responsibility and less of a burden. Other pages in the book include one where children can draw in ingredients to share with Willow, as well as a glossary, resources for families, and a letter from an allergy specialist.

Although the children's book is the most important object of the group, but the lunch box retains its own level of importance. The two main goals of the lunch box are to subtly train kids to be aware of their allergy throughout the day, especially at lunchtime, and also to help indicate to teachers that a child has an allergy without the child being overly medicalized or constructed as a problem. The lunch box resembles Wesley, the wolfelope with food allergies and Keeper of Ingredients. There is a label on the handle where the child's name and allergy can be recorded and easily located. The lunch box also has a special pocket for a mother or other carer to write a note to the child and leave in with the lunch. It is a simple design, and takes the imaginary characters into real life, and thus both relies on and reinforces the messages in the wolfelope story. Books get read a few times, but lunch boxes are used everyday.

Because the target audience is a niche market, the kit will be available to order online. After arriving in the mail, the packaging will contain the book, the lunch box, and a note to the family. The book can then be used by the family to learn about coping with allergies. Later the child can bring the book to show-and-tell. The lunch box can be integrated into daily use. Though not a part of my physical prototypes, the idea for this project does account for a Willow lunch box in case anyone without an allergy wishes to partake in the story, as Willow does by being a cook and friend of Wesley.

Discussion of Methods Used

This project developed from a research phase and a design phase. Research involved gathering any and all information from a variety of sources about food before narrowing down the topic to food allergies. While books, websites, and journals played a large role in the research phase, gathering personal stories through interviews informed most of the design decisions. The reason for this can be attributed to the emphasis on human experience in the design goals.

The design phase required several rounds of prototyping. This process included market research, developing skills to create the design, sketching, making, testing, and analysis. Through this process, the stakeholders were narrowed down and prioritized, the goals were refined, and the direction narrowed. Testing involved getting feedback from specialists, other designers, educators, librarians, people with allergies, and parents. The story went through multiple drafts and character designs. Everything from nonfiction to fiction, to the role of rhyming was explored. Eventually, these phases led to the final prototype discussed in this summary.

The Project's Significance

"Why me?" —6 year old with peanut allergy

Food allergies continue to be a growing challenge in the US, but as a niche market, the level of focus given to this situation by designers is minimal. The majority of children's books on the market pertaining to food allergies are written by parents. As a result, the anxiety of the parent tends to shine through. Other available products tend to be unrelated to one another or lack consideration of their full potential. Lastly, of all the products that currently exist for food allergies, none present allergies as an asset. The goal of this project is to look at allergies in a new light. Children between 4-8 years old are still learning about the world and who they are in relation to everything around them. Because of the susceptibility of children, it is crucial that their view of allergies does not start with a negative. They will encounter challenges over time and these objects aim to prepare them for such challenges not overwhelming children with fear, but through instilling in them a positive sense of responsibility.

This project would not have been possible without the love and support of my parents, Timothy O'Neil and Jennifer Meyers. Without them, I would not even be in the Industrial Design program at Syracuse University, let alone completing this capstone.

The wolfelopes could not be as adorable as they are without my best friend and illustrator, Anna Rettberg. Her dedication to this project helped to make this book possible and to her, I am extremely grateful.

The project was guided by critiques and deadlines made by the Industrial Design professors at Syracuse University. Further, Julie Botticello, who is an anthropologist and my reader, provided a perspective from another discipline and spent many hours carefully looking over the work that went into this project. Together, they helped hold me accountable in seeing this project through to the end. If it were not for them, I would still be writing drafts and working on character designs, drowning in a sea of decisions yet to be made.

I would also like to thank student music teacher, Shelby Bird for giving me her time on several occasions to share her insight into the world of kindergartners. Her feedback played a major role in helping to inform the wolfelope story.

I would like to give special thanks to Dr. Shrikhande, who offered me assistance with this project even though I was a stranger. I also want to thank my cousin, Christina O'Neil who shared her stories with me about her experience with allergies and was always available, even when given little notice.

Other people who helped me in my research and design process include families, teachers, librarians, and doctors. Thank you to all of you, who read my long emails and responded with feedback that helped inform this project. Without your help, this project would not exist today.

There are so many people that I owe thanks to, but if I were to list them all here, this book would be much longer. Please know, to everyone who supported me during this project, I am very grateful. I hope I can do the same for you one day.



Research Book

By Alexandra O'Neil

Perspective of the 95th Percentile

Things I Did Not Understand Before

Before taking this project on, I was ignorant about the limits of my knowledge on the subject of allergies. When I thought of food allergies, peanuts and wheat entered my mind. When I thought of social issues, the isolation of the peanut table was my first thought. Since then, I have learned that in order for something to be defined as an allergen, it must be a protein. Next, peanut tables are becoming less and less common as people realize that it is the ingestion of peanuts that triggers a reaction.

When I thought about who has allergies, part of me believed they are very common and another part of me imagined Chuckie from *Rugrats* to be my target group. I was aware this was an image constructed by the media from a young age with multiple false connotations. Upon conducting my research, I learned only 4% of children actually have food allergies. Many people claim to have food allergies because they truly believe they are allergic to wheat and dairy when in fact, they really mean to say they have an intolerance.

As for the 4-6% of the American population who have allergies, they do not all look like Chuckie from *Rugrats*. These children are just like the rest of the population. While some people have blue eyes, other people cannot have milk. It is a DNA trait that is uncommon, but it does not dictate all other traits or experiences of that person.

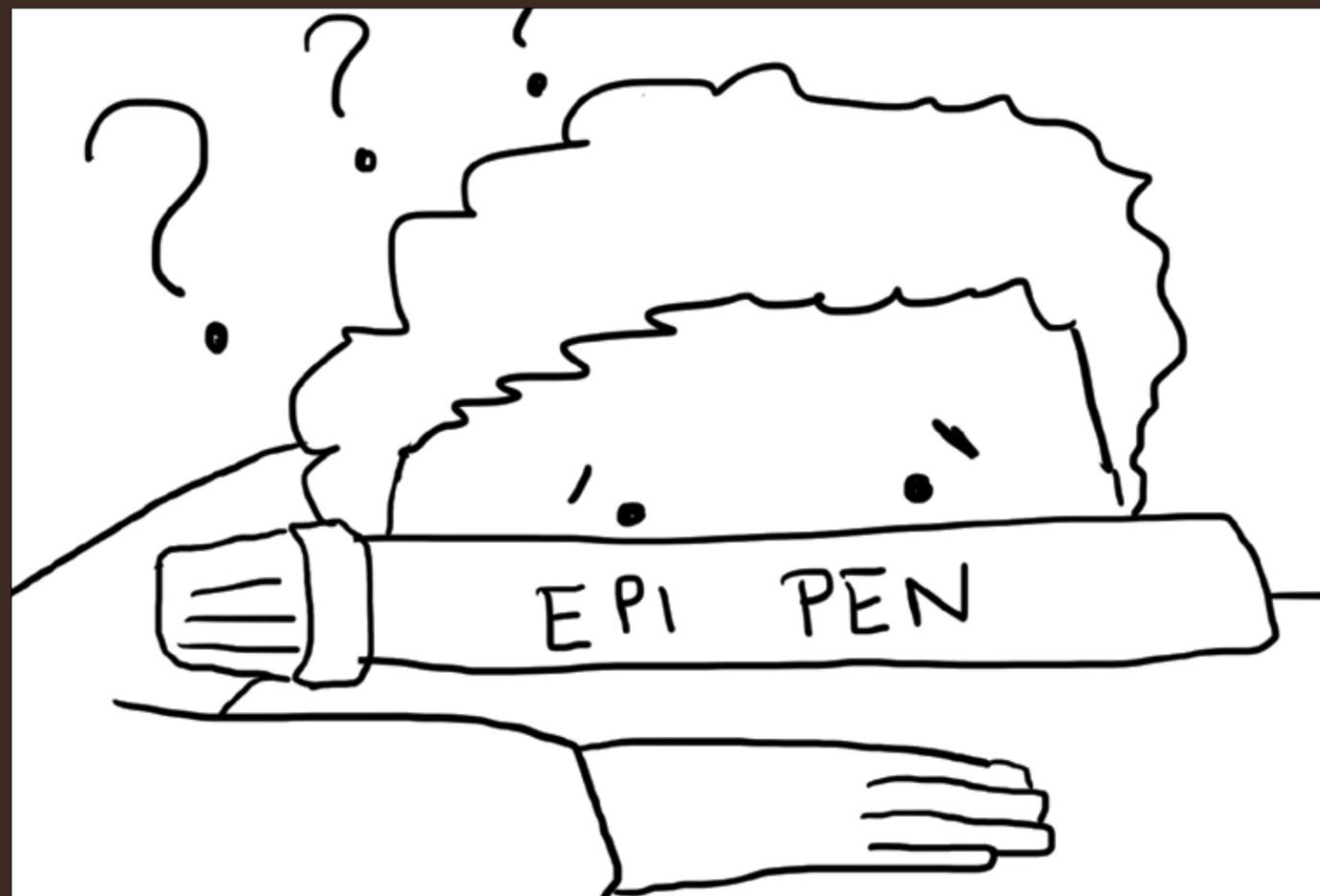
I am lactose intolerant. It is not an allergy and it is fairly common. If I consume milk products I might feel sick, but it will not kill me. Everyone has food stories and preferences. Vegans, vegetarians, kosher practices, diets, eating disorders, the list is infinite. With all of these varying diets, it can be tricky for people preparing and serving food to understand the importance of a missing ingredient. To be honest, it can also be frustrating and inconvenient to cater to all of these needs.

If someone has an allergy and they inform the chef, the dishes must be washed and new gloves must be put on before touching food that will be served to this person. As for communication, if someone says they cannot have milk, that might mean they are lactose intolerant like me, or it might mean they cannot have a muffin that contains a little bit of milk that was baked into the pastry.

People with allergies are the ones who best understand what they can and cannot have. It is a challenge for both parties to communicate to one another. This book aims to look at moments of communication involving all stakeholders through stories, prototyping, and other design research methods. By the end of this book, opportunities for design will be recognized and design directions will be further defined.



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The following pages tell a story from various perspectives about a kindergartner who thought his EpiPen was a writing utensil. This is what happened...



Robby did not know what his EpiPen was for, so he tried to use it as a pen.

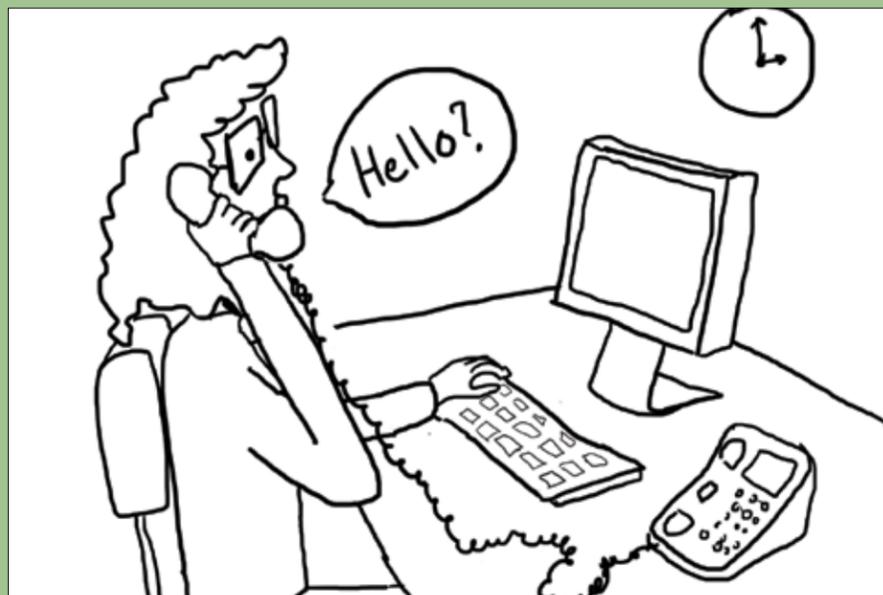




Gavin thought he would get in trouble for accidentally using the EpiPen. He hid in the bathroom instead of telling his teacher.



Mrs. Shimer was worried she would get in trouble and was nervous to call Gavin's parents.



Gavin's mom did not find out her son was accidentally injected with epinephrine until the end of the school day and that upset her.

My goal is to
turn a potentially
negative
experience into
a positive one.

My goal is to use design to transform the experiences children with food intolerances encounter on a daily basis. For example, schools typically have a specified “peanut allergy” table for children with tree nut allergies. This solution only solves liability and health issues; there are still issues that need to be addressed. Consider the social anxiety children feel when sitting alone at a table that points out how they are different from their peers. Further, kids are largely influenced by the attitudes of their parents, whom tend to fear life-threatening allergies. What if the solution to dealing with allergies gave children comfort, peace, or even joy? There are many children who struggle with the anxiety accompanying food intolerances more than the allergy itself. The aim of my capstone is to find a way for children to take care of their health without being traumatized for being different.

As people navigate various day-to-day situations, there are times when trust and communication are pivotal to how an experience is perceived. There are times when other people have to be trusted or communicated to for an expected outcome to occur. In some situations, people need to trust and communicate to themselves for a successful outcome.

These people can be children with food allergies, parents looking out for their children with allergies, baby-sitters, teachers, camp counselors, the list goes on.

This key is intended to help qualify the data extracted from the stories in this book. These symbols will be used to label and classify these stories. Look out for these symbols in the title line of each story. The aim is to help qualify (and quantify) the data. In the “Design” section at the very end is an experience matrix to show how experiences compare to one another.

Key: Classification of Experiences

When do people have to...

Trust	Communicate to	
		Themselves
		Others



Education

From learning about having an allergy to discovering how to live with one, education is a process involving many different players. The goal of this section is to understand how the world classifies and copes with allergies.



The Doctor Said So

Every person who has a food allergy must undergo a discovery phase where they learn what they can and cannot eat. According to allergy specialist, Dr. Anitha Shirkhande, only 1-2% of children have an allergy that leads to anaphylaxis. As a result, parents and children often feel it is up to their own research to become educated. Such research includes reading blogs, visiting websites dedicated to explaining food allergies, attending support groups, and asking doctors.

One family shared a story with me about when they were going through the process of learning about how to manage their child's allergies. At that time, the mother was a new mom and she just learned her daughter was deathly allergic to milk. The doctor advised her to give her child a baby formula with broken-down milk proteins.

“But the baby formula still contains milk?” the mother asked. The doctor replied, “Yes, but the proteins are broken down and is therefore safe.”

This new mom filed this information away and went online to see what other parents were saying. She discovered there were a few instances in which an allergic reaction occurred from the baby formula. Rather than trust the doctor, this mother sought the reports provided by unknown mothers in similar situations. She decided not to give her daughter the formula and sought alternative forms of nutrition to feed her child.

Trust	Communicate to	
		Themselves
		Others

The Omnivore's Paradox

An idea developed by Claude Fischler

People are not koalas who only require eucalyptus leaves to satisfy their bodies. The food pyramid exists for a reason. The need for variety is what allows people to eat chicken one night and pork another. Unfortunately, sometimes this adventurous spirit can lead to illness or the discovery of a food allergy.

Anthropologist, Claude Fischler titled this phenomenon "The Omnivore's Paradox." There are two poles of this spectrum, neophobia and neophilia. The former is fear of unfamiliar foods and the latter refers to the love of trying new foods. It is a concept that applies to all human beings, how people navigate this spectrum is an entirely different matter. (Fischler 218)

For someone who has a food allergy, the spectrum has a unique twist. In one case, a person with a peanut allergy has a better idea of what might make them sick and therefore, knows what foods to avoid. On the other hand, the stakes are higher when selecting a food to eat because they know there are foods out there that pose a very real risk to their well-being. It is not always as simple as reading the ingredients list on a package because not all food is processed. If a friend makes a cupcake for someone with a food allergy, the familiar topics of trust and communication come up. Does that friend fully understand the allergy (communication)? Will this person trust their ability to communicate to their friend about their allergy and eat the cupcake?

The Omnivore's Paradox extends to the human-food relationship as well as, the human-food-human relationship. For example, when traveling to a foreign country oftentimes guidebooks contain entire sections on food. Part of the abroad experience requires all of the senses, including taste and smell. Imagine sitting in a

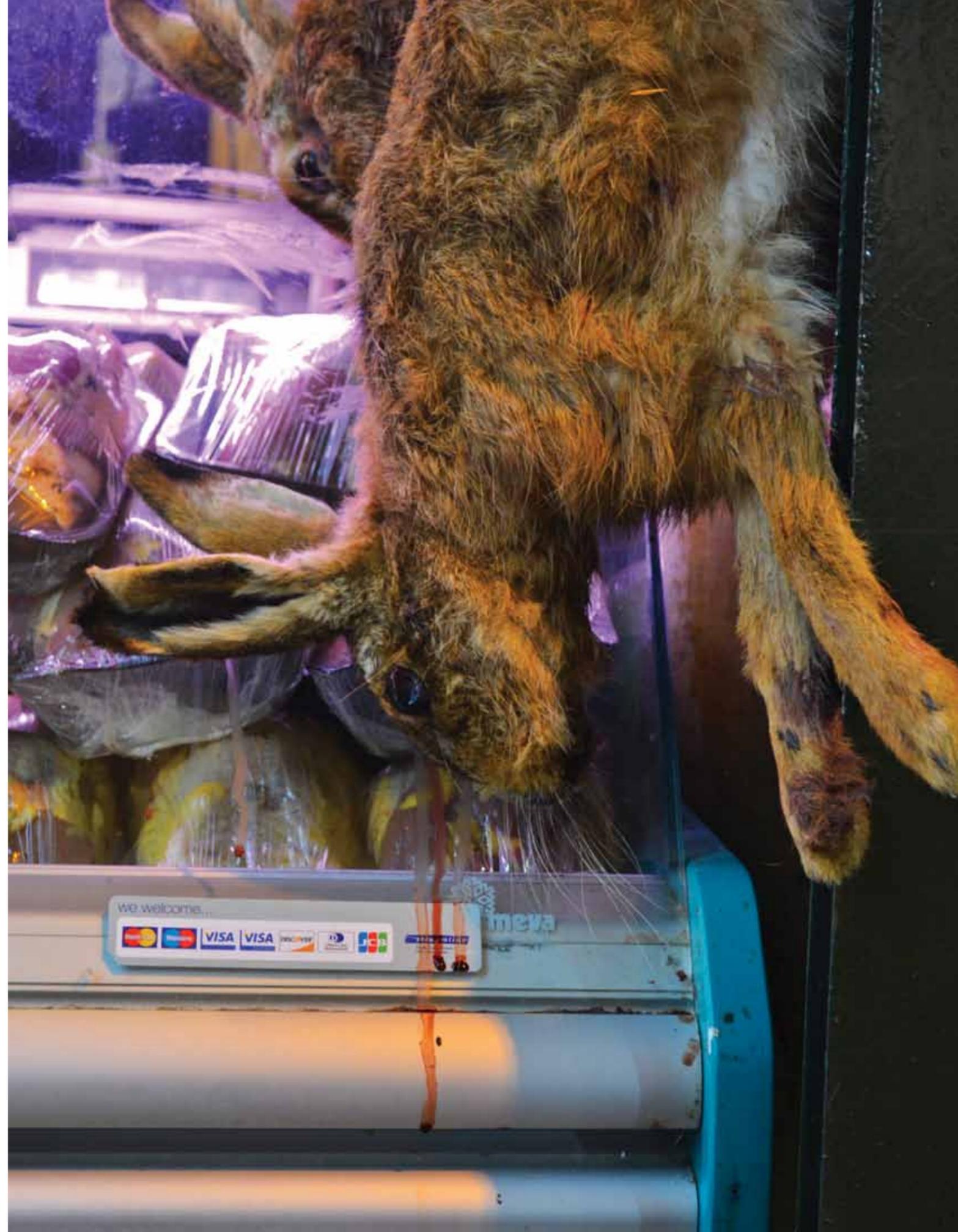
restaurant in Thailand. The menu is in Thai, you do not speak the language and you are allergic to peanuts. It is not an ideal situation. Neophobia and Neophilia meet again, but with your life on the line, neophobia will probably win out. There are a million different ways that scene could play out, all of which are a intricate construction of decisions. Go to Thailand? Go to that restaurant to eat? Order this? Eat that?

There is something else to consider. Fischler also developed "The Principle of Incorporation." In a few words, it is the idea that you are what you eat. What gets consumed is absorbed into the body and becomes a part of your physiology and your identity. (Fischler 219)

Returning to the peanut allergy example, peanuts are considered the enemy. First, peanuts could cause death. Secondly, they are already negatively affecting the body by inflicting anxiety. This attribute becomes incorporated into the individual's identity. The allergy contributes to how situations involving food have the potential to enfold. Someone lacking a peanut allergy also lacks that element in their relationship with food.

Most of the children I talked to have already found their own ways of living with food allergies. While an inconvenient characteristic, it was a fact that they grew accustomed to out of lack of choice.

Fischler explains that every food has medical significance and in that way, the consumer absorbs certain qualities from the foods they eat (280). From this thought, people develop a sense of identity from the foods they eat. This is how food allergy support groups arise; a sense of collective belonging develops among people with similar diets. In a way, food allergies could almost be considered a culture of their own.



Tommy's Perspective



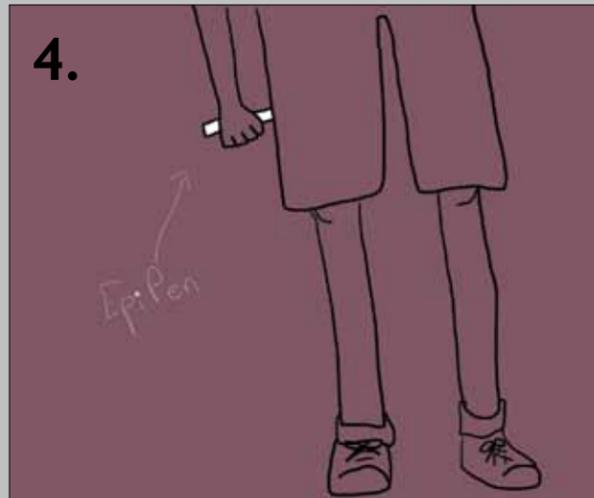
1. Tommy eats some peanuts.



2. He begins to experience hives, swelling of the lips, and shortness of breath. Tommy should take an antihistamine.

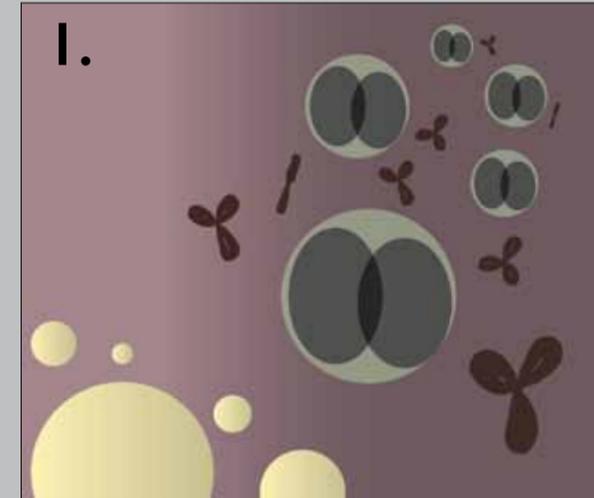


3. If he is experiencing anaphylaxis, he will have a sudden change in blood pressure, trouble breathing, dizziness, and possible death.



4. Tommy will need to use his auto-injector EpiPen.

The Molecular Level



1. The Allergen enters the system, a reaction occurs about 30 minutes post exposure.



2. The IgE antibodies detect the allergen and bind to the basophil.



3. Histamine is released from the basophil.



4. If anaphylaxis occurs, epinephrine must be introduced into the system to stop the reaction.



Allergen



Basophil
/Mast Cell



IgE (Antibody
Immunoglobulin E)



Histamine



Epinephrine

Who Has Allergies?

According to the CDC
*Numbers are based on self-reported statuses

15%
Hay fever

13%
Skin Allergies

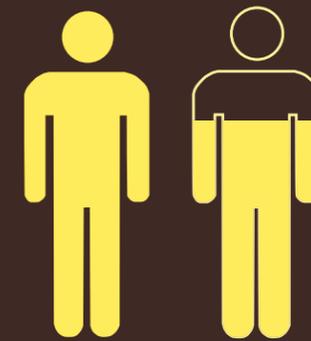
4% Food Allergies

Of the 0-17 year olds in the United States, fewer than 5% of the population have reported food allergies.

For 5-9 year old American children, there is a 0.1% increase in food allergy prevalence.

Income Level versus Food Allergies

*Percentage of population of 0-17 year old Americans
(2009-2011)



1.7% Increase
in food allergies for the American
population 0-17 years old from
1997-2011

Timelines

1900's

2000's

<h3>Legislation</h3>	<ul style="list-style-type: none"> 1973 - Allergies are considered a disability by the 504 Plan. 	<ul style="list-style-type: none"> 2006 - Food Allergy Labeling and Consumer Act 2011 - Food Allergy & Anaphylaxis Act 2013 - School Access to Emergency Epinephrine Act <p>Source: "Food Allergy Research & Education." Food Allergy Research & Education.</p>
<h3>Medicine</h3>	<ul style="list-style-type: none"> 1902 - term "anaphylaxis" invented 1911 - intradermal skin testing introduced 1916 - discovered allergies can be hereditary 1920 - Elimination diet invented 1936 - First antihistamine drug 1966 - IgE antibodies discovered 	<ul style="list-style-type: none"> 2009 - Advances in pathophysiology and treatment continue to be explored including recombinant monoclonal humanized anti-IgE treatment which provides improved control over reactions. (AAIR) 2010 - NAIAD released guidelines for assisting medical professionals in diagnosing allergies 2013 - Still no cure <p>Source: MacDonald, K. M. "History of Food Allergy in Canada."</p>
<h3>Products</h3>	<ul style="list-style-type: none"> 1980 - First Auto-Injector EpiPen 	<ul style="list-style-type: none"> 1994 - Rick Russel founded American Medical ID, a company that sells engraved jewelry. <p>Source: MacDonald, K. M. "History of Food Allergy in Canada."</p>
<h3>Support Organizations</h3>		<ul style="list-style-type: none"> 1991 - Food Allergy and Anaphylaxis Network Created 1998 - Food Allergy Initiative Created 2012 - Merger between Food Allergy and Anaphylaxis Network and Food Allergy Initiative, Food Allergy and Research Education (FARE) was created. 2013 - CDC released "Voluntary Guidelines For Managing Food Allergies in Schools and Early Care and Education Programs" (FARE) <p>Sources: "Food Allergy Research & Education." Food Allergy Research & Education.</p>
<h3>Cultural Perception in the Media</h3>	<ul style="list-style-type: none"> 1902 - Confusion and lack of knowledge 1977- Woody Allen's <i>Annie Hall</i> uses of allergies to show neuroticism. 1986 - <i>Ferris Bueller's Day Off</i> - Cameron has allergies to help show how his character has a lot of anxiety. 1989 - <i>Honey, I Shrunk the Kids</i> - uses allergies to portray the son as weak and nerdy. 	<ul style="list-style-type: none"> 1991 - <i>Rugrats</i> - Chuckie Finster's allergies are a constant trope used to describe this character as constantly nervous. 1995 - <i>Wallace and Gromit's A Close Shave</i> - Wallace falls in love, but she is allergic to cheese, making this a forbidden love. 2009 - <i>Cloudy With a Chance of Meatballs</i> - the plot relies on Sam's peanut allergy when peanut brittle prevents her from helping Flint. 2013 - Awareness continues to grow <p>Source: "Television Tropes & Idioms." TV Tropes. TV Tropes Foundation.</p>

How to Use Your EpiPen

Training Tools

Part of the Doctor's role is to train patients how to use epinephrine as a way to prepare them in case anaphylaxis is triggered. There are several designs for EpiPens on the market as well as, ones specific to training patients. At Westside Allergy Care, Dr. Shirkhande gives patients a series of instructional handouts; one of these leaflets explains how to use an EpiPen.¹

According to a nineteen-year old with a peanut allergy, Christina O'Neil used to practice using her expired EpiPens on oranges so she would be better prepared to use it in an emergency (Nov. 9, 2013). Years later, epinephrine pens with a pre-recorded voice entered the market. Such devices are intended to ease the patient's anxiety by talking them through the process of injecting the medicine. Because EpiPens are only used once and only during emergencies, this feature is intended to give the user confidence in using the device.

During a phone interview, Christina O'Neil explained that most of her anxiety was not about accidentally eating a peanut so much as it was about using her EpiPen.

In her nineteen years of living with this allergy, she has never had to use her EpiPen. She still lives with the same anxiety she developed as a child.



Westside Allergy Care uses this Trainer Station for patients to practice with during their visits. It prepares users for the inevitable kick-back that occurs after injecting the epinephrine. Only one dose is contained in EpiPens; if a patient flinches while administering the drug, the medicine will be lost. (Dr. Shirkhande)





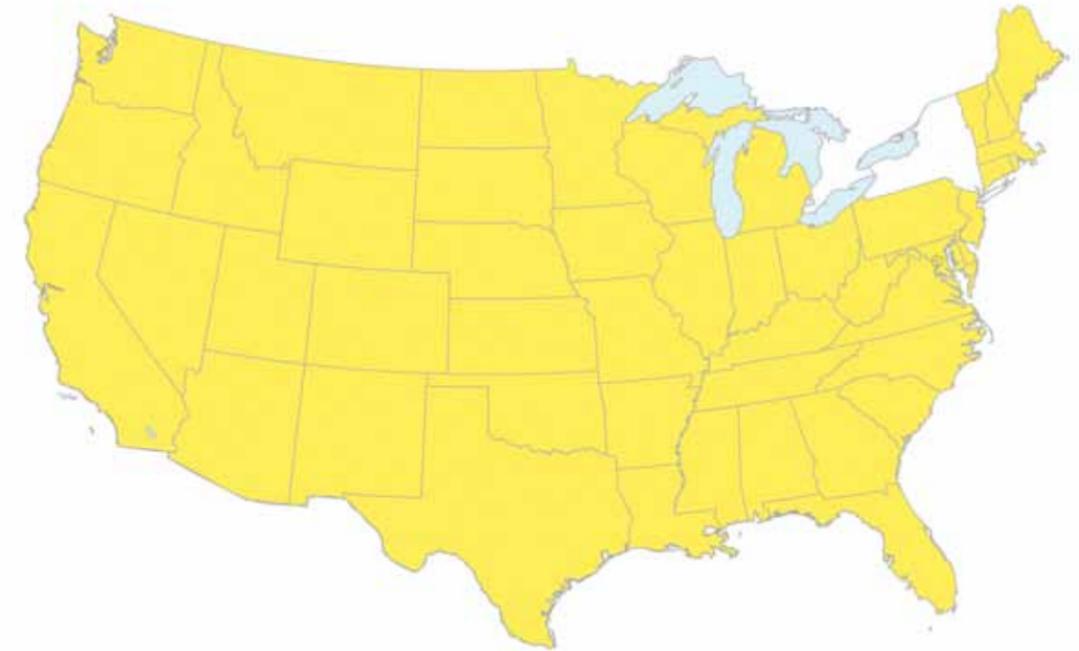
The School Bus

EpiPen Legislation

Trust	Communicate to	
		Themselves
		Others



Education | Products, History and Legislation



From State to State

Where the Laws Vary

According to Food Allergy Research & Education, New York is the only state to restrict children under twelve-year olds from carrying epinephrine in public schools. Such laws encompass all activities held on school property, including the school bus. Instead, the student's prescribed EpiPens are supposed to be turned into the care of the school nurse. In New York State, school nurses do not carry extra EpiPens for emergencies. Part of FARE's remit is facilitating the organization of support groups and aiding people in advocacy by providing "toolboxes" that contain information about gaining support. (FARE)



Food Labeling

Legislation and Experience



Trust	Communicate to	
		Themselves
		Others

Packaging versus Labels

Legally, companies are not required to include “may contain peanuts” on the ingredients label; it is a voluntary measure (FARE). Still, some food producers take allergy awareness a step further. A few packages in the grocery store have labels on the front of the boxes informing the consumer that they lack specific allergens. For example, a cereal might be milk free or does not contain nuts.

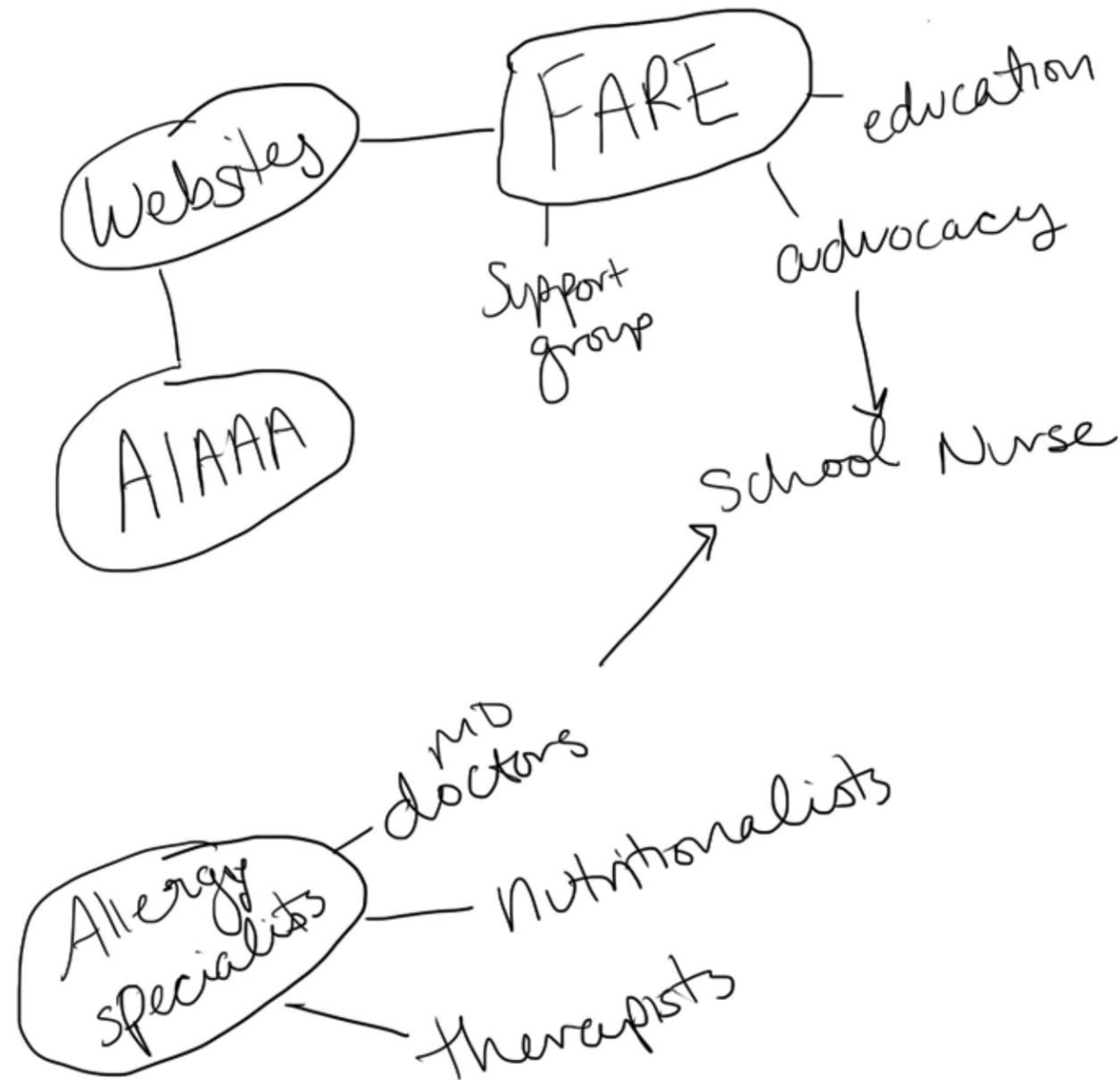
During an interview, the Elliot family shared a story of going to purchase an item with a label claiming the ingredients did not contain milk. Luckily, Mrs. Elliot checked the ingredients label anyway; the product’s recipe was changed causing the food to actually contain milk. Apparently the marketing department had not updated the package design, leaving the allergy labels on the box.



Trust	Communicate to	
		Themselves
		Others

How to Learn

The Leading Resources



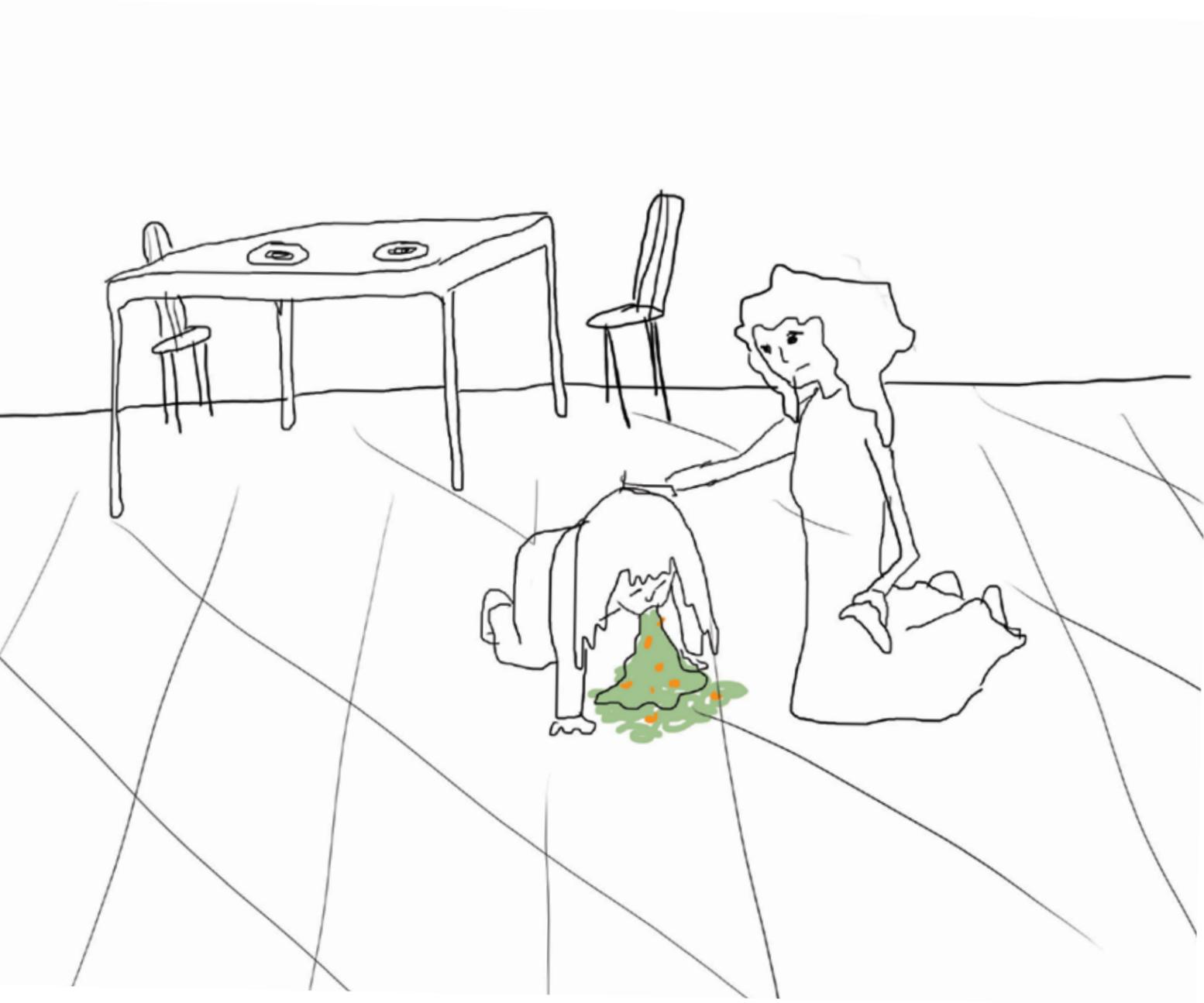
Anyone Else Out There?

Sometimes it can get lonely for parents and children when allergies are discovered. With only about 4% of the American population fatally allergic to food, it can be a challenge to learn how to cope. Luckily, there are some resources out there. Some of the most common ones are websites, but there are also blogs maintained by mothers, medical specialists, and to some extent, schools.



The Parent's Story

Depending on when a child's allergy is discovered, parents, to some level, need to cope with their child's allergy too. In other words, parents go through their own process of developing coping methods as they navigate the world.



What is Happening?

It is not always clear when an allergic reaction is occurring. Oftentimes, children are too young to communicate what exactly is wrong or if the symptoms are confusing. The Elliot family pointed out that it took a long time for them to recognize vomiting as an allergic reaction. As a result, they thought their child was just experiencing an upset stomach. It takes time to identify allergies before doctors get involved, especially if allergies do not run in the family.

Part of the parent's perspective is going through the process of discovering the allergy. Since the child is the one actually reacting to the allergen, the parent-child relationship requires certain levels of communication. It requires recognition that something is wrong and being able to identify what the problem is. This time when symptoms remain unidentified is a point when the allergy belongs to the parent as well as, the child. This can cause the parent to experience a range of emotions and can sometimes reflect the nature of the parent-child relationship. For example, some parents share their anxieties with their children, making the child anxious as well.

Trust	Communicate to	
		Themselves
		Others



Is Ignorance Bliss?

Methods of Communication



There is a phase when allergies belong to the parent, that responsibility shifts to the child over time.

Trust	Communicate to	
		Themselves
		Others

In one instance, a mother had a child who was extremely allergic to whey. When this child was in kindergarten, she got the flu shortly before Halloween. The mother used this opportunity to protect her child from the looming danger of the holiday sponsored by her child's allergen. She decided to tell her daughter the flu was actually an allergic reaction to chocolate. (Anonymous interview)



The Play Date

Can Other Parents Be Trusted?

Trust	Communicate to	
		Themselves
		Others



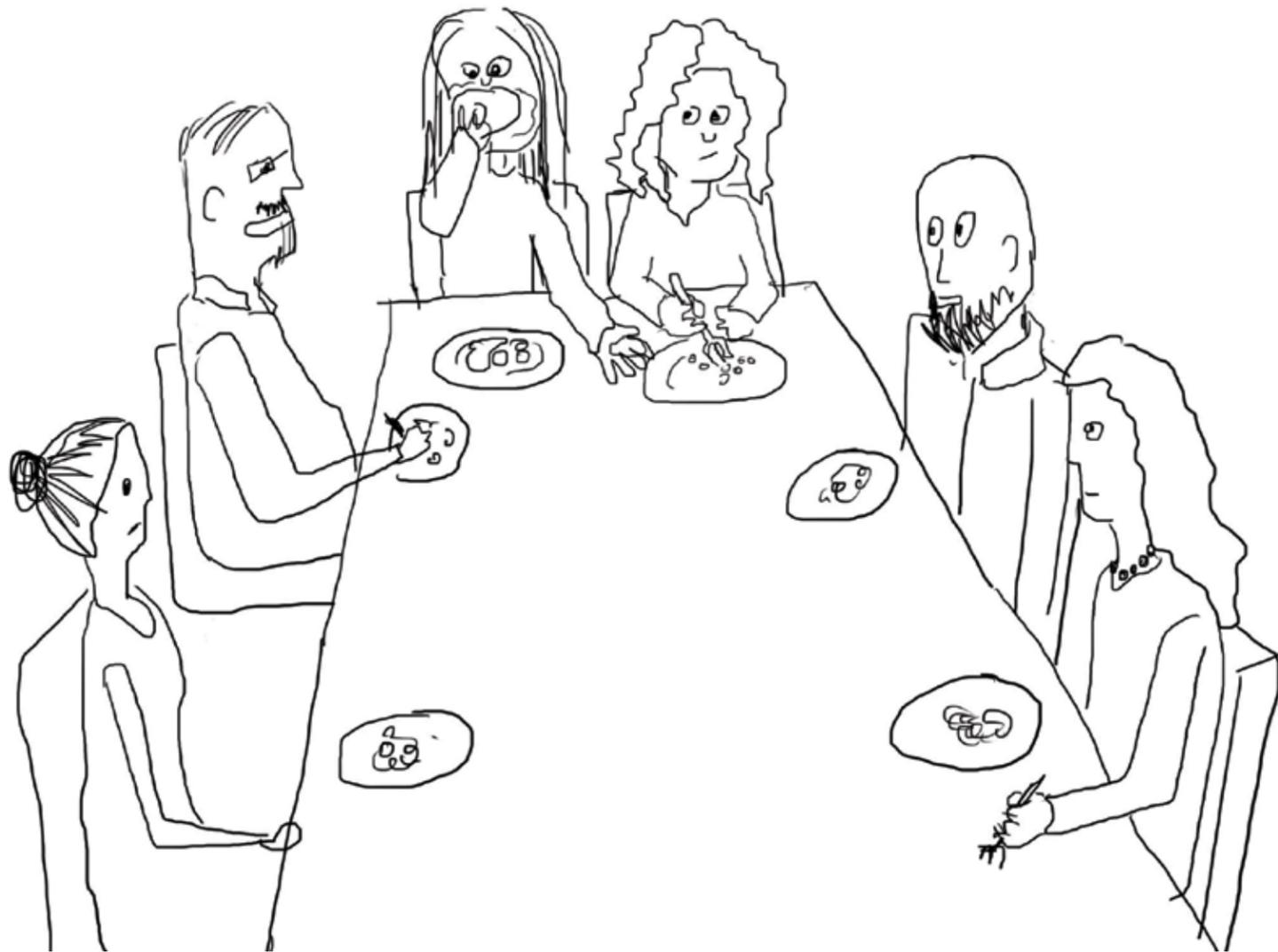
Communication about what it means to have an allergy

...only the people who actually have allergies understand. -Parent



Eating Out

Avoiding Awkwardness



Speak Up?

When eating out with other families, there is the question of how much speaking up is appropriate before it becomes awkward? It could be as simple as requesting to eat at a specific restaurant and as complicated as sneaking the kids some food they can actually eat when company is not looking.

On one hand, the child's life is at stake; at the same time, she will have to learn to survive these types of situations eventually; why not start practicing while her parents are around?

Once upon a time two families went out to dinner together. One of the children had a milk allergy. The child of the other family was eating a milk-based sauce that was getting everywhere. The parents of the child with an allergy began to worry that this girl was going to get some of the sauce on their daughter, triggering an allergic reaction. They decided to speak up. The other family got very offended. As a result, a temporary rift in the friendship formed that lasted several months. These parents were put in a tough spot, either speak up and prevent a potential disaster, or keep quiet and maintain propriety. It is not an uncommon predicament. (The Elliot Family)

Trust	Communicate to	
		Themselves
		Others



Trust	Communicate to	
		Themselves
		Others

And now we wait...

The “World” includes all the situations in which parents cannot be there for their children such as summer camp, birthday parties, and after-school activities. No two parents have the same experience, but there is always a time when children have to go out into the world without their parents present to protect them.



The Child's Story

There comes a point when the protection of parents, teachers, and organizations is limited. At that time, children learn to navigate the world on their own.



Age 2



Age 5



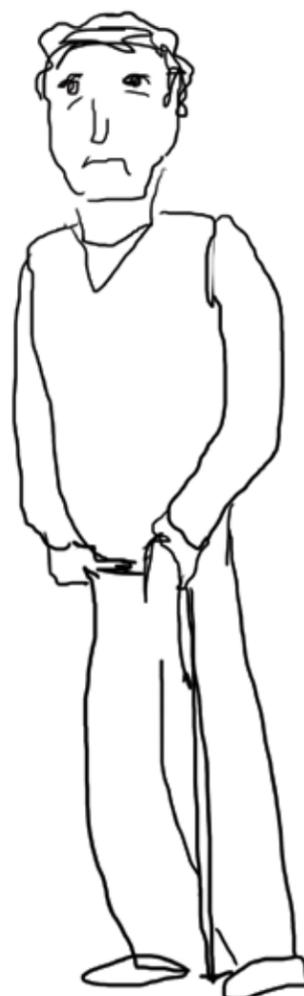
Age 17



Age 34



Age 65



Got Allergy?

Many children never actually experience an allergic reaction or if they do, they do not remember it. Typically, either they experience anaphylaxis as an infant, or they get an allergy test when they are a bit older and learn of a food they are unable to consume. As a result, children need to trust others to believe they have an allergy.

Further, allergies are known to both develop and disappear over time. Typically peanut, tree nut, and shellfish allergies are life long, but milk and egg allergies usually disappear by age sixteen (FARE). Because of the possibility they could be avoiding a food unnecessarily, some people choose to get tested for their allergy multiple times throughout their lives (Anonymous interview).

According to several people who were interviewed, the allergy test itself is an extremely unpleasant process involving multiple needles. One interviewee, Christina O'Neil expressed no interest in being retested for her allergy solely because the process was too traumatizing. She was five years old when she was first tested; she is nineteen now. She would rather avoid all foods containing peanuts for the rest of her life than undergo another allergy test.

Age 87



Trust	Communicate to	
		Themselves
		Others



Dinner Time

A la Carte to Suite Multiple Needs



The Elliot family consists of two adults and four children. Everyone in this family has different eating needs and preferences. Two of these children are very allergic to milk along with several other foods. Even the slightest contact with milk could set off an allergic reaction. To meet everyone's needs without keeping all of the children from eating foods containing milk, the parents prepare meals al a carte style.

Tonight for dinner is burritos! Do-it-yourself style, each child is aware of what they can and cannot eat. The parents are there to facilitate and educate as the kids make their own meals. Plates fill the center of the table, each with a separate ingredient: tortillas, cheese, peppers, salsa, beef, etc. Everyone gathers around to enjoy a nutritious meal together as a family.

Trust	Communicate to	
		Themselves
		Others



The Holidays

Family Gatherings as a Space for Miscommunication



Trust	Communicate to	
		Themselves
		Others

Once upon a Christmas day, little seven-year old Christina O'Neil went to her cousin's home to celebrate the birth of Jesus with her family. As an only child, it was difficult for this shy girl to talk to her cousins who were used to their siblings. While all of the adults kept busy with each other, the young cousins snuck handfuls of m&m's from the bowls off of the tables. Christina O'Neil was allergic to peanuts, though, so before arriving her mother reminded her not to eat the candy. Unable to partake in adult conversations or share in the enjoyment of peanut m&m's with her cousins, a once celebratory day became one of anxiety and loneliness for this little girl.



Seeing Is Believing?

Getting Others to Believe

Trust	Communicate to	
		Themselves
		Others



Speaking with Richard Cofrancesco, now an adult with a family of his own, he told a story about when he was a kid allergic to eggs.

One day Mr. Cofrancesco visited his uncle; this man was both a nurse and nonbeliever of Cofrancesco's allergies. To discover whether or not Cofrancesco was really allergic to eggs, he made him a smoothie with a secret raw egg in it. With benadryl in one hand and a smoothie in the other, he offered this suspicious beverage to his nephew. Instantly, Cofrancesco showed signs of a reaction. Only then did the uncle believe the truth. He quickly gave Cofrancesco some benadryl before bringing him to the hospital.



Bullying

Getting Others to Believe

I dare you...

While sometimes bullying can lead to traumatic experiences for children with allergies, most bullying that occurs in schools manifests as waving the allergen in the child's face. According to a nine-year old boy, this stemmed from an initial miscommunication. Once the children understood his allergy was real, the teasing ceased. (anonymous interview)



Trust	Communicate to	
		Themselves
		Others



Camp

Communicating to Others

Trust	Communicate to	
		Themselves
		Others



Snack Time

The Elliot family shared a story about how allergies are communicated at camp. Their five year old son was given a tag listing all of his allergies to help the counselors remember what he can and cannot eat. Even though his tag said he was allergic to milk, he was still offered goldfish. Because the boy was allergic to Goldfish crackers, his family never bought this food; he had never seen goldfish before. Fortunately, he knew to ask if it contained milk. In this case, he was informed enough to know what questions to ask because the system the camp used evidently failed to be effective. (The Elliot family)



The School Nurse

Communicating to Schools

Welcome Back!

At the beginning of each school year, children with allergies need to bring their EpiPens to the school nurse, where they are kept in case of an emergency. If they are unused by the end of the year, then they are discarded because of their pending expiration dates. (Anonymous interview)



Trust	Communicate to	
		Themselves
		Others



Coping in the Classroom

Feeling Excluded

A six year old boy from the Elliot family explained a time when cupcakes were brought into the classroom to celebrate a birthday. While everyone was given a cupcake, he was given an apple. The mother explained that, had she known in advance, she would have kept her son home from school. At first that might sound drastic, but parents are not allowed to make food to send into the classroom anymore. This means



Trust	Communicate to	
		Themselves
		Others

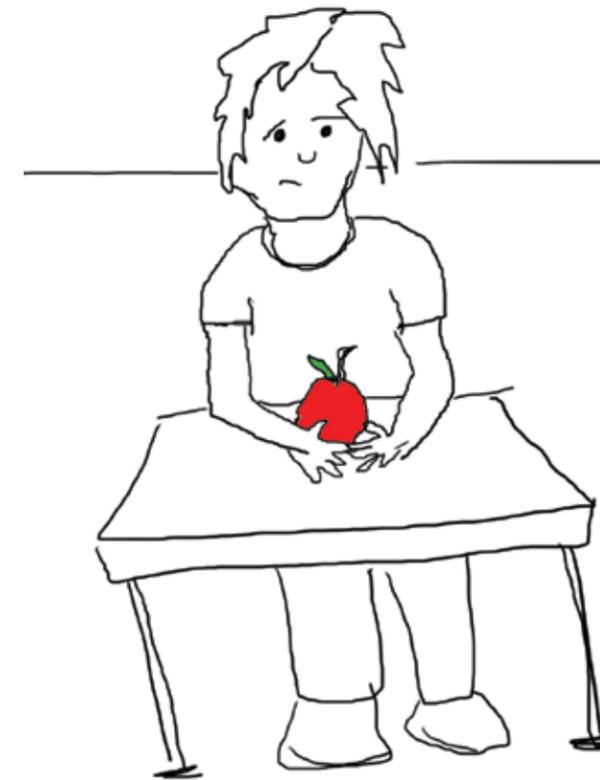
only store-bought cupcakes are acceptable and therefore, only conventional ingredients are permitted. The reason for this is so a list of ingredients can be provided to the schools to prevent allergic reactions.

Typically, homemade food is the most safe for children with allergies because all of the ingredients can be checked and approved by parents first. In schools, processed foods are the safest because only those ingredient labels can be trusted. In other words, to protect this child from an allergic reaction, he was provided an apple as an alternative celebratory food.

Another student, Christina O'Neil reflected upon her time in elementary school. She was placed on a list which prevented her from participating in bake sales. The establishment she attended was a private Catholic school with a high teacher to student ratio. In this way, such lists were more easily maintained and communicated.

In the case of the six year old boy, his parents had placed him on the allergy list at the beginning of the year that was supposed to facilitate communication before such celebrations. Apparently, this system was ineffective in preventing discomfort for the boy.

The other challenge regarding communication is that health information is confidential. Schools are prohibited from disclosing such information without the permission of the parents. In the end, this boy ended up with an apple due to a lack of communication amongst parents and teachers.



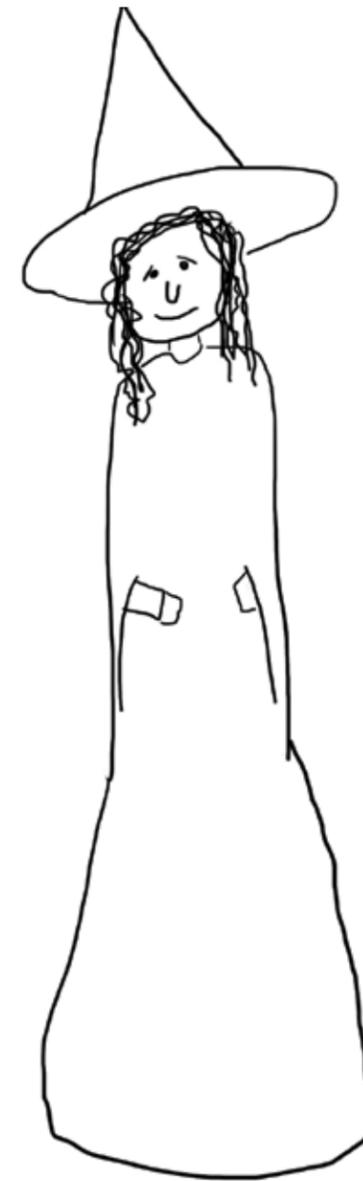


Happy Halloween?

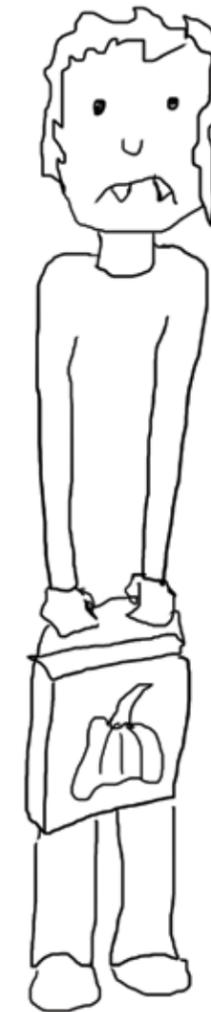
How Coping Differs with Personality and Age

How to Cope

Three children of different ages and sexes were asked about Halloween. The question was, what do you do with the candy that you cannot eat? Three different answers were given...



8 year old Moriah shares with parents and sister



6 year old Malachi won't say thanks for chocolate.



11 year old Dan sells his candy to his peers

Birthday Parties

A Place of Caution

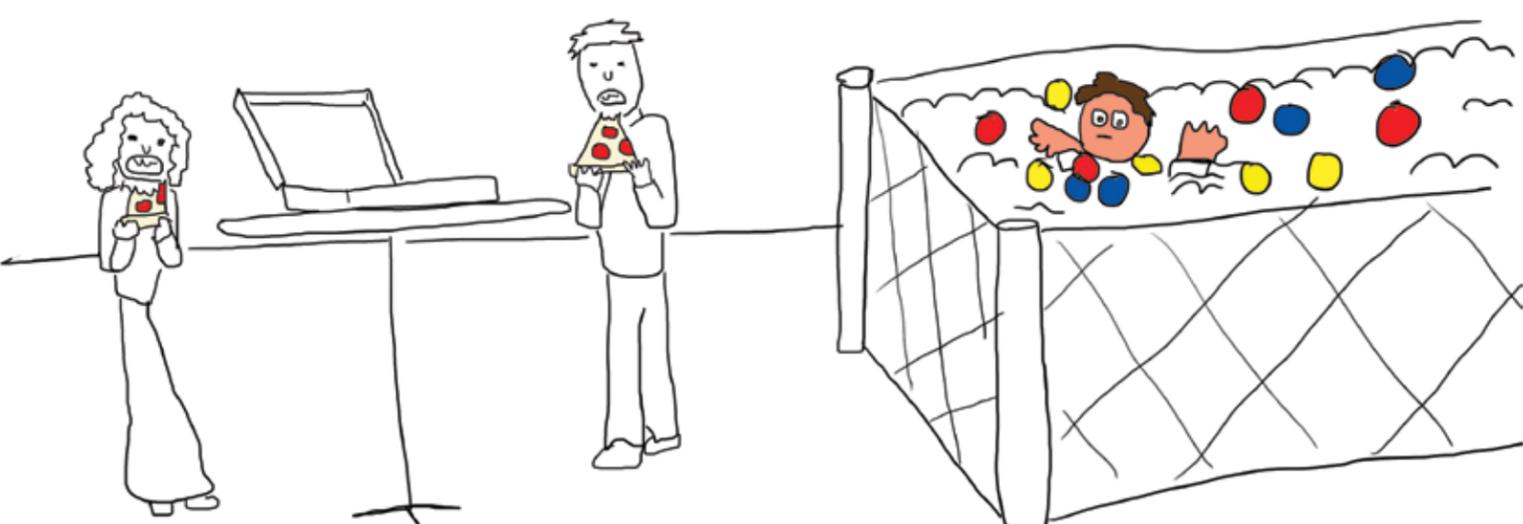
Trust	Communicate to	
		Themselves
		Others

The Child's Story | Without The Parents



Chucky Cheese is a restaurant that markets to children between ages three to ten. While selling pizza, this establishment also provides an indoor playground for children to enjoy. Many birthday parties are held here.

One day an eight year old girl with a milk allergy was attending a birthday party. She could not eat the pizza or the cake. Instead she started playing in the pen of colorful plastic balls. Her allergy was such that if she touched milk, she would begin to exhibit signs of a mild reaction. Because children typically eat and then play, the cheese grease from the pizza coated the playground. Unsuspecting, this little girl started to feel ill the more she played. Not only was she unable to eat the cake, she could not play on the playground either. (The Elliot Family)



Freshman College Student

A Retrospection on Growing Up With Peanut Allergies

Christina O'Neil discovered her peanut allergy when she was about five years old. Now she is a freshman at Marist College and fully managing her allergy. She has never experienced an allergic reaction, but she carries her EpiPen with her everywhere she goes anyway.

"Looking back," says O'Neil, "having an allergy was isolating." She attended a private Catholic elementary school until eighth grade when she began to attend public school. According to O'Neil, it was about sixth grade when she started carrying her own EpiPen, but it wasn't until about sophomore year of high school that she actually felt like she was in charge of her allergy. The main reason for this was because that was when her mom stopped carrying an EpiPen too.

"Once I had to use the EpiPen myself, I was more careful."

She was almost more afraid of using the EpiPen than she was of having an allergic reaction. O'Neil reflected, "I would practice with my old EpiPens on oranges. The pen would kick back after injection and it really made me not want to ever have to use it."

Because Christina O'Neil attended a small elementary school, everyone knew about her allergies and there was never a problem with miscommunication. In fact, she was never allowed to participate in bake sales and she was required to sit at a designated table during lunch.

Christina O'Neil looks back at that with the realization that it was not an ideal situation. It was mostly the social experience that gave her the most trouble rather than the inability to

eat peanuts. In fact, before being diagnosed, she had practically zero desire to eat peanut butter. She claims the smell alone made her feel sick. In retrospect, that was a lucky happenstance because it prevented her from having an allergic reaction prior to being diagnosed.

O'Neil says it is easier now. There are fewer peanut butter and jelly sandwiches and no more birthday parties. When she was younger it was harder and she had to deal with the question: "why me"? O'Neil says she hated going to birthday parties. She would never eat any of the food and the kids would watch her. It was very isolating.

For the first few years of being aware of her allergy, until about fourth grade, O'Neil had to wear a special necklace with her allergy on it. The functional purpose of this product was to inform paramedics of her allergy in the case of an emergency. According to O'Neil it was very unattractive. It looked like a tire with ridges and it had a symbol for an ambulance on it. Her allergy was inside this charm, like a locket. She tried not to wear the necklace and eventually her mother gave up trying to get her to put it on. When she did have to wear it though, she would hide it under her collar.

When asked if she had ever been bullied, O'Neil told a story about one girl who was not very nice knowingly offered her a potato chip covered in peanut oil. Fortunately, her friend told her not to eat it.

Now that Christina O'Neil is in college, she still faces a few challenges. For instance, the dining halls do not always wash their equipment when switching which food they are working with. So far, she has not had a problem, but she remains vigilant.

"Now that I'm older, it's easier to have an allergy because allergies are more common. Also, my friends don't eat as much peanut butter and jelly sandwiches as they used to."

- Christina O'Neil, age 19



Design

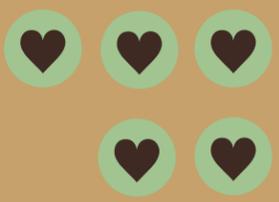
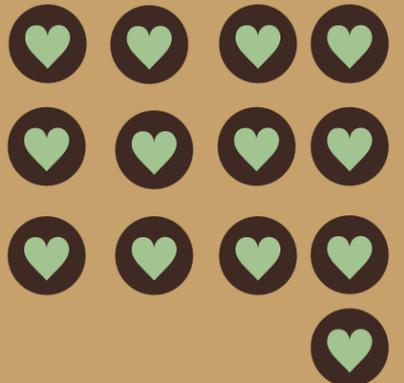
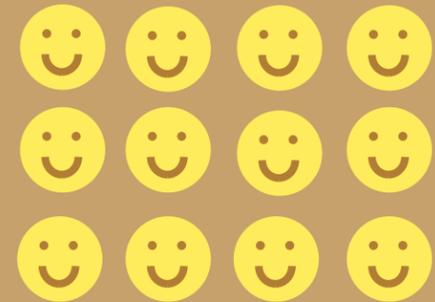
With great problems comes great design. Now is the time to identify these opportunities.

Design | Experience Matrix

Throughout the book, each story was assigned one or more classifications. The chart below shows how many times an experience was assigned a particular classification. Please note this exercise is tool used for analyzing observations from the stories and is therefore, a means to an end. This data is not intended to be a scientific representation of truth but rather, an understanding of how the stories in this book relate to one another.

Classification of Experiences

When do people have to...

Trust	Communicate to	
		Themselves
		Others



Design Opportunities

According to the chart, most of the challenges children with food allergies face has to do with trusting and communicating with...

Family	<ul style="list-style-type: none"> Parents Siblings Extended Family Members
Other People	<ul style="list-style-type: none"> Friends Parents of Friends Teachers School Nurse Camp Counselors Waiters
Organizations	<ul style="list-style-type: none"> Food Labels Restaurants Extracurricular Activities Schools Government

An Exercise in Comfort

When working on a design project, sometimes it can be helpful to break away from the immediate issue and temporarily focus on an adjacent issue. It is a way to break out of the usual routine and look at the problem at hand in a new light.

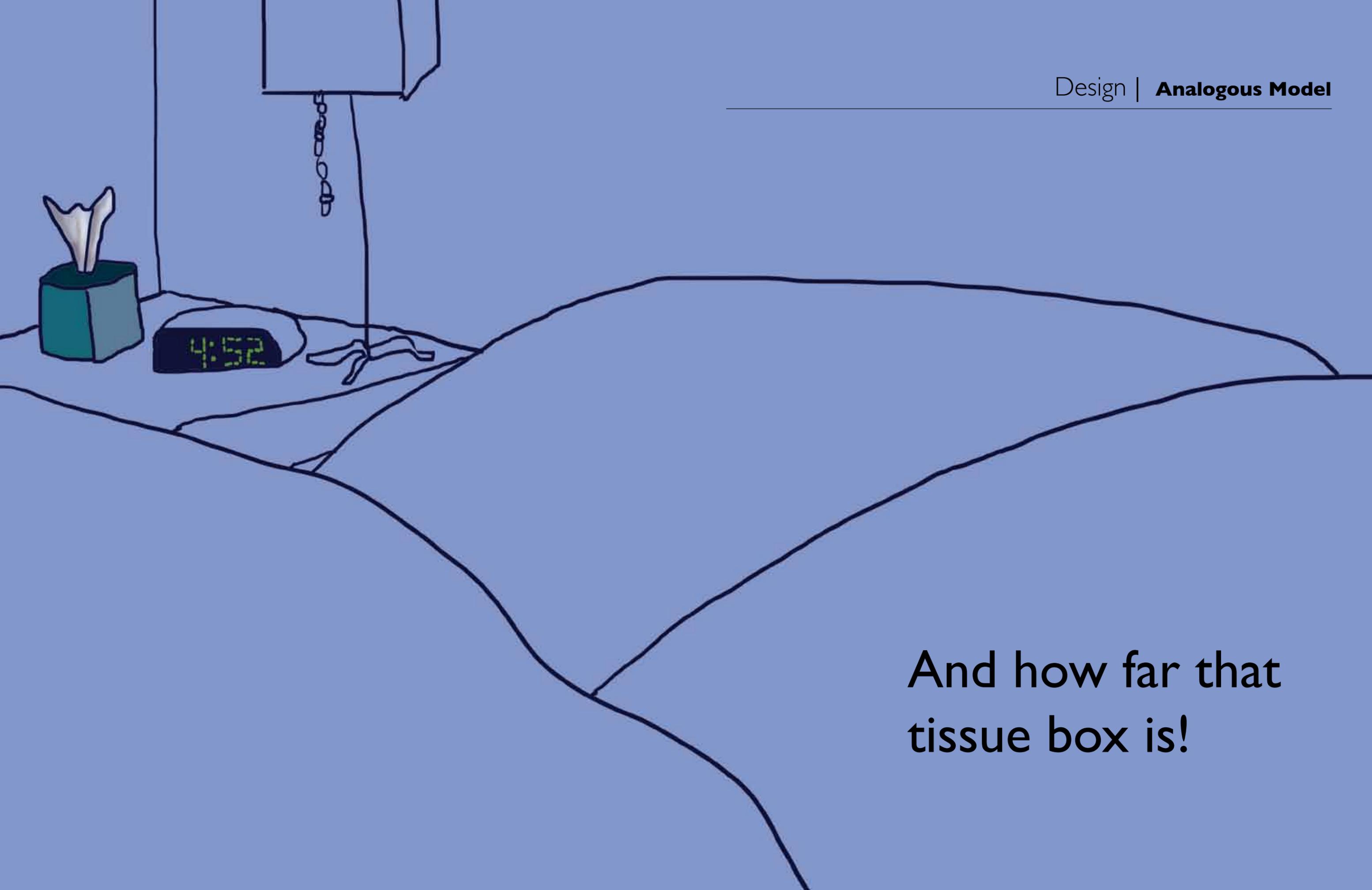
This project was a design exercise in looking at human interaction and creating something that served an overlooked need. For this project, I decided to make something that would help comfort children facing illness when they are alone at night in their beds.

Initially this project sounds a bit like a tangent, but in actuality, there are some major parallels that can be made. This is an exercise that strives to explore the human experience with the theme of comfort. I am looking at how children self comfort within a familiar environment. Further, this project explores how two concepts can be married to alter the context behind the product and as a result, change the meaning of the interaction for the benefit of the user.



Stuffed up and tired?





And how far that
tissue box is!

A close-up photograph of a brown, textured stuffed animal's face. The animal has two large, black, glossy eyes. The fur is a warm, golden-brown color with a soft, fibrous texture. The lighting is soft, highlighting the texture of the fur and the sheen of the eyes.

Your stuffed animal sympathizes.

But what can be done?



Meet SniffleBFFL!

The pillow that sneezes with you.



Never be alone in your stuffiness again.

Bear and Dog available. Pillow not included.

5 Human Factors

A Method for Observing in the Field

PHYSICAL

- Needs to reach for the tissue box while lying down.
- Hands and head start out closest to the pillow.
- Next closest object might be a stuffed animal.

COGNITIVE

- Stuffed animal is an object of comfort and companionship.
- Children impose identities onto stuffed animals to help forge a bond.
- Waking up in the middle of the night because of a stuffy nose is a time when people need to decide whether to try and fall back asleep or attempt to find a way to breathe through their nose by using tissues.
- Tissues are objects with connotations about feeling better attached to them.

SOCIAL

- Call for "mom" or "dad" when not feeling well.
- Sometimes people try not to blow their nose at night because they are worried it might wake everyone else up.
- Calling for help versus trying to take care of yourself can be considered a sign on independence and growing up.

CULTURAL

- It is common practice to care for the sick.
- Parents take care of their children when they are not feeling well.
- Children have security blankets or stuffed animals that they take with them everywhere.
- Stuffed animals are assigned human characteristics by children to help create attachments and identities.
- Stuffed animals aid children in developing coping mechanisms.

EMOTIONAL

- Tired of trying to feel better.
- Lonely because they are the only person awake, the rest of the house is sleeping.
- Annoyed because the tissue box is very far away and they just got comfortable (which is difficult to do when you have a stuffy nose).
- Frustrated and claustrophobic because your nose is stuffy and there is not much that can be done to feel better.





What Have I Learned?

Takeaways From My Research

The main takeaway from this document is that amongst the overwhelming number of design opportunities related to experiences involving children with food allergies, there is a common thread. That thread would be humans and their personal interests. In every story, people are experiencing reactions to the world outside themselves. Whether you are a six year old child with a food allergy or an adult with extremely limited knowledge pertaining to food allergies, you are a part of this world. Because of your membership to the same world, you take up space and people will affect and be affected by your space. In less abstract terms, everyone represented in these stories represented hopes of fitting in, fears of failure, and desires to be okay. I understand “okay” is a generic term, but that is the point. Everyone’s concept of “okay” varies.

The question that begs to be asked is, “what is so bad about having an allergy?” That is the question my research strives to answer through these stories. The allergy itself is inconvenient, but it is the context of the allergy wherein lies the negativity. In order to create a positive experience for children with allergies, it is important to pinpoint the source of the negativity. Hint, it is not the allergy. But fear over a variety of unknowns, which the allergy triggers, which are emotional and social. Every child has some characteristic that could act as a catalyst for a negative event. No, the negativity comes from fear. To narrow down what this fear may

be would be complete conjecture since specific fears vary from person to person. It could be said that fear is an internal reaction to external factors. One example is the story of the child on the school bus in NYS (see page 34). He has fears about an allergic reaction because he sees the boy across from him eating a peanut butter sandwich and his parents told him to stay away from peanuts or he might have to use his EpiPen. The external factors include the kid on the bus eating peanut butter and the conversations his parents had with him about peanuts. Those are the events he reacts to. The internal factors involve his desire to stay healthy, his concern over what will happen if he touches a peanut, and his anxiety about what to do if he does accidentally touch the peanut butter. For this child, as well as for most other people involved in these stories, the unknown and the uncontrolled factors are fear-producing.

In conclusion, having an allergy is not a problem in itself, but easily coping with allergies in a world where even the very definition of an allergy is often misunderstood is a nearly insurmountable challenge. Coping involves communicating with others, trusting that they will listen and care to respond, and trusting yourself when faced with unknowns. These are not issues unique to having allergies, they apply to a plethora of topics, but the stakes are high if miscommunication occurs. Fear is a common symptom of possible dire consequences. Perhaps the next question is, how do you cope with fear?

What is Next?

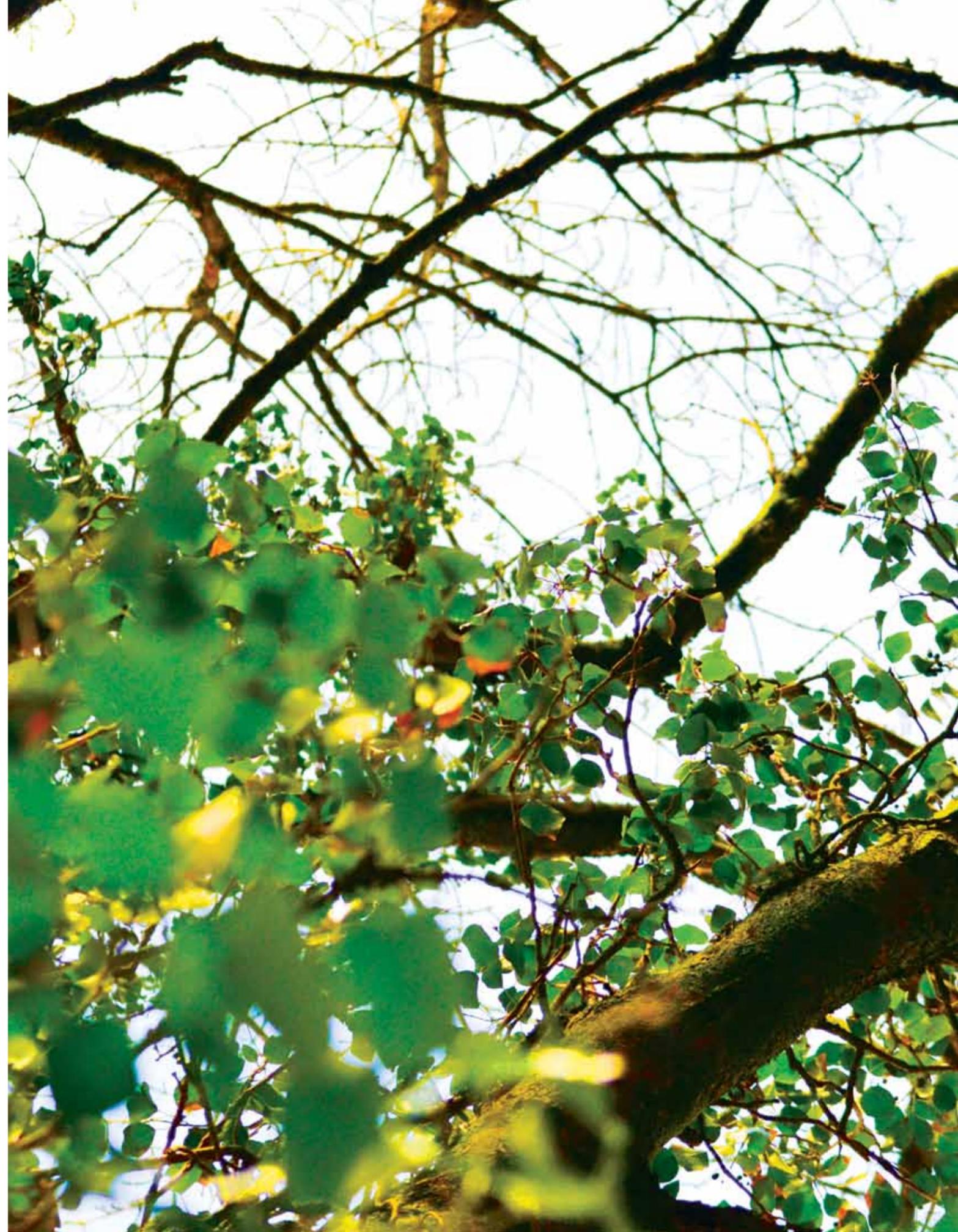
I Am Going Make Something.

At present, is no cure for allergies, people need to cope by avoiding allergens. I am looking to design something that will help people cope. The next portion of this project will be a continuation of the research outlined in this book, but with much more emphasis on design. Now that I have a foundation of knowledge on the subject of allergies, it is time to focus on the stories in this book and how they could be transformed by design. Similar to the SniffleBFFL, I want to design something that addresses the issue of coping through a medium appropriate to the intended user. Most of the products that exist already strive towards usability with the failed consideration of the human element. The talking EpiPen attempts to comfort the user by providing instruction during the time of need; it is still a scary moment of having to inject yourself with epinephrine on the spot. That is not to say the EpiPen design is a failure by any means nor is it to mean that I will be redesigning the EpiPen. While the talking EpiPen is an example of user-friendly medical products, there are many other times where allergies pose problems for patients where there are no products available to address those needs.

I am going to begin my prototyping stage by doing design exercises. For instance, I might choose one story in the book to focus on and design for it. The child at Chucky Cheese (see page 72) might have a better experience if he got to dress like a superhero and wear an outfit specifically to protect her from pizza grease on

the indoor playground. That is a brief example, but it is this type of brainstorming that will kick off the next phase of this project. From there I will narrow my focus. If I choose to stay with the Hazmat Superhero Suit, then I would then need to make one and talk to children about what their reaction might be to wearing costumes.

On the previous page I wrote about designing to eliminate fear. In this book, I found that a good portion of fear comes from times when people need to interact with other people. It is not always fear of an allergic reaction, sometimes it is fear of not fitting in, or fear of offending someone by rejecting food they made for you. In these next steps, I will continue to further my understanding of what these fears are by speaking to people, observing, prototyping, and testing. My goal is to pinpoint where fear occurs most frequently in order to locate what these fears really are. This can be done through making objects in response to specific situations. From there, a more specific design direction will form and the prototyping will continue with a much more parochial view. Rather than look at every situation relating to allergies, I might be only concerned with times where children deal with allergies outside of school and when their parents are absent. Another take on this design direction could be the looking at how children learn to cope with having an allergy when their parents are not around. In the end, I intend to design something for children with food allergies that will help them navigate the world.



Definitions supplied by The Food Allergy and Anaphylaxis Network

Allergen	A substance that cause the body to react.
Allergic Reaction	An immune system response to a substance that the body mistakes as harmful.
Anaphalxis	A severe allergic reaction that can lead to death.
Antihistamine	An over the counter medication used to minimize the effects of the symptoms of an allergic reaction.
Celiac Disease	An autoimmune disease that results in damage to the small intestine and interferes with the body's ability to absorb nutrients from food. People who have celiac disease cannot tolerate gluten, a protein found in wheat, rye, barley (commonly found in malt), and oats.
Chef Card	A card individuals with food allergies can use to communicate to restaurant staff which foods they must avoid.
Cross-Contact	Occurs when one food comes into contact with another food and their proteins mix. As a result, each food then contains small amounts of the other food, often invisible to us. Such contact may be either direct (e.g., placing cheese on a hamburger) or indirect via hands or utensils.
Epinephrine	Another name for adrenaline. It is the medicine of choice for controlling severe or anaphylactic reactions. It is available by prescription in a self-injectable form, called EpiPen® or Twinject®. People who are prescribed this medication should have it available at all times.

Food Allergy	The immune system's reaction to a certain food. The immune system mistakenly considers the food to be harmful and creates antibodies to that food. When the food is eaten again, the immune system releases histamine and other chemicals, causing the symptoms of an allergic reaction.
Food Poisoning	Illness that results from eating food contaminated with organisms or toxins. Symptoms typically occur within two to six hours and may include nausea and vomiting, abdominal cramps, diarrhea, fever and chills, weakness, and headache.
Histamine	One of several chemicals released by the body during an allergic reaction. It is the cause of many of the symptoms of an allergic reaction.
Hives	Bumps that resemble mosquito bites. They are extremely itchy and can appear anywhere on the body. This is a common and visible symptom of food-allergic reactions. Also called "urticaria."
Lactose Intolerance	A reaction to a food that does not involve the immune system. Lactose-intolerant people lack an enzyme that is needed to digest milk sugar. When they eat milk products, symptoms such as gas, bloating, and abdominal pain may occur. Lactose intolerance is more common in adults than in young children.

"The American Academy of Allergy Asthma and Immunology | AAAAI." The American Academy of Allergy Asthma and Immunology | AAAAI. The American Academy of Allergy Asthma and Immunology, n.d. Web. 18 Oct. 2013. <<http://www.aaaai.org/home.aspx>>.

This website is a resource for people with allergies. It is referenced to explain how some people learn about allergies.

Anonymous. "Follow-Up: Perspective of an Eleven-Year Old Boy." Online interview. 25 Oct. 2013.

This interview was held over Skype for the purposes of co-designing a research tool (please refer to Appendix E). During this interview, he shared some insights into how other classmates handle their understanding of allergies.

Anonymous. "Perspective of an Eleven-Year Old Boy." Personal interview. 9 Oct. 2013.

An initial interview was held as a starting point to get some perspective about allergies from the point of view of a potential target user.

Bajic-Hajdukovic, Ivana, Dr. "Food and Memory." ANT 352: Guest Lecture. SU Abroad Center, London. 20 Mar. 2013. Lecture.

Dr. Bajic-Hajdukovic discussed food and memory as applied to ethnic groups that have migrated to other countries. To do this, food was looked at in three categories: raw food, cooked food, and branded food. Cooked food involves baggage in that the dish could always be compared to how the meal is cooked by a mother back home. Branded food however, have more power than ethnic divisions in that people do not object to branded food as much as cooked food. The main take-away from this lecture comes in the perspective of considering small children as displaced humans. While still young and new to eating in schools, they are used to mom's home-cooked meals, but they are all familiar with the same brands. In that lies a common ground.

Belasco, Warren James. "Madeleines: Food and Memory." *Food: The Key Concepts*. Oxford: Berg, 2008. 25-33. Print.

In the article, Belasco looks at different examples of how food sparks memories and in effect, personal associations with emotion and identity. After having each of his students recall a food that has become deeply ingrained in their memory, Belasco considers how such memories are created and how they affect social interaction in the present. He then dissects the phrase, "you are what you eat." The main highlights from this inquiry focus on the accumulation of identities that create one shared identity. Belasco goes further to question if we even have an identity. Do we seek to find ourselves through food, or would we prefer to eat what we are not? Warren ends this article with speculations as to how food confronts the identity of the self.

Belasco, Warren James. "Why Study Food?" *Food: The Key Concepts*. Oxford: Berg, 2008. 1-13. Print.

The author discusses the rising interest in the topic of food. Belasco organizes the challenges of the food system into three variables: responsibility, identity, and convenience. His arguments for each variable stem from the perspective of western society. This article provides insight into the factors contributing to food priorities that may be applied to parents when choosing food to feed their children.

Cofrancesco, Richard. Personal interview. 11 Oct. 2013.

He shared the story about the uncle not believing he had an allergy. It was used in the "Child" section to illustrate how others do not always believe children when they claim to have allergies.

Fischler, Claude. "Food, Self and Identity." *Social Science Information*

This is a sociological article about relating to identity formation. It includes concepts such as "the omnivore's paradox" and "the principle of incorporation." This information was used to help explain some of the anxieties people experience about food. This information was related to food allergies.

"Beyond 20/20 WDS - Table View." *Beyond 20/20 WDS - Table View*. CDC, n.d. Web. 25 Oct. 2013. <<http://205.207.175.93/HDI/TableViewer/tableView.aspx>>.

The CDC released statistical data about how many Americans in the United States have allergies. This information was used to inform the infographic on pages 28-29.

The Elliot Family. "Coping As a Family." Personal interview. 9 Oct. 2013.

The Elliot family consists of two married parents and four children: male two year old, male six year old, female seven year old, and female eight year old. Their stories were shared through an interview; the setting was during a family dinner.

Fischler, Claude. "Food, Self and Identity." *Social Science Information* 27.2 (1988): 275-92. Print.

Fischler, a sociologist discusses how human characteristics affect our relationship with food. He juxtaposes the fact that humans, as omnivores, are capable of adapting to environmental changes, and the resulting anxiety from having numerous choices. Fischler then discusses myths surrounding food including, "we are what we eat." This principle of incorporation considers another source of anxiety stemming from the identities we adopt from our food. Disgust and neophobia support Fischler's theme of identity and anxiety as well as, his discussion on culinary order. Each of these facets that contribute to our identity sought from food is then brought into question against the fact of modern industrializations of the food system.

"Food Allergy Research & Education." *Food Allergy Research & Education*. Food Allergy Research & Education, Inc., n.d. Web. 1 Oct. 2013.

F.A.R.E. is an organization that works to provide parents, children, and anyone interested with an educational resource about allergies. It is a platform to help organize support groups, public advocacy, and up-to-date information about how to cope with allergies. Not only was this website referenced earlier in the book, but it also contributed to a portion of the research contained in this book including the information on page 35.

Goodman, Denise M. "Food Allergies." *JAMA: The Journal of the American Medical Association* 310.4 (2013): n. pag. Print.

This is a one page document intended for patients diagnosed with food allergies. It contains information on treatment and prevention. This source provided insight into the types of information patients are seeking out when trying to educate themselves.

Lieberman, Jay A., and Scott H. Sicherer. "Quality of Life in Food Allergy." *Current Opinion in Allergy and Clinical Immunology* 11.3 (2011): 236-42. Print.

This document compares the quality of life for people with food allergies to that of people with other illnesses. It was useful in providing legitimate research to contextualize the stories people shared for this book.

Lupton, Deborah. "The Asceticism/Consumption Dialectic." *Food, the Body, and the Self*. London: Sage Publications, 1996. 131-53. Print.

The author examines different ways people relate to their bodies through their treatment of food. Lupton uses a series of interviews to better understand the psychology behind eating disorders, fasting, and food preparation. In the end, Lupton decides the mind-body-food relationship is about control; further, she makes the claim that most people are affected by an eating disorder to some degree. This could be manifested through strong emotions such as, frustration and anger, or the act of imposing disproportionate expectations upon food.

MacDonald, K. M. "History of Food Allergy in Canada." *Timetoast*. N.p., n.d. Web. 30 Oct. 2013.

This source consists of an interactive timeline pertaining to allergies in Canada. While not all information was applicable, some of the earlier dates were useful for the "Timeline" section of this book.

Mintz, Sidney and Christine M. Du Bois "Food and Its Relationship to Concepts of Power." *Tasting Food, Tasting Freedom, Excursions Into Eating, Culture and the Past*. Boston: Beacon, 1996. 17-31. Print.

Mintz identifies the concept of meaning as playing a major role in the dictation of our actions. The author seeks the purpose of meaning and importance that people attach to their food as a way to understand the connotations that come with such commodities as coke. Further, Mintz discusses the power that comes from the meaning of food by looking at social habits and contrasting those ideas with the word "slavery." The author identifies the presence of larger powers behind the source of our perception of food. In other words, the meanings attached to food outweigh actual logic of how edible something might be and what the benefits of consuming that item might be.

Mintz, Sidney. "The Anthropology Of Food And Eating: Eating American." *Annual Review of Anthropology* 31.1 (2002): 106-24. Print.

This article questions the existence of an American cuisine by looking at "modernized" food. Mintz goes on to explore the typification of American eating habits by looking at class, regional, and ethnic differences in eating behavior. This discussion evolves to develop the idea of "convenience food." Though the article is speculating about American cuisines, the information may prove helpful in better understanding American eating habits across the country.

O'Neil, Christina. Personal interview. 11 Oct. 2013.

Ms. Christina O'Neil is a college freshman with a peanut allergy. She shared some of her stories during an informal initial interview.

O'Neil, Christina. "Retrospection of a College Freshman With Allergies." Telephone interview. 9 Nov. 2013.

A follow-up phone interview was conducted with Ms. Christina O'Neil to inform the retrospective piece. She shared several stories and insights that applied and were cited in multiple places throughout this document.

Sanagavarapu, Praathyusha. "Don't Forget to Pack My EpiPen Please: What Issues Does Food Allergy Present for Children's Starting School?" *Australasian Journal of Early Childhood* 37.2 (2012): 56-61. Print.

This article talks about the challenges children with allergies face when starting school and are away from their parents for the first time. Sanagavarapu's claims were useful in supporting some claims as a result of the stories in this book.

Shrikhande, Anitha. "The Doctor's Role: At Westside Allergy Care." Personal interview. 18 Oct. 2013.

Dr. Shrikhande is an allergy specialist who was interviewed in her office in Rochester, NY. She provided documents found in Appendix A-D. The images of EpiPens found earlier in the book were captured from her office and are the exact tools she uses to train her patients. Her interview highlights important topics related to allergies that should be considered; as a result, she helped in the mapping out of a research plan.

Smith, Matthew. "A Pre-Peanut History of Food Allergy." *Food Culture and Society* 16.1 (2013): 125-43. Print.

The article includes a history of peanut allergies. Some of the information from this source was used in the "Timelines" section to help give this topic historical context.

"Television Tropes & Idioms." *TV Tropes*. TV Tropes Foundation, LLC., n.d. Web. 1 Dec. 2013.

This website is a database with information about TV tropes. The source proved to be useful when exploring how allergies are perceived in the media for the "Timelines" section of this book.

United States of America. *Immunological Reviews*. By Stephen R. Boden and A.W. Burks. 2011 ed. Vol. 242. Singapore: n.p., 2011. 247-257. *Anaphylaxis: A History with Emphasis on Food Allergy*. USA. Web. 30 Oct. 2013.

The section called, "What is an Allergy" was informed by the definition from this source.

Wang, Julie, and Hugh A. Sampson. "Food Allergy: Recent Advances in Pathophysiology and Treatment." *Allergy, Asthma and Immunology Research* 1.1 (2009): 19-26. Print.

This document contains a useful chart outlining the types of allergies and how they are classified. It contributed to the pages in this book dedicated to "What is an Allergy?"

"Welcoming Guests With Food Allergies." *Food Allergy Research & Education*. The Food Allergy and Anaphylaxis Network, 2010. Web. 10 Dec. 2013.

This source includes a useful glossary as well as, tips on how to safely prepare food for people with allergies.

Note: All photographs and diagrams are the creation and property of Alexandra O'Neil.

Appendix A | Product Developed By a Mother

The following documents (Appendix A - D) are handed to patients at Westside Allergy Care in Rochester, NY).

American Medical ID

Personalized Medical ID Jewelry

Bracelets and Necklaces
From \$19.95
Free Engraving

You should wear a medical ID for
Diabetes Blood Thinners
Allergies: Multiple Medications
Drug/Food/Insects Alzheimer's/Dementia

View hundreds of styles, including our Kids line on our website

IdentifyYourself.com

Prices subject to change. For current pricing and products visit our website.

SELECT YOUR ID OPTIONS BELOW

This ID is for a Male Female Age _____ (If Child)

BRACELETS

Classic Style Select Premier Style

Select Metal
 Stainless Steel \$29.95 Sterling Silver \$59.95
 10Kt Gold-Filled \$79.95 10Kt Gold-Filled \$89.95

For 10Kt and 14Kt Gold prices call or visit us on the web.

Circle your Bracelet length (Stainless Steel bracelets are adjustable)
 Measure wrist-add 1/2": 6 1/2" 7" 7 1/2" 8" 8 1/2" 9" Other _____

NECKLACES

Classic Style Select Premier Style

Select Metal
 Stainless Steel (Sm) \$19.95 Sterling Silver \$59.95
 Stainless Steel \$29.95 10Kt Gold-Filled \$89.95
 Sterling Silver \$49.95 10Kt Gold-Filled \$89.95

For 10Kt and 14Kt Gold prices call or visit us on the web.

DOG TAG

Select Tag On Bead Chain

Select Metal (Tag and Chain)
 Stainless Steel \$39.95 Sterling Silver \$65.95
 10Kt Gold-Filled \$107.95

Circle Chain length: 20" 24" 28" For 10Kt and 14Kt Gold prices call or visit us on the web.

EXPANDABLE WALLET CARD

\$2.95 An ideal place for details subject to change or not fitting on your medical ID

ENGRAVE (Print Clearly)

Name Engrave No Name

Diabetes Heart Patient Epilepsy Asthma
 Hypoglycemia Abnormal EKG Seizure Disorder Glaucoma
 Alzheimer's Pacemaker Renal Failure Vision Impaired
 Angina Hemophilia Multiple Sclerosis Other (write below)

Medicines Taken (to be engraved) Allergic To (to be engraved) Other Information (to be engraved)

CALCULATE PAYMENT

Medical ID \$ _____

OPTIONS

Alert Charm \$ _____
 Wallet Card Qty. _____
 Wallet Card \$ _____

SHIPPING & HANDLING (Must Choose One)

First-Class Mail \$7.00
 Priority Mail \$12.00
 Express Mail \$24.00

Orders Processed in 2 to 3 weeks
***** RUSH PROCESSING *** (Credit Card Orders Only)**
 Ships Next Business Day \$9.00

TEXAS RESIDENTS ONLY
 State Sales Tax \$ _____
 Add 8.25%

TOTAL \$ _____

PAYMENT METHOD

Check/MO MC Visa AMEX Disc

Card No. _____ Exp. Date _____

SHIP/MAIL TO

Name _____
 Address _____
 City _____
 State/ZIP _____
 Phone _____
 E-mail _____ (For Shipment Notification)

Mail with payment to **AMID, P.O. Box 925617, Houston, TX 77292-5617 OR 1.800.363.5985**

Order at www.IdentifyYourself.com E275

Appendix B

ORAL ALLERGY SYNDROME

Symptoms may include itching and burning of the lips, mouth and throat, watery itchy eyes, runny nose and sneezing. Some individuals report that peeling or touching the offending foods may result in a rash, itching or swelling where the juice touches the skin. More serious reactions can include hives and swelling of the mouth, pharynx and windpipe. In rare cases, severe allergic reactions have been reported such as vomiting and diarrhea, bronchial asthma, generalized hives and anaphylactic shock. Symptoms usually develop within minutes of consuming or touching the food, but occasionally occur more than an hour later.

Foods associated with birch, ragweed, grass and mugwort pollen are listed in the following table. Most reactions are caused by raw foods, since allergenic proteins are usually destroyed by cooking (i.e., heat labile). The main exceptions to this are celery and nuts which may cause reactions even after being cooked. Some plant parts, such as the skin, may be more allergenic than others, however, the allergic characteristics of some fruits seems to decrease during storage. Foods associated with the oral allergy syndrome which have occasionally been reported to cause anaphylactic reactions include: kiwi, hazelnut, white potato, celery, parsley, beans, and cumin.

Allergies to this type of Pollen	May also trigger an allergic reaction to these foods
Birch	<u>Fruits:</u> kiwi, apple, pear, plum, prune, peach, nectarine, apricot, cherry <u>Vegetables:</u> celery, carrot, parsnips, parsley, dill, anise, cumin, coriander, caraway, fennel, potato, tomato, green pepper, lentils, peas, beans, peanut <u>Nuts:</u> hazelnut, walnut, almond <u>Seeds:</u> sunflower
Ragweed	<u>Fruits:</u> banana, watermelon, cantaloupe, honeydew <u>Vegetables:</u> zucchini, cucumber
Grass	<u>Fruits:</u> melon, watermelon, tomato, orange, kiwi
Mugwort	<u>Fruits:</u> apple, watermelon, melon <u>Vegetables:</u> celery, carrot

Individuals who are hypersensitive to the foods identified in the above table usually find that they can consume these foods if they are well cooked, canned or micro waved. People who develop a rash, itching or swelling when touching or peeling these foods may prevent this by wearing gloves.

Consultation with a qualified allergist is recommended to determine the cause of reactions to plant foods, and whether any special precautions are advisable.

Reference:
 Zarkadas M, F.M. Scott, J. Salminen, A. Ham Pong. Common Allergenic Foods and Their Labeling in Canada – A Review. Canadian Journal of Allergy and Clinical Immunology, 1999;4:118-141.

diplomates of the American Boards of Pediatrics, Internal Medicine, Allergy and Immunology
 550 Latona Road, Suite 405, Building D, Rochester, NY 14626 phone 723-8710 fax 723-8395
 18 Graves Street, Brockport, NY 14420 phone 637-3910 fax 637-2347

Name: _____

[] Scott B. Valet, MD

DOB: _____

[] Thomas R. Adler, MD

meds: _____

[] Anitha Shrikhande, MD

test dates: / /

	PRICK			PRICK	
Diluent					
Histamine					
Milk					
Egg					
Wheat					
Peanut					
Corn					
Soy					
Cocoa					
Almond					
Brazilnut					
Cashew					
Coconut					
Hazelnut					
Pecan					
Sesame seed					
Walnut					
Clam					
Crab					
Lobster					
Oyster					
Perch					
Salmon					
Shrimp					
Tuna					
Trout					
Barley					
Buckwheat					
Malt					
Oat					
Rice					
Rye					
Apple					
Banana					
Cantaloupe					
Grape					
Grapefruit					
Orange					
Peach					
Pear					
Strawberry					
Watermelon					

Appendix C | Handouts from Westside Allergy Care

How to Read a Label for a Milk-Free Diet
 All FDA-regulated manufactured food products that contain milk as an ingredient are required by U.S. law to list the word "milk" on the product label.

Avoid foods that contain milk or any of these ingredients:
 butter, butter fat, butter oil, butter acid, butter ester(s)
 buttermilk
 casein
 casein hydrolysate
 caseinates (in all forms)
 cheese
 cottage cheese
 cream
 curds
 custard
 diacetyl
 ghee
 half-and-half
 lactalbumin, lactalbumin phosphate
 lactoferrin
 lactose
 lactulose

milk (in all forms, including condensed, derivative, dry, evaporated, goat's milk and milk from other animals, low fat, malted, milkfat, nonfat, powder, protein, skimmed, solids, whole)
 milk protein hydrolysate
 pudding
 Recaldent*
 rennet casein
 sour cream, sour cream solids
 sour milk solids
 tagatose
 whey (in all forms)
 whey protein hydrolysate
 yogurt

Milk is sometimes found in the following:
 artificial butter flavor
 baked goods
 caramel candies
 chocolate
 lactic acid starter culture and other bacterial cultures
 luncheon meat, hot dogs, sausages
 margarine
 nisin
 nondairy products
 nougat



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 Phone: 703-691-3179
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 www.foodallergy.org
 faan@foodallergy.org

How to Read a Label for a Soy-Free Diet
 All FDA-regulated manufactured food products that contain soy as an ingredient are required by U.S. law to list the word "soy" on the product label.

Avoid foods that contain soy or any of these ingredients:
 edamame
 miso
 natto
 shoyu
 soy (soy albumin, soy cheese, soy fiber, soy flour, soy grits, soy ice cream, soy milk, soy nuts, soy sprouts, soy yogurt)

soya
 soybean (curd, granules)
 soy protein (concentrate, hydrolyzed, isolate)
 soy sauce
 tamari
 tempeh
 textured vegetable protein (TVP)
 tofu

Soy is sometimes found in the following:
 Asian cuisine
 vegetable broth
 vegetable gum
 vegetable starch

Keep the following in mind:

- The FDA exempts highly refined soybean oil from being labeled as an allergen. Studies show most allergic individuals can safely eat soy oil that has been highly refined (not cold pressed, expeller pressed, or extruded soybean oil).
- Most individuals allergic to soy can safely eat soy lecithin.
- Follow your doctor's advice regarding these ingredients.

How to Read a Label for a Peanut-Free Diet
 All FDA-regulated manufactured food products that contain peanut as an ingredient are required by U.S. law to list the word "peanut" on the product label.

Avoid foods that contain peanuts or any of these ingredients:
 artificial nuts
 beer nuts
 cold pressed, expeller pressed, or extruded peanut oil
 goobers
 ground nuts
 mixed nuts

monkey nuts
 nut meat
 nut pieces
 peanut butter
 peanut flour
 peanut protein hydrolysate

Peanut is sometimes found in the following:
 African, Asian (especially Chinese, Indian, Indonesian, Thai, and Vietnamese), and Mexican dishes
 baked goods (e.g., pastries, cookies)
 candy (including chocolate candy)
 chili
 egg rolls
 enchilada sauce
 marzipan
 mole sauce
 nougat

Keep the following in mind:

- Mandelonas are peanuts soaked in almond flavoring.
- The FDA exempts highly refined peanut oil from being labeled as an allergen. Studies show that most allergic individuals can safely eat peanut oil that has been highly refined (not cold pressed, expeller pressed, or extruded peanut oil). Follow your doctor's advice.
- A study showed that unlike other legumes, there is a strong possibility of cross-reaction between peanuts and lupine.
- Arachis oil is peanut oil.
- Many experts advise patients allergic to peanuts to avoid tree nuts as well.
- Sunflower seeds are often produced on equipment shared with peanuts.

Appendix D

Anaphylaxis Emergency Action Plan

Patient Name: _____ Age: _____

Allergies: _____

Asthma Yes (*high risk for severe reaction*) No

Additional health problems besides anaphylaxis: _____

Concurrent medications: _____

MOUTH THROAT* SKIN GUT LUNG* HEART*	Symptoms of Anaphylaxis itching, swelling of lips and/or tongue itching, tightness/closure, hoarseness itching, hives, redness, swelling vomiting, diarrhea, cramps shortness of breath, cough, wheeze weak pulse, dizziness, passing out
--	--

*Only a few symptoms may be present. Severity of symptoms can change quickly.
 Some symptoms can be life-threatening. ACT FAST!

Emergency Action Steps - DO NOT HESITATE TO GIVE EPINEPHRINE!

1. Inject epinephrine in thigh using (check one): EpiPen Jr (0.15 mg) EpiPen (0.3 mg)

Other medication/dose/route: _____

IMPORTANT: ASTHMA INHALERS AND/OR ANTIHISTAMINES CAN'T BE DEPENDED ON IN ANAPHYLAXIS.

2. Call 911 or rescue squad (before calling contact)

3. Emergency contact #1: home _____ work _____ cell _____

Emergency contact #2: home _____ work _____ cell _____

Emergency contact #3: home _____ work _____ cell _____

Comments: _____

Doctor's Signature/Date/Phone Number _____

Parent's Signature (for individuals under age 18 yrs)/Date _____

This information is for general purposes and is not intended to replace the advice of a qualified health professional. For more information, visit
 www.aaaai.org. © 2012 American Academy of Allergy, Asthma & Immunology 6/2012

How to Read a Label for a Wheat-Free Diet

All FDA-regulated manufactured food products that contain wheat as an ingredient are required by U.S. law to list the word "wheat" on the product label. The law defines any species in the genus *Triticum* as wheat.

Avoid foods that contain wheat or any of these ingredients:

bread crumbs	matzoh, matzoh meal (<i>also spelled as matzo, matzah, or matza</i>)
bulgur	
cereal extract	pasta
club wheat	seitan
couscous	semolina
cracker meal	spelt
durum	sprouted wheat
einkorn	triticale
emmer	vital wheat gluten
farina	wheat (<i>bran, durum, germ, gluten, grass, malt, sprouts, starch</i>)
flour (<i>all purpose, bread, cake, durum, enriched, graham, high gluten, high protein, instant, pastry, self-rising, soft wheat, steel ground, stone ground, whole wheat</i>)	wheat bran hydrolysate
hydrolyzed wheat protein	wheat germ oil
Kamut	wheat grass
	wheat protein isolate
	whole wheat berries

Wheat is sometimes found in the following:

glucose syrup	starch (<i>gelatinized starch, modified starch, modified food starch, vegetable starch</i>)
soy sauce	surimi

How to Read a Label for a Shellfish-Free Diet

All FDA-regulated manufactured food products that contain a crustacean shellfish as an ingredient are required by U.S. law to list the specific crustacean shellfish on the product label.

Avoid foods that contain shellfish or any of these ingredients:

barnacle	lobster (<i>langouste, langoustine, Moreton bay bugs, scampi, tomalley</i>)
crab	
crawfish (<i>crawdad, crayfish, ecrevisse</i>)	prawns
krill	shrimp (<i>crevette, scampi</i>)

Mollusks are not considered major allergens under food labeling laws and may not be fully disclosed on a product label.

Your doctor may advise you to avoid mollusks or these ingredients:

abalone	oysters
clams (<i>cherrystone, geoduck, littleneck, pismo, quahog</i>)	periwinkle
cockle	scallops
cuttlefish	sea cucumber
limpet (<i>lapas, opih</i>)	sea urchin
mussels	snails (<i>escargot</i>)
octopus	squid (<i>calamari</i>)
	whelk (<i>Turban shell</i>)

Shellfish are sometimes found in the following:

bouillabaisse	seafood flavoring (<i>e.g., crab or clam extract</i>)
cuttlefish ink	
fish stock	surimi
glucosamine	

Keep the following in mind:

- Any food served in a seafood restaurant may contain shellfish protein due to cross-contact.
- For some individuals, a reaction may occur from inhaling cooking vapors or from handling fish or shellfish.

How to Read a Label for an Egg-Free Diet

All FDA-regulated manufactured food products that contain egg as an ingredient are required by U.S. law to list the word "egg" on the product label.

Avoid foods that contain eggs or any of these ingredients:

albumin (<i>also spelled albumen</i>)	mayonnaise
egg (<i>dried, powdered, solids, white, yolk</i>)	meringue (<i>meringue powder</i>)
eggnog	ovalbumin
lysozyme	surimi

Egg is sometimes found in the following:

baked goods	marzipan
egg substitutes	marshmallows
lecithin	nougat
macaroni	pasta

Keep the following in mind:

- Individuals with egg allergy should also avoid eggs from duck, turkey, goose, quail, etc., as these are known to be cross-reactive with chicken egg.

How to Read a Label for a Tree Nut-Free Diet

All FDA-regulated manufactured food products that contain a tree nut as an ingredient are required by U.S. law to list the specific tree nut on the product label.

Avoid foods that contain nuts or any of these ingredients:

almond	Nangai nut
artificial nuts	natural nut extract (<i>e.g., almond, walnut</i>)
beechnut	nut butters (<i>e.g., cashew butter</i>)
Brazil nut	nut meal
butternut	nut meat
cashew	nut paste (<i>e.g., almond paste</i>)
chestnut	nut pieces
chinquapin	pecan
coconut	pesto
filbert/hazelnut	pili nut
gianduja (<i>a chocolate-nut mixture</i>)	pine nut (<i>also referred to as Indian, pignoli, pignolia, pignon, piñon, and pinon nut</i>)
ginkgo nut	
hickory nut	pistachio
litchi/lychee/lychee nut	praline
macadamia nut	shea nut
marzipan/almond paste	walnut

Tree nuts are sometimes found in the following:

black walnut hull extract (<i>flavoring</i>)
natural nut extract
nut distillates/alcoholic extracts
nut oils (<i>e.g., walnut oil, almond oil</i>)
walnut hull extract (<i>flavoring</i>)

Keep the following in mind:

- Mortadella may contain pistachios.
- There is no evidence that coconut oil and shea nut oil/butter are allergenic.
- Many experts advise patients allergic to tree nuts to avoid peanuts as well.
- Talk to your doctor if you find other nuts not listed here.

Food Allergy Action Plan

Emergency Care Plan

Place
Student's
Picture
Here

Name: _____ D.O.B.: ____/____/____

Allergy to: _____

Weight: _____ lbs. Asthma: Yes (higher risk for a severe reaction) No

Extremely reactive to the following foods: _____
THEREFORE:
 If checked, give epinephrine immediately for ANY symptoms if the allergen was *likely* eaten.
 If checked, give epinephrine immediately if the allergen was *definitely* eaten, even if no symptoms are noted.

Any SEVERE SYMPTOMS after suspected or known ingestion:

One or more of the following:

- LUNG: Short of breath, wheeze, repetitive cough
- HEART: Pale, blue, faint, weak pulse, dizzy, confused
- THROAT: Tight, hoarse, trouble breathing/swallowing
- MOUTH: Obstructive swelling (tongue and/or lips)
- SKIN: Many hives over body



1. INJECT EPINEPHRINE IMMEDIATELY

2. Call 911
3. Begin monitoring (see box below)
4. Give additional medications:*
-Antihistamine
-Inhaler (bronchodilator) if asthma

*Antihistamines & inhalers/bronchodilators are not to be depended upon to treat a severe reaction (anaphylaxis). USE EPINEPHRINE.

Or combination of symptoms from different body areas:

- SKIN: Hives, itchy rashes, swelling (e.g., eyes, lips)
- GUT: Vomiting, diarrhea, crampy pain



1. GIVE ANTIHISTAMINE

2. Stay with student; alert healthcare professionals and parent
3. If symptoms progress (see above), USE EPINEPHRINE
4. Begin monitoring (see box below)

Medications/Doses

Epinephrine (brand and dose): _____

Antihistamine (brand and dose): _____

Other (e.g., inhaler-bronchodilator if asthmatic): _____

Monitoring

Stay with student; alert healthcare professionals and parent. Tell rescue squad epinephrine was given; request an ambulance with epinephrine. Note time when epinephrine was administered. A second dose of epinephrine can be given 5 minutes or more after the first if symptoms persist or recur. For a severe reaction, consider keeping student lying on back with legs raised. Treat student even if parents cannot be reached. See back/attached for auto-injection technique.

Parent/Guardian Signature _____

Date _____

Physician/Healthcare Provider Signature _____

Date _____

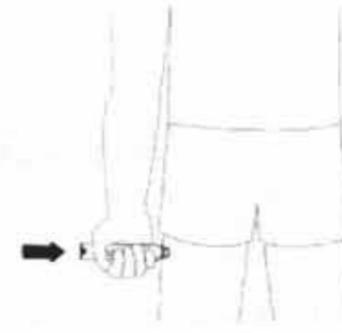
TURN FORM OVER Form provided courtesy of Food Allergy Research & Education (FARE) (www.foodallergy.org) 5/2013

EpiPen® (epinephrine) Auto-Injector Directions

- First, remove the EpiPen® (epinephrine) Auto-Injector from the plastic carrying case
- Pull off the blue safety release cap



- Hold orange tip near outer thigh (always apply to thigh)



- Swing and firmly push orange tip against outer thigh. Hold on thigh for approximately 10 seconds.

Remove EpiPen® (epinephrine) Auto-Injector and massage the area for 10 more seconds.

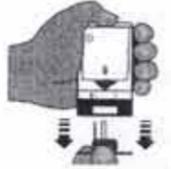


EpiPen®, EpiPen 2-Pak®, and EpiPen Jr 2-Pak® are registered trademarks of Mylan Inc. licensed exclusively to its wholly-owned subsidiary, Mylan Specialty LP.

Auvi-Q™ (epinephrine injection, USP) Directions

Remove the outer case of Auvi-Q. This will automatically activate the voice instructions.

Pull off RED safety guard.



Place black end against outer thigh, then press firmly and hold for 5 seconds.

Auvi-Q
epinephrine injection, USP
0.15 mg/0.3 mg auto-injectors

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Adrenaclick® 0.3 mg and Adrenaclick® 0.15 mg Directions



Remove GREY caps labeled "1" and "2."



Place RED rounded tip against outer thigh, press down hard until needle penetrates. Hold for 10 seconds, then remove.

A food allergy response kit should contain at least two doses of epinephrine, other medications as noted by the student's physician, and a copy of this Food Allergy Action Plan.

A kit must accompany the student if he/she is off school grounds (i.e., field trip).

Contacts

Call 911 • Rescue squad: (____) ____-____-____ Doctor: _____ Phone: (____) ____-____

Parent/Guardian: _____ Phone: (____) ____-____

Other Emergency Contacts

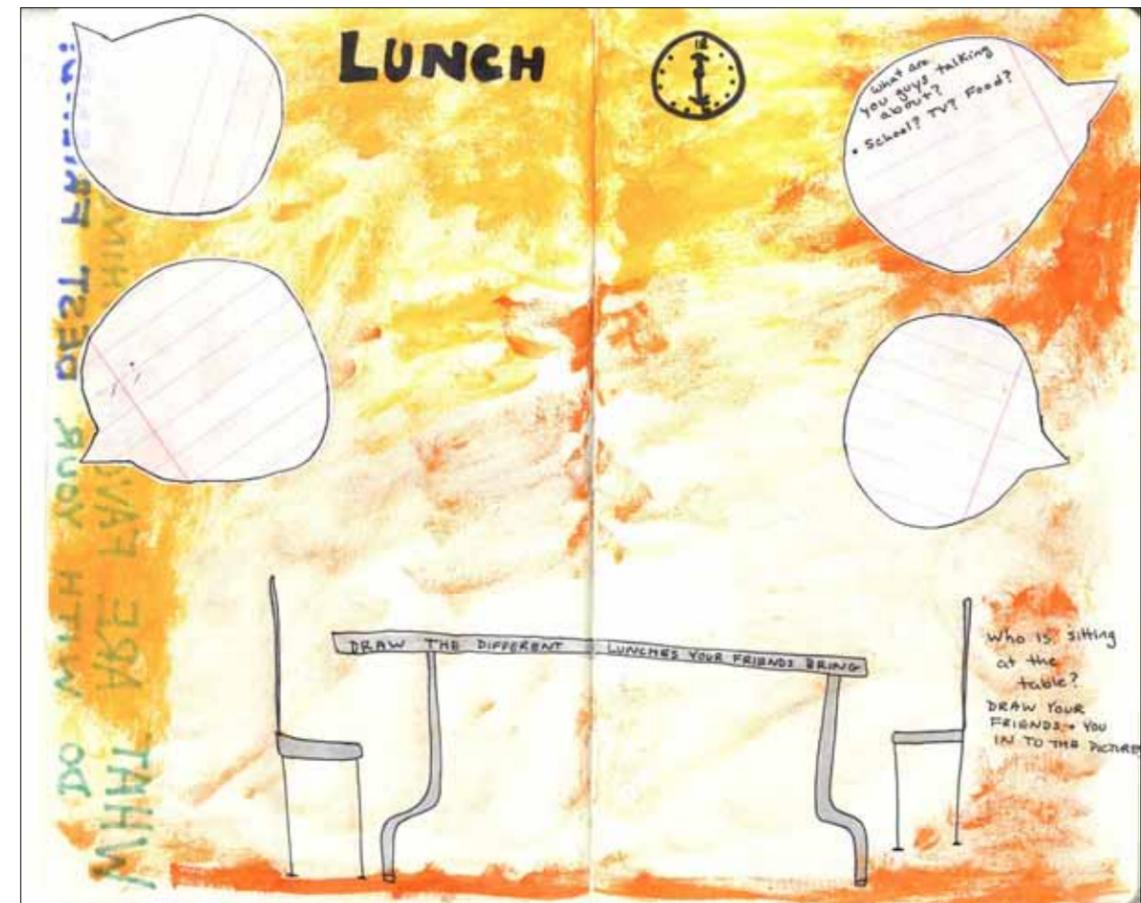
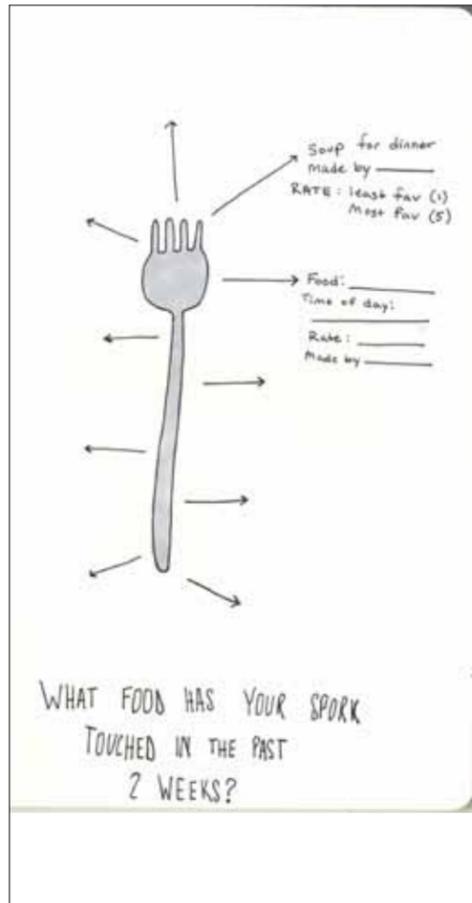
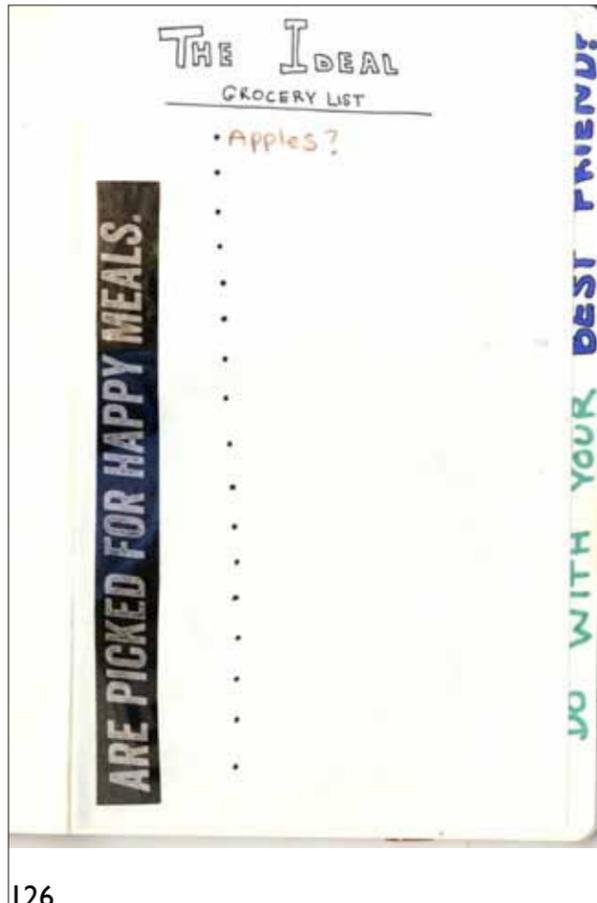
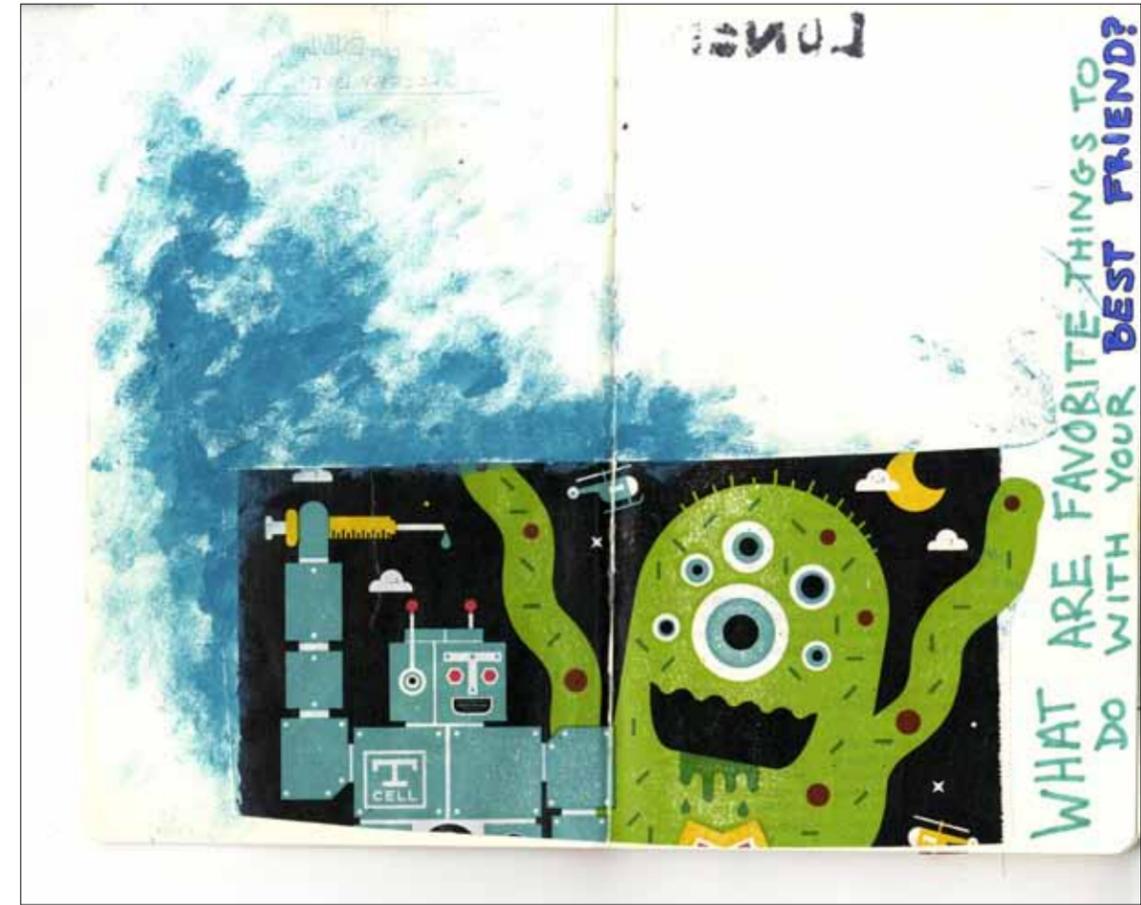
Name/Relationship: _____ Phone: (____) ____-____

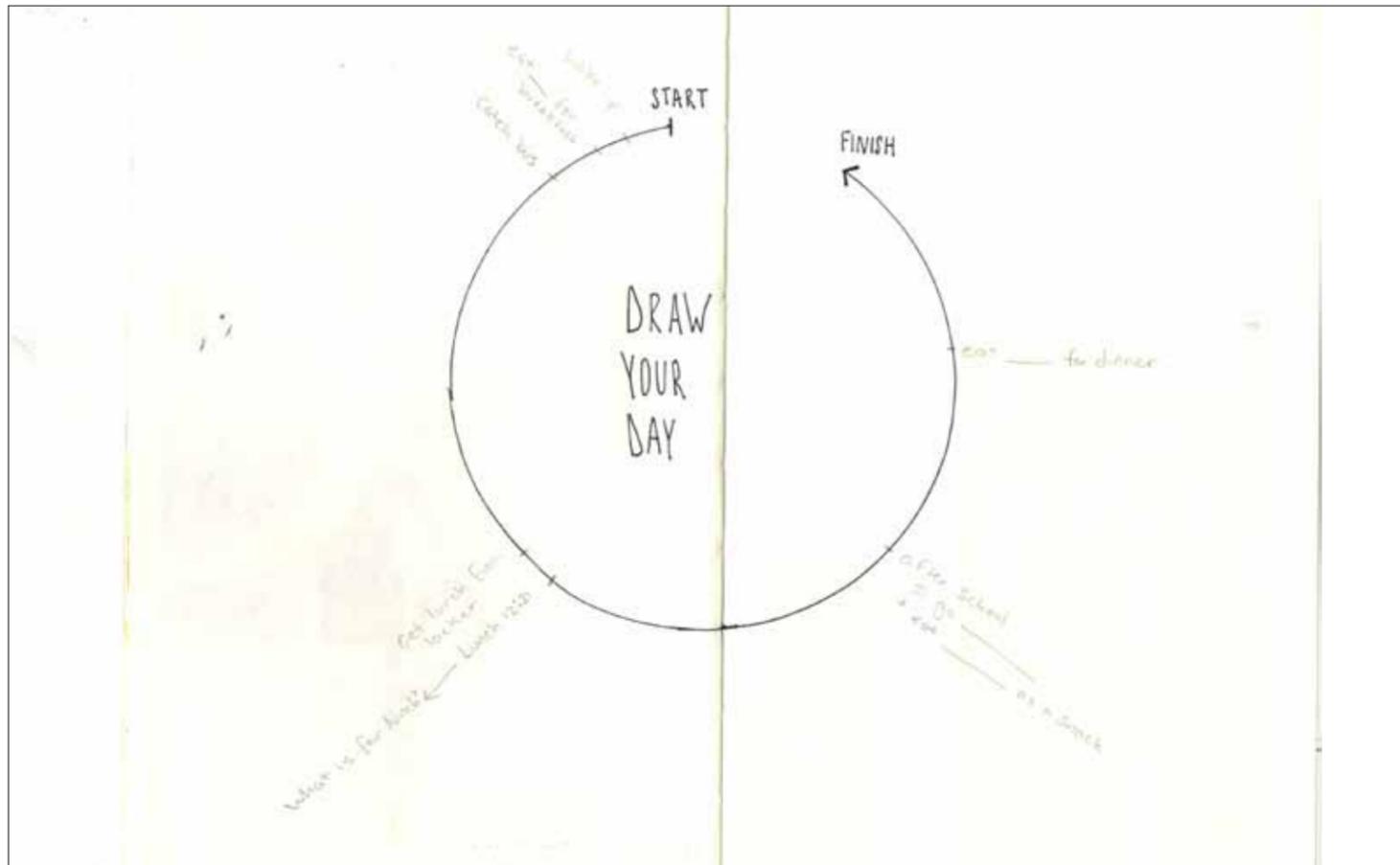
Name/Relationship: _____ Phone: (____) ____-____

Form provided courtesy of the Food Allergy Research & Education (FARE) (www.foodallergy.org) 5/2013

Appendix E | Diary Studies

This is a design research tool that has yet to be used. It is a diary that was co-designed by an eleven year old boy with allergies and me. Once the diary is prepared, he will be asked to fill it out and return it.





BRAINSTORM!

Outside of your typical School day, when is having an allergy a challenge? What (example: birthday party) makes it TOUGH?

T
NK
ID
E
ARY

How was Halloween?
Tell/draw your stories.

A photograph of a glowing jack-o'-lantern decoration. The pumpkin has a smiling face with triangular eyes and a jagged mouth. It is mounted on a red base that has the word "TRICK" written on it. The decoration is lit up from within, and its shadow is cast on the wall behind it.





What if you compare
peanut allergies to
kryptonite?

Superman might be “allergic” to
kryptonite, but he also has superpowers.
Through design intervention, this book
explores the possibilities of transforming
food allergies from problems into assets.



Design Challenge
Statement:

How do you get 4-8
year olds to understand
their allergy well enough
to communicate it to
others?

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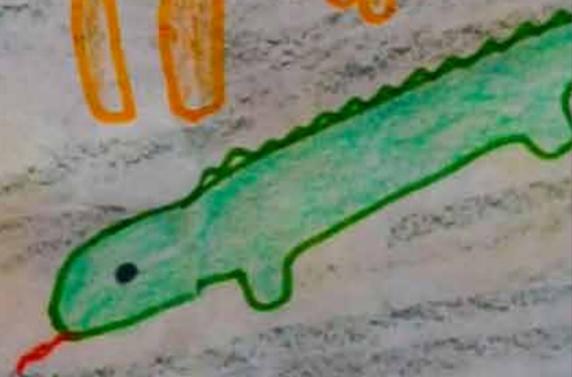
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EPI FRIE NDS



Phase I

Rather than feeling confused and embarrassed by having an EpiPen, what if the EpiPen was something kids wanted to bring to show-and-tell?



Phase I

I decided to make a kit for kids with food allergies that empowered them by giving them tools to cope with their allergies.

Main Goals of the Kit

Three components

Book

- Teaches peers about allergies
- Enables parents to introduce the topic to their kids

Epi Friend

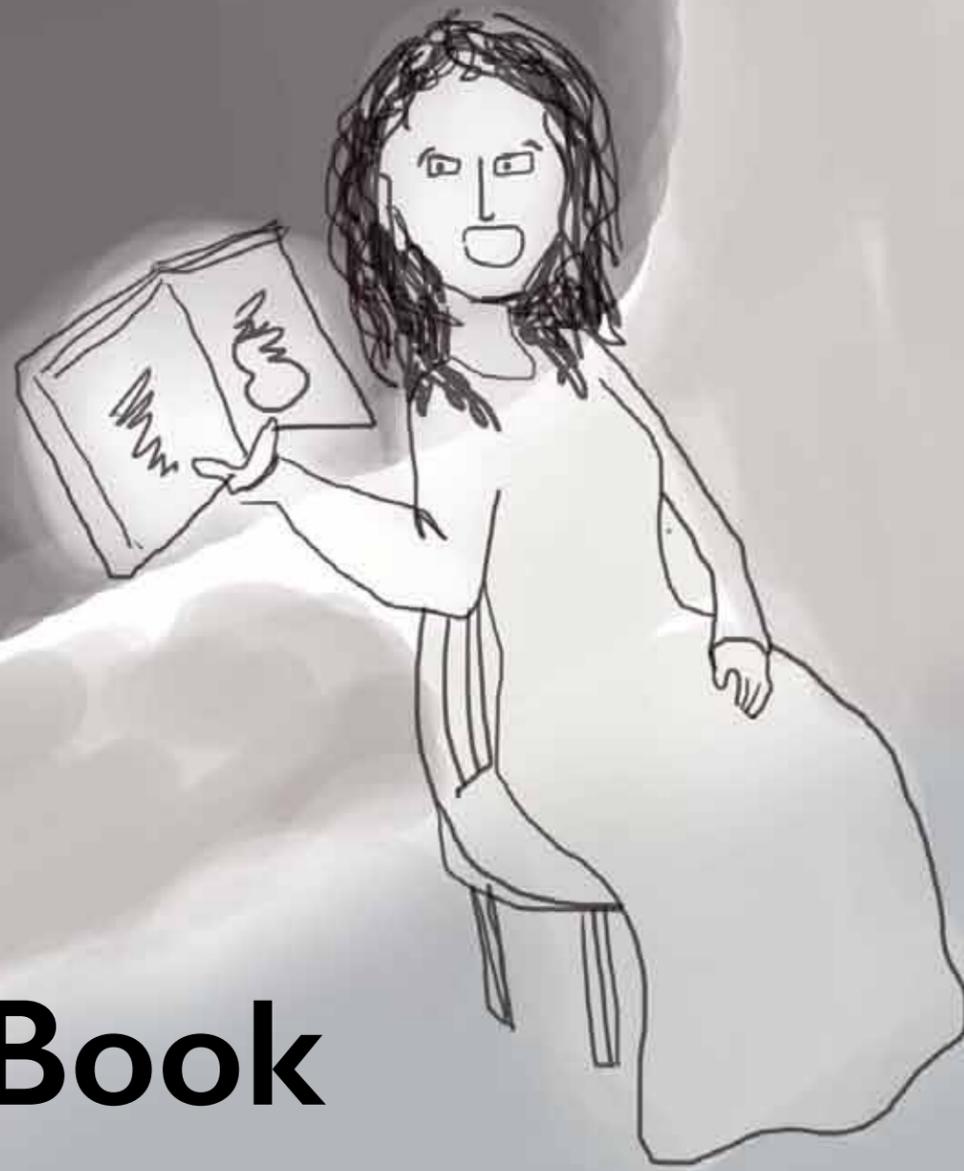
- Makes the EpiPen more kid friendly
- Becomes a precious object to take care of

“Lunch box”

- Subtly trains kids to be aware of their allergy
- Indicates to teachers if a kid has an allergy



The Book



“It’s a good way to help their peers understand how to act.”

-Shelby Bird, student music teacher

“I was too shy to bring up my allergy. My mom always had to say something.”

-Christina O’Neil, 18 years old with peanut allergy



The Importance of Stories

Children's books play a powerful role in the formation of how kids perceive the world. Such books adopt morals and themes that cater to a few basic needs that children experience during development. Not only are books able to instill values into young minds, but they are a way of facilitating communication between adults and one or more kids.

Children Need...

Source: Children and Books

To Feel Secure

- Security supplies a motive for action.
- Fairy tales were told by people who had unmet needs.

To Love and Be Loved

- Stories that leave kids with conviction that even decent, kindly people can maintain an inner serenity as they struggle to master problems that threaten them.
- Read books about missing a father; learn to not take fortunate life for granted.
- Lonely kids forge attachments to stray cats if they feel out of favor or rejected.
- Animal stories teach kids to love animals.

To Belong

- "My Big Sister" later becomes "My Country" etc. Kids learn to identify with groups beginning with their family.
- Wins a respected place within a group that once rejected them (Secret Garden and Cinderella).
- Strengthens pride of minority member and enriches all who read it.
- Teach minority to accept those who are different from them.

To Achieve

- Heroes perform unique feats on their own (Tom Sawyer's independence made him memorable and admired).
- For young readers, heroes are doers.
- Learn failures and frustrations happen, disabilities are faced and accepted.

Change

- Because play is a way to act out potential change, it is classified as a need for change (use humor; fairy tales, and adventures).

To Know

- Kids have a lot of curiosity about the world (the "why" game).
- Stories (nonfiction) of persistent people in search of knowledge.

Beauty and Order

- Aesthetic satisfaction: kaleidoscope is not necessarily beautiful, but has bold and complete designs.

1st Draft: **The Story of Epi Friends**

“Yum, we love acacia leaves! This is all of our favorite food!” Gerry, the ginormous giraffe watched the other giraffes enjoy the tasty acacia leaves from across the field. Gerry likes the other giraffes, but the other giraffes all eat acacia leaves when they hang out. Gerry is allergic to acacia leaves, so he cannot eat them without getting sick. So Gerry decides to go on an adventure of his own.

Gerry decides to wander into woods to look for a friend. As he walks, he finds a burrow in the ground. A head pokes out and says, “Hello?”

“Hi, I’m Gerry.”

The lizard looks way up in confusion. “What? I can’t hear you. You are all the way up there!”

Gerry lowers his head and starts over, “Oh, sorry about that. I’m Gerry the giraffe. Do you want to be my friend?”

The lizard nods with excitement. “I would love to have a friend! My name is Lizzie and I am a lizard. Do you want to eat lunch with me?”

Gerry hesitates. “Sure, but I’m allergic to acacia leaves.”

“What does allergic mean?” asked Lizard.

Gerry pauses, “It means I get really sick when I eat them.”

“That’s okay, I don’t eat acacia leaves. I eat snails and fruit,” says Lizzie.

The two eat lunch together before heading onward in search of more friends to play with.

As the two friends begin to look for more pals to hang out with, Lizzie says, “Let’s go find Beatrice the brave butterfly. She is so nice. She will play with us.” Gerry and Lizzie head towards the garden to look for Beatrice. [Lizzie is riding on Gerry’s head]

When they enter the garden, a beautiful butterfly flies over to them. “Hello Lizzie! Who is your friend,” the butterfly asks? Lizzie looks at Gerry, “This is Gerry the GINORMOUS Giraffe! He is my new friend. Gerry, this is Beatrice the brave butterfly.”

Beatrice flies up to Gerry’s face and looks at him. “Do you want something to drink? I have lots of flower nectar.”

“Does it contain acacia leaves? They make me sick when I eat them,” asks Gerry.

“I don’t think so, but let me ask my Mom first.” Beatrice flies away for a few minutes and then returns. “My mom says nectar from flowers does not contain acacia leaves.”

Gerry smiles, “Yay! I would love some nectar.” Gerry is happy because he is learning that there are lots of foods that do not contain acacia leaves.

Beatrice looks over at him, “Gerry, what do you do if you accidentally eat acacia leaves?”

Gerry pulls out a long stick, “This is my Epi Pen. There is medicine inside of it that will make me better if I get sick from eating acacia leaves.”



Puzzled, Lizzie asks, "How do you get the medicine out of it?"

Gerry says, "You pull off the cap and press the end of the Epi Pen into my leg."

Beatrice says with a worried look, "That sounds scary. I hope you never accidentally eat acacia leaves so you never have to use your Epi Pen."

"Me, too. That is why I am very careful to avoid acacia leaves," said Gerry.

After Lizzie, Beatrice and Gerry drink the flower nectar, they head to the beach to play. When they get there, they build a sand castle. Suddenly they hear, "Hi there! My name is Sean the swimming shark. Do you want to play with me?"

Lizzie, Beatrice and Gerry look over at the ocean and see a blue shark swimming in the water. Gerry says, "Hi! I'm Gerry the ginormous giraffe, and this is Lizzie the lizard and Beatrice the butterfly. We can't swim, but we can play catch with this beach ball."

After a while of playing together, Sean's Mom comes out with snacks. "Hello, you must be Sean's new friends! Would you all like to eat some sushi?"

Lizzie, Beatrice and Gerry have never heard of sushi before because they do not live in the ocean where sushi is normal food. Lizzie and Beatrice are quick to say "yes", because they enjoy trying new foods. Gerry hesitates, "I'm allergic to acacia leaves. Are there any in sushi?"

Sean's Mom smiles, "Nope, this particular sushi safe for you to eat. Careful though, not all sushi is made the same way. Different sushi might contain acacia leaves."

Gerry jumps up and down, "Yay!!! This is so exciting!" For the third time that day, Gerry was able to eat the same food as his friends.

Since Gerry was full from eating all day and it was getting late, he decided it was time to go home. He said goodbye to Lizzie, Beatrice and Sean.

When he gets home, Gerry's family [a tower of giraffes] is eating leaves. His siblings say, "Gerry, what are you going to eat?"

Gerry brightens, "Since I cannot eat acacia leaves, I brought sushi from my friend, Sean's Mom."

Gerry's siblings all huddled around, "What is that?"

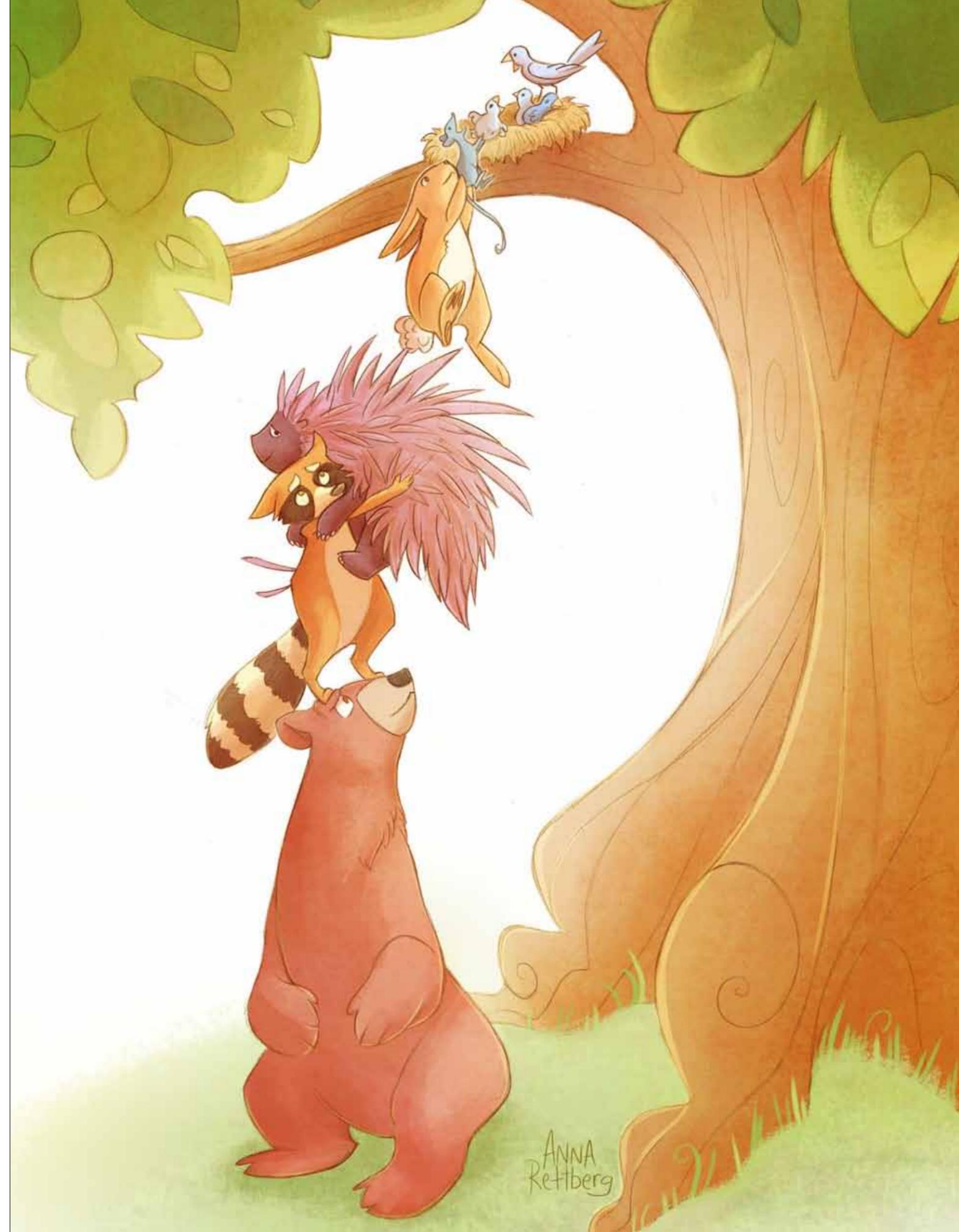
"It is really tasty food from the ocean. I love it!" Gerry is now the happiest giraffe of the bunch, for he learned that he might be different from the other giraffes, but there are many others out there that do not eat like the other giraffes either. Gerry no longer feels lonely. Not only does he have his giraffe siblings to play with, but also he has Lizzie, Beatrice, and Sean. It was a good day.

Book Club Discussion Section

Other information about allergies, where to go for more information

Anna Rettberg, Illustrator

Ms. Rettberg graduated from the Syracuse University Illustration Program in 2012. She currently is involved with freelance illustration. One of her projects involved illustrating a children's book for Dystonia Medical Research Foundation, the book was called *Never Look Down*. She has agreed to illustrate the *Epi Friends* story.



Emails with Feedback from Stakeholders

From: Hope Decker CHL <deckerh@stls.org>

Sent: Saturday, February 08, 2014 3:50 PM

To: Alexandra Marin O'Neil

Subject: Book idea

Alle, this is a brilliant idea! I am sure if it gets made a lot of parents and children will appreciate it, I love the epipen cover!

I am taking a break from doing my Library's annual report (lots of statistics) to read the book, it's such a great idea. I will give you more suggestions later on specifics when I have more time. I think you are really on to something here!

One thing to think about when you are writing a children's picture book is the vocabulary. You would think an author should simplify the words but the opposite is true. Children actually learn a lot of vocabulary from listening to stories being read. I don't know the exact stats but children who are read to know a lot more words because children's books have complicated vocabulary.

If you pick out some good picture book and look at the words the author uses I think you'll be amazed at the "difficulty" of some of them. I've pulled "The Mitten" by Jan Brett off the shelf and I read that mole "burrowed" inside, hedgehog came "snuffling along" and they were "bumped and jostled" owl was attracted by the "commotion". Kids don't use these words in spoken language but they understand them (if only from the context clues)....so you may want to replace some words in your story with more exciting/interesting/complicated words. If you read a couple of picture books and look for these words....you'll see what I mean.

Hope

Epi Friends Story

← REPLY ← REPLY ALL → FORWARD ⋮



Christina O'Neil <christina.oneil19@gmail.com>

Wed 2/5/2014 12:26 PM

mark as unread

To: Alexandra Marin O'Neil;

Action Items

+ Get more apps

Alle,

First of all I love the story, and it looks like you have fulfilled your intended goals!

Positive:

I like that as soon as Gerry is offered any type of unfamiliar food, he states his allergy and asks about it before accepting. That's definitely important.

I think when Gerry asks Sean's Mom about the sushi, it emphasizes the importance of parental involvement, and a kid being comfortable asking an adult-which is great. I like that you used terms like "might contain" and "does not contain" throughout the story so kids can recognize them in real life.

It's great that Gerry realizes that there are many options in the world and that not everybody eats acacia leaves!

It's definitely good that Sean's Mom gives Gerry warnings about her sushi being okay, but that not all sushi is okay for him. That was confusing for me as a kid, (for example: why can I have this type of cookie but not that one-they're both cookies?) and showing that not all types of a food are okay is a good thing for kids to remember.

Each of the points that you wanted to make definitely come through!

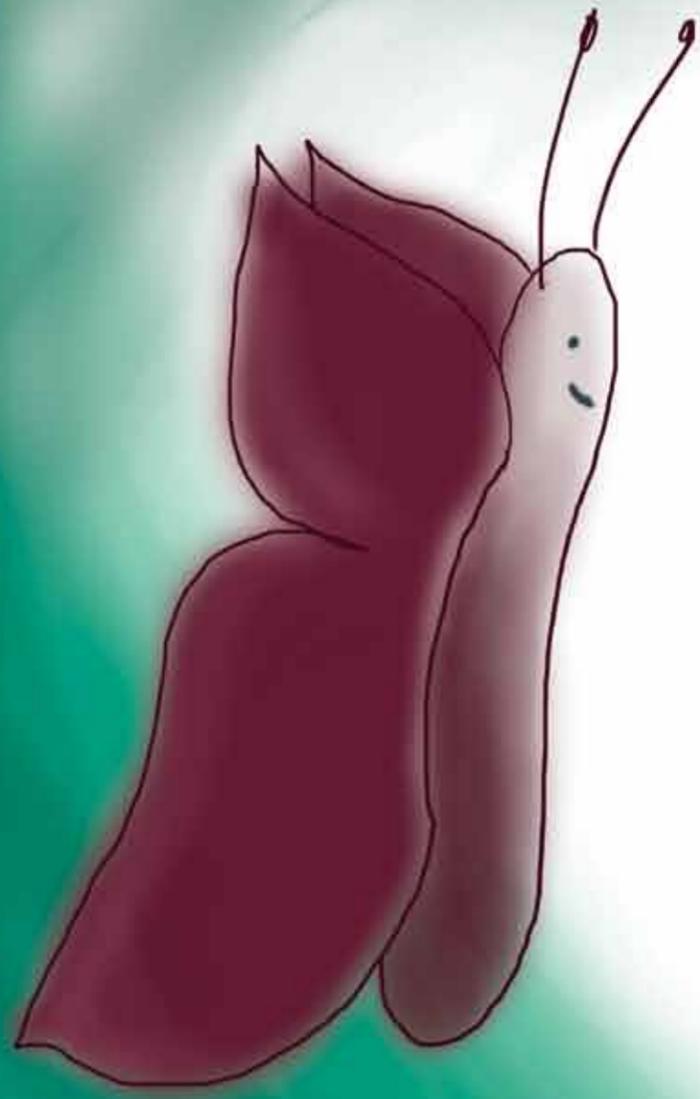
Possibly Add:

Is acacia too difficult of a word for kids? I know how to say it, but maybe get a second opinion.

When Gerry asks Sean's Mom about the sushi, maybe one of the friends should say something instead or just reaffirm Gerry's question to satisfy the "supporting your peers" aspect. Since Beatrice did this with her Mom, maybe it doesn't need to be changed.

Overall I really like the story! Let me know how it goes, and if you want me to look at later drafts I will.

-Christina



The Epi Friend

“They need to know it will make them feel better, but also not to play with it.”

-Kate Berkland, kindergarten teacher



Meet Beatrice the Brave Butterfly

- Bear Beanie Babies were played with less because they had special meaning. How do you communicate through form that something is precious and to be coveted, but not played with? What separates a collectable from a toy? American Girl dolls, Beanie Babies, Barbie dolls, Hot Wheels... what do they have in common? or not?
- What if kids without allergies want one? Should everyone have an object that signifies their role? Should the kid with the allergy have one that is extra special? The class pet was a teddy bear in kindergarten, everyone took turns taking it home. If you had the bear, you were the lucky one.

- Some toys you don't have to share. Getting away from the toy idea, how do you explain that this is something you do not share? Perhaps that gets resolved in the narrative.
- Durable. Cloth gets dirty and is difficult to clean. Case should have protective qualities.



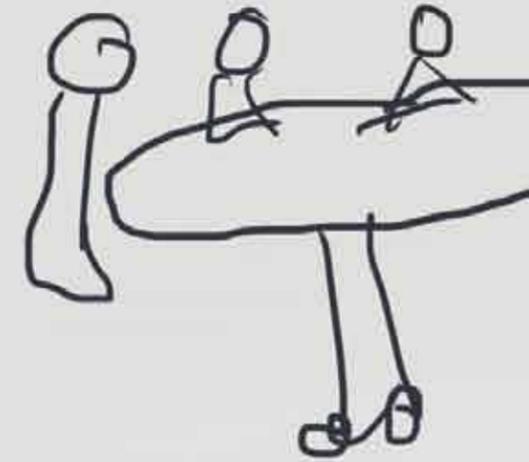
“I used to carry my EpiPen in a Zipblock.”

-Christina O'Neil, 18 years old with peanut allergy



- Kiss it and make it better concept (doesn't work quite so well with a bumble bee). Make the EpiPen less scary. The idea that they are not alone. Friends, teachers, and parents are there for them. The Epi Friend is not an imaginary character. Support is everywhere. Reflect that concept in the character.
- Kids love to have secrets, something special that belongs to them. The object should be special, the equivalent of *The Secret Garden* and *Bridge to Tarabithia*. Kids are in the process of gathering information about the world and learning how to conform to the expectations placed on them. The appeal of having a place or magical item that belongs just to them is that it creates a distance between the kid and the pressure of the world that allows them to explore. The EpiPen is that object, how does it become this special object?

“Lunch box”



“Maybe it could say what allergy they have on the outside of it.”

- Christina O’Neil, 18 year old with peanut allergy

“Lunch box” Questions Inspired by Feedback

- Everyone wants an Iron Man lunch box right now. What happens when they want to have what everyone else wants? The result of this could be changing the form, changing the characters, exploring the essence of cool, what makes something appealing to kids? Does it need to be a toy and a lunch box. Deconstruct popular objects for kids that exist today and in the past. Why are they not/still popular today? (work on form)
- How can the symbols and characters be customizable? The characters could inform the form of the box. Is there a peanut-butterfly kit? How can the characters be better defined so their role in the lunch box make more sense? Does it have to?
- What could the inside of the lunch box be like? Reminders? Whether or not the form ends up being a lunch box, what is the object's goals? Revisit how it functions for the stakeholders and look into if another function could help support the goals of the object. What more can it be if not just a “lunch box?”
- Can it enforce the symbol of the Epi Friends? Is the branding in the characters? A specific character or more than one? A color, form, etc. Explore visual language and how that can translate into the symbolism adopted by the kit.



Phase 2

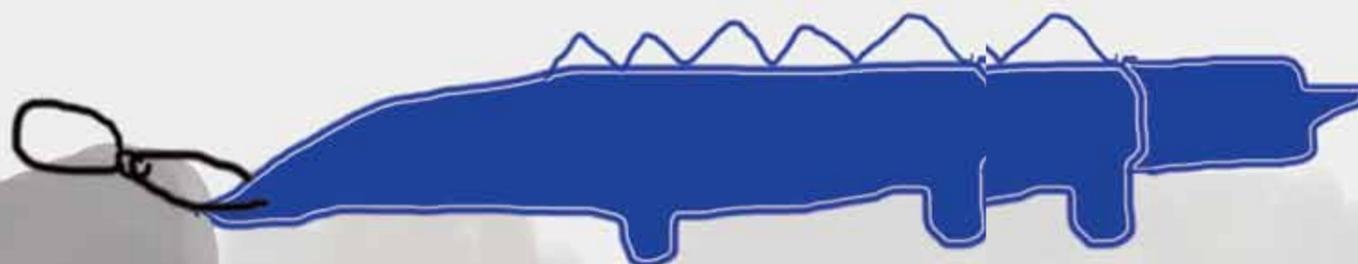
If it is not a kit, maybe it is a pack?



Epi Friends Pack (not just a kit)



Every kid gets a keychain.



Only the kid with an allergy gets a case.



Teacher's get a big animal as a prop for storytelling.



As the teacher reads the story, the characters become physically incorporated into classroom life. Perhaps the Epi Friend of the day or person on "peanut watch" gets to put their keychain in the big animal.



Story Revisions and Next Steps

The current story is focused on giraffes and other existing creatures. The new story has imaginary creatures inspired by wolf packs to help the child understand that they are not alone and they have a lot of support. For the story to evolve, the creatures need to be developed further. Also, there might be an activity that enforces the concepts reflected in the story.

Goals and Possible Pitfalls

<ul style="list-style-type: none"> • Intention • Possible Backfire • Solution? 	1. Kid with Allergy	2. Peers	3. Teacher	4. Parent
<p>Book</p>	<ul style="list-style-type: none"> • Teach them to accept their allergy, to ask before eating new foods, be understanding of others. • Epi Pen is less scary • Precious object to take care of- unique form • It becomes a toy. TBD - case becomes more protective and durable. 	<ul style="list-style-type: none"> • Don't pay attention • Want their own Epi Friend. Everyone gets a little epi friend key chain. (also helps to involve everyone) • Learn to help and accept peer with allergy • Other kids get jealous (see above) • Want them to share their "toy" -gets incorporated into story 	<ul style="list-style-type: none"> • Teach kids how to help peer with allergy 	<ul style="list-style-type: none"> • Introduce allergy to child.
<p>Epi Friend</p>	<ul style="list-style-type: none"> • Reminds them to stay away from allergen. • Jealous of other kids with Iron Man lunch boxes. TBD 	<ul style="list-style-type: none"> • Identify peer with allergen. • Know who to bully. The teacher's animal will act as mediator between all of the characters. 	<ul style="list-style-type: none"> • Can the Epi Pen be identified? (see below) 	<ul style="list-style-type: none"> • Help encourage child to carry their Epi Pen with them. • Is it a toy they hate? TBD - turn it into a game, not just a toy
<p>"Lunch box"</p>			<ul style="list-style-type: none"> • Identify kids with allergies • Unfamiliar with Epi Friends. Made the symbol more consistent, same visual language and character. 	<ul style="list-style-type: none"> • Help parents remind child to stay away from allergen even when they aren't with them.

Where to go from here...

Priorities:

1. **Story and Character development/finalization**
2. **Form of the book and characters**
3. **“Lunch box”**

MARKET RESEARCH AND DESIGN

- Prepare two stories (one with real animals and one with imaginary)
- Read more of *Children and Books*
- Play with interactive books
- Read children's books
- Explore Social Stories

I. Stories vs. Market

(Profiling Stories)

- Semantic Profile (4.14)
- Symmetric Clustering Matrix (4.10)

TESTING

2. Stakeholders

(Solution Prototyping)

Send both stories to stakeholders.

Visit in person when possible.

Attempt to extend testing across the United States.

- One Allergy Specialist
- Four Teachers
- Several Parents and their kids (not all with allergies)

3. Editors

Send chosen story.

- Librarians (SU and Public)
- One Publisher
- One Teacher
- One Illustrator

ANALYSIS AND REVISIONS

- Evaluate solutions relative to user values based on testing (6.10).

Barnes and Noble

Thursday, February 20th at 9:30 I went to Barnes and Noble on Erie Blvd. During this visit I photographed examples of objects that lived or were incorporated into books. I also got the opportunity to talk with an employee working in the children's book department. She used to be a librarian for an elementary school where her responsibilities included ordering books for the school. From speaking with her, I learned I needed to explore nonfiction books as well as fiction. This idea opens up the possibilities a form could take.





THE CAT IN THE HAT
Knows a Lot About That!



Oh, the THINGS
you can DO
that are GOOD for you!



All About STAYING HEALTHY
by Tish Rabe • illustrated by Aristides Ruiz

Dr. Seuss and Nonfiction

There is a series of books, *The Cat in the Hat's Learning Library*, that is inspired by Doctor Seuss. It is an example of nonfiction for young kids that is not entirely dry, but is still very factual. The Cat in the Hat arrives and excitedly introduces new information to the reader. This is done through rhyming and frivolous characters and excessively



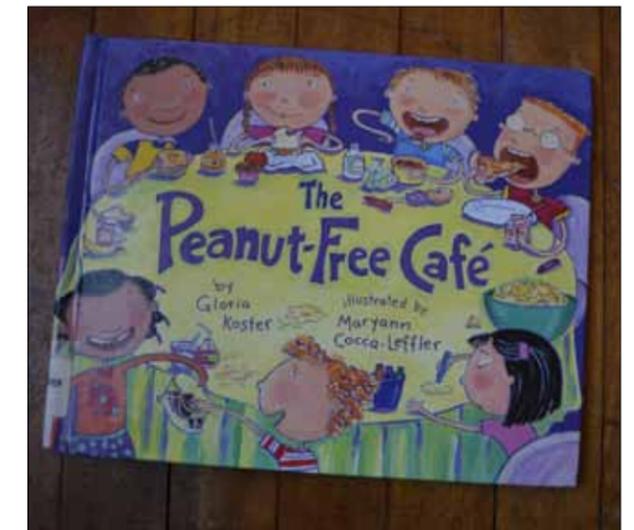
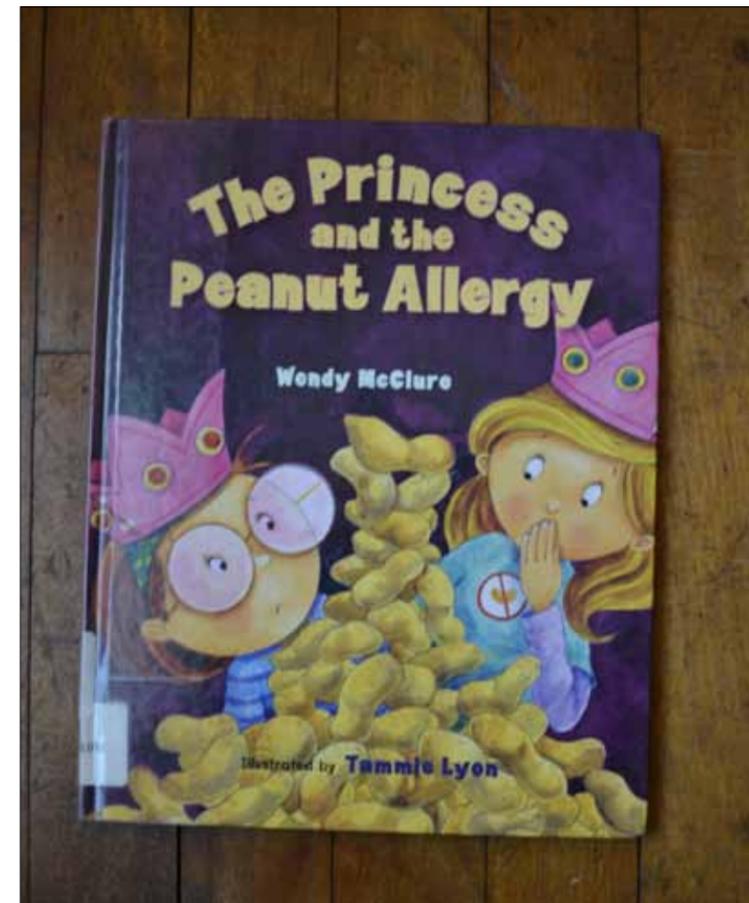
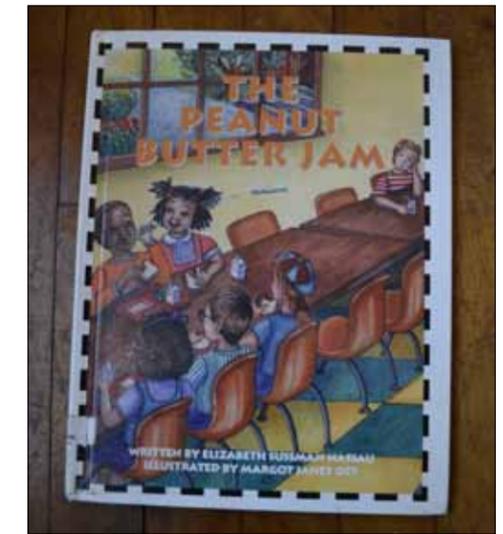
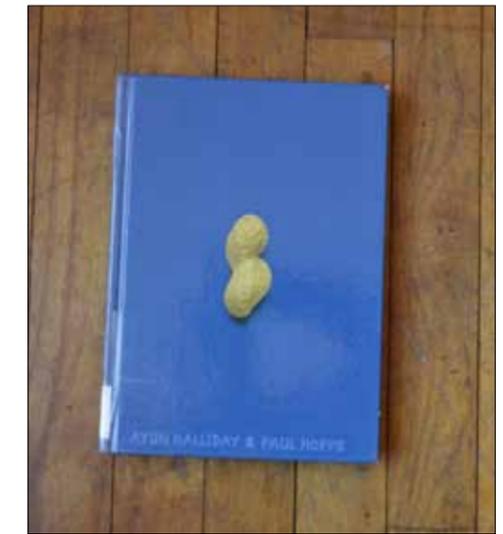
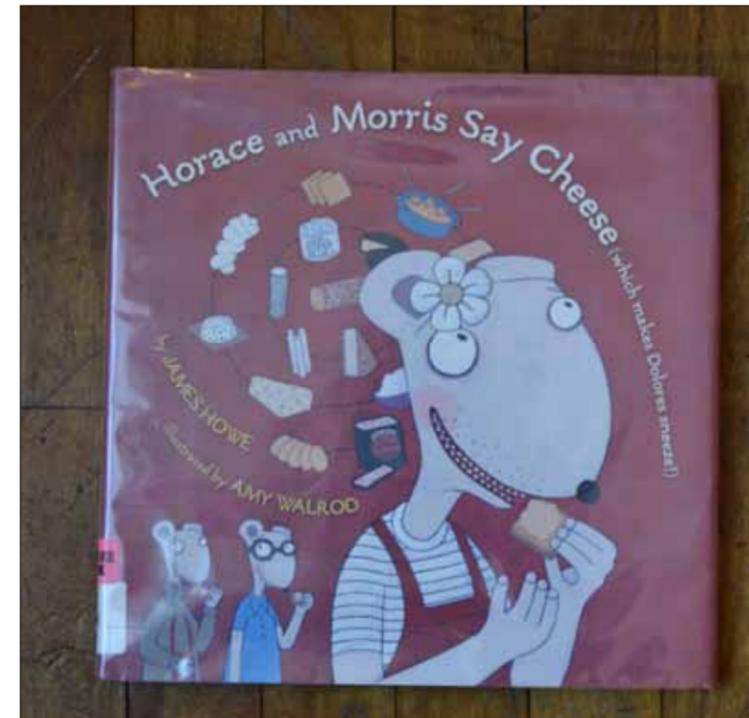
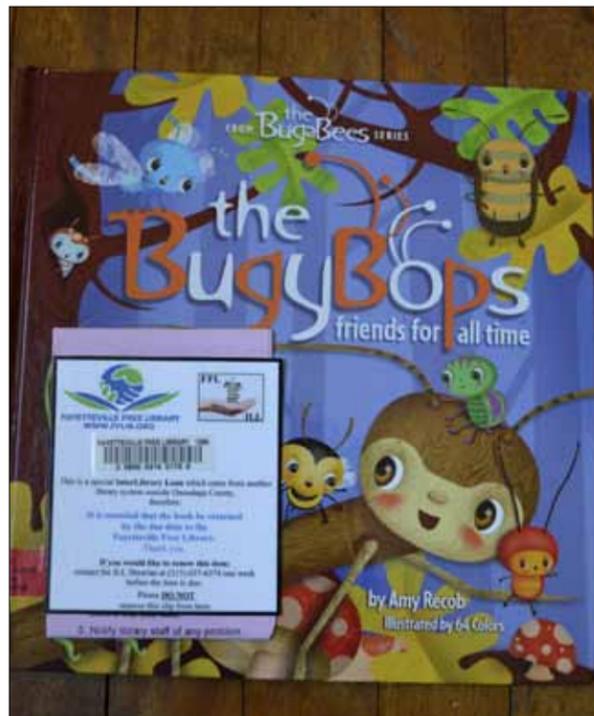
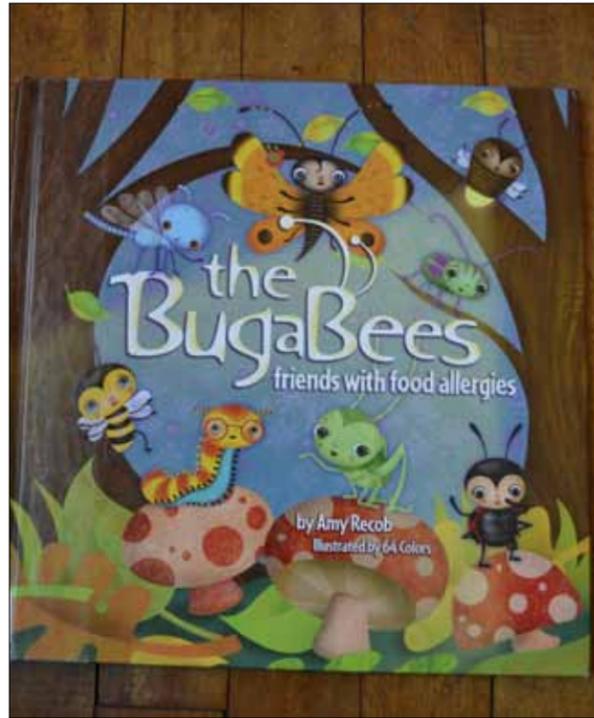
At 10am every Thursday, the Barnes and Noble Children's Book Department hosts storytime. On February 20th, an employee dressed in bright greens with butterfly clips in her hair stood on the stage in the children's section and read *The Very Hungry Caterpillar*. Syracuse schools were on winter recess, so older siblings that normally would be in school tagged along. Mothers, grandmothers, infants to nine-year olds gathered around as this young woman theatrically read the story.

Afterwards, the children did an activity where they glued paper circles to a piece of paper to make a picture of a caterpillar. The woman hosting mentioned she was unsure of what ages would be present, so she picked a relatively simple activity. The entire event was over in about twenty minutes.



Fayetteville Free Library

- *The BugaBees* is by far the most popular book about allergies on the market because it was well executed and it has an app to go along with it.
- Every character in *The Bugabees* has a different allergy.
- Most allergy children's books were written by parents.
- The back of the book typically has either an activity or a letter from Mount Sinai Hospital endorsing the book.
- Each character always only has one allergy.
- Some of the books teach other children how to handle having friends with allergies.
- One book has an allergic reaction occur as a result of bullying.
- These were all the books available at the public libraries in the area. *The BugyBops* was through interlibrary loan at Fayetteville Free Library.



Amazon Comments

5 of 11 people found the following review helpful

★★★★☆ **Great pictures**, April 10, 2013
 By [Emily](#) (IN, United States) - [See all my reviews](#)
 This review is from: **The Princess and the Peanut: A Royally Allergic Tale (Paperback)**
 The pictures were wonderful and vivid. I simply loved them. The story, however, was a different story. While I understood the purpose of the book, and that the story fulfilled its purpose, I just didn't care for the story. I think trying to explain things such as extreme allergies to little kids won't go well. They are too little to completely understand it, especially when you tell them that you get to be a princess if you get sick from a peanut. All they will want to do is get sick so that they can be special.

Help other customers find the most helpful reviews | [Report abuse](#) | [Permalink](#)
 Was this review helpful to you? [Comment](#)

2 of 2 people found the following review helpful

★★★★★ **Good Twist to Further Understanding of a Difficult Problem**
 By [Mary Anne Beier](#) on June 16, 2009
 Format: Hardcover
 This book delivers a good story without being preachy about the difficulties of peanut allergies. The Princess and the Pea analogy works, and makes sense. As a result, Regina comes to her own conclusions about how her choice of birthday cake will affect her friend's health and ultimately their friendship. A great book to use with "The Peanut-Free Cafe."

[Comment](#) | Was this review helpful to you?

10 of 11 people found the following review helpful

★★★★☆ **not crazy about this one**
 By [Kathy Taylor](#) on August 6, 2007
 Format: Hardcover | [Amazon Verified Purchase](#)
 although i appreciate any attempt to help classmates understand nut allergies, i felt this book focused so much on the child who loved peanut butter, that it completely ignored the trials of a nut allergic child. my 5-year-old was confused after i read this to him as he didn't feel it related to him with his potentially fatal nut allergy. also, he felt he was missing out on the joys of peanut butter because the character "simon" adored pb so much.

[Comment](#) | Was this review helpful to you?

5 of 11 people found the following review helpful

★★★★☆ **Chili Review**, September 8, 2006
 By [Mark Reynolds](#) (Montclair, NJ United States) - [See all my reviews](#)
 This review is from: **The Peanut-Free Cafe (Hardcover)**
 In the book a character named Simon finally gives up his peanut butter to sit at the nut free table. The problem is he adds a new food to his list of what he will eat - Chili. In the real world chili is a suspect food that may contain peanut butter as a thickening agent (obviously if Simon's mom made the chili at home one could easily find out the ingredients), reading this book to a 5 or 6 year old could give them the impression that chili is OK to eat, when in reality it may or may not be. I, as a parent of a kid who has nut allergies, am not willing to take that chance.

Help other customers find the most helpful reviews | [Report abuse](#) | [Permalink](#)
 Was this review helpful to you? [Comment \(1\)](#)

9 of 17 people found the following review helpful

★★★★☆ **sad story, good illustrations**, September 26, 2009
 By [mishka kosolapyi](#) - [See all my reviews](#)
 This review is from: **The Bugabees: Friends With Food Allergies (Hardcover)**
 It's a story of eight bugs that do nothing but eat and since all them are allergic to different foods there is always one not eating and repeating "I can have fun anyway" mantra instead. In my view, this approach is wrong - even my almost three year old wouldn't buy it. So the story is pessimistic, even somewhat depressing, not something I would read to my child but I do alternate it and use the illustrations to create new stories, which makes the book not completely useless.

Help other customers find the most helpful reviews | [Report abuse](#) | [Permalink](#)
 Was this review helpful to you? [Comment](#)

5 of 11 people found the following review helpful

★★★★★ **Cute**
 By [chrissy gunderson](#) on October 2, 2013
 Format: Paperback | [Amazon Verified Purchase](#)
 I liked the story, but I didn't end up reading it to my son and his class because not everyone is going to go out of their way to accommodate. I wish they would, but realistically they don't. Because they don't is why I'm trying to teach my son and his class about being careful, which I was hoping for in this book but didn't get.

[Comment](#) | Was this review helpful to you?

Correspondence with a High School English Teacher



Justin Ongley <ongleyj@newmilfordps.org>

Fri 2/21/2014 2:15 PM

Inbox



mark as unread

Hi Alle. Sorry I haven't responded earlier. I didn't expect to have a six day vacation! Anyway, I like your concept. This is an issue at my kids' school.

You may want to consider the amount of text that you have on each page. Some pages have a lot. Look at your word choice. Do you focus on the image -- which is to say the nature/significance of the actual thing. (I hope that makes sense. If not, look up John Ciardi's views on poetry and word choice -- especially nouns and verbs.) How much do you need to say, or rather omit, in order to make your point. Think about the idea of subtext. If you think of it, ask Mark about that one. We teach it when we have AmStud write children's book adaptations of The Sun Also Rises. Sick, I know.

For your target audience (Kindergarten and First grade) less is more. Trust me on this one! They can get bored quickly. And you have to consider your use of space on the page. And how the text and illustrations work together to create multiple meanings.

Also, I'm not sure if you want to address this in your book, but as a parent of children with no allergies, it's a pain in the ass to make lunches! (Especially when you are a mostly vegetarian family.) I realize that my perspective isn't exactly the sensitive one. But there is a ripple effect. Again, maybe I'm just selfish. Perhaps you could adapt me into a character and make me a villain??? MUWWWAAAA!

I hope this helps! Good luck! Let me know how it turns out.

Excerpt From "How Does a Poem Mean?" by John Ciardi

"An excellent native example of the play impulse in poetry is the child clapping its hands in response to a Mother Goose rhyme. What does a child care for "meaning"? What on "earth" is the "meaning" of the following poem?

High Diddle diddle

The cat and the fiddle

The cow jumped over the moon;

The little dog laughed

To see such craft

And the dish ran away with the spoon.

"Preposterous," says Mr. Gradgrind. But the child is wiser: he is busy having a good time with the poem. The poem pleases and involves him. He responds to it in an immediate muscular way. He recognizes its performance at once and wants to act with it.

This is the first level of play. As rhythm is the first element of music. The child claps hands, has fun, and the play involves practically no thoughtful activity. Beyond this level of response, there begins the kind of play whose pleasure lies for the poet in overcoming meaningful and thoughtful (and "feelingful") difficulties, and for the reader in identifying with the poet in that activity."

Rhyming



Mr. Ongley,

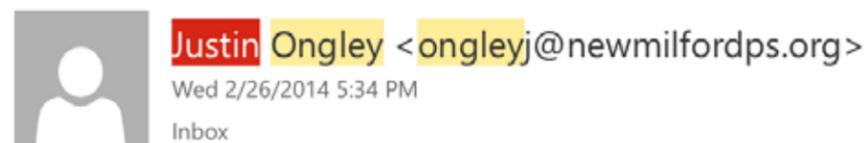
Thank you so much for your advice! Would it be okay if I send you a story or two for you to take a look at? I promise, they are much shorter now. Also, I found I'm sort of basing my structure off Dr. Seuss books. Is that unethical?

Alle

Request: Children's Book



mark as unread



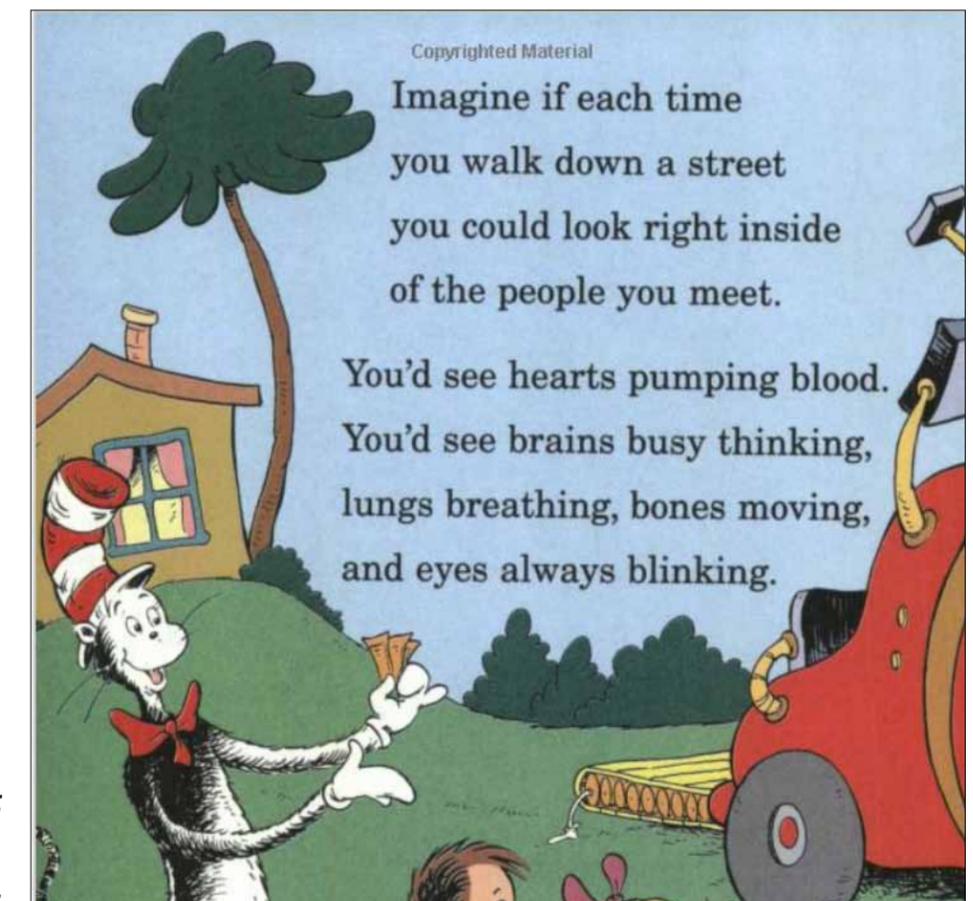
Sure. As far as ethical use... it might be. Consider the following: some of Seuss' books are attempts to challenge himself -- I think Cat in the Hat has only 240 words in it. Or Hop on Pop focuses on prepositional phrases to modify nouns, I think. See if you can come up with some constraint.

Another point to consider: Seuss' father was an engineer. That's why there are so many crazy machines and contraptions in his work. Could you find an angle here?

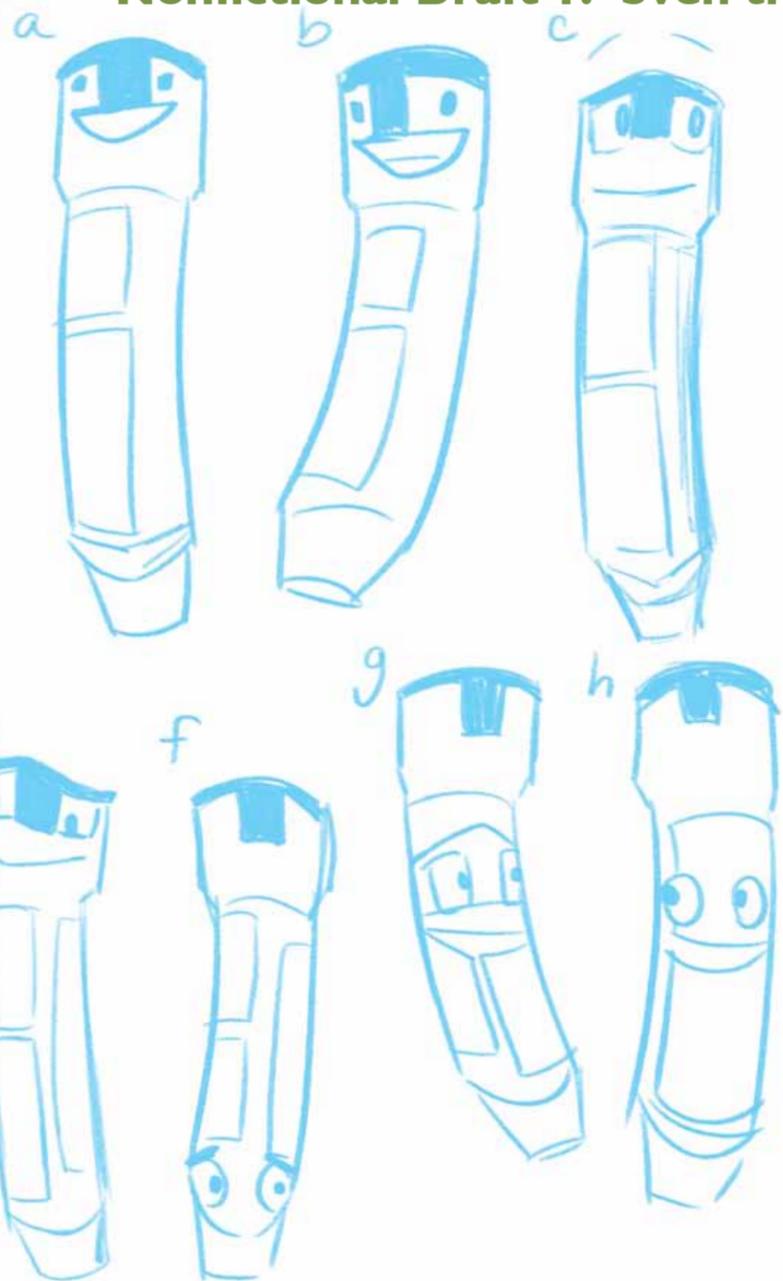
Count the syllables and when to rhyme...

Imagine if each time 6
you walk down a **street** 5
you could look right inside 6
of the people you **meet.** 6

You'd see hearts pumping blood, 6
You'd see brains busy **thinking,** 7
lungs breathing, bones moving, 6
and eyes always **blinking.** 6



Nonfictional Draft I: Sven the EpiPen



I'm Sven the EpiPen
and you really must know
allergies are real
and our knowledge must grow.

What is an allergy you ask?
Well, let me tell you.
It's when your body gets sick
from something you chew.

There are tons of types
let us look at a few.
Quick, don't delay
as I bring up the queue.

Meet Drew who is
allergic to fish.
Please get that
tuna off of his dish.

And this is Sue
she can't eat soy.
Instead she likes to eat
bok choy.

Next up is Will
he gets sick from wheat.
But that's okay
he prefers meat.

Milk is not safe
for Molly to drink.
Put water in her cup
and it's gone in a blink.

All eggs are bad eggs
when it comes to Karl.
Bring one to him
and he will likely snarl.

If it contains peanuts
take it far away.
Otherwise Abby
will feel a bit grey.

If you have an allergy
do not worry

your friend Sven
will help in a hurry.
I have medicine inside
to help you feel better.
Please keep me with you always
and spare me the letter.

The medicine I have
is really quite a treasure.
So keep your allergen
as far as you can measure.

Do not worry.
Do not mope.
There are a few ways
for you to cope.

First, never eat unknown food
not from friends, teachers or even that dude.

Always ask before you eat
what is in that yummy treat.

Never try foods
that make you sick.
Not one taste
or even a lick.

One more thing about allergies
is that they are not something to tease.
But if someone says it's all a trick
Help them understand they're not so slick.

Read them this book
to help and explain
that allergies are not
all that lame.

Good luck my dear friend
and let me tag along
So together we have each other
as we face this lifelong.

Character Design



Anna Rettberg and I looked at *The Brave Little Toaster* and *Adventure Time* when discussing character designs for Sven the EpiPen. The image to the left are her interpretations of the character.

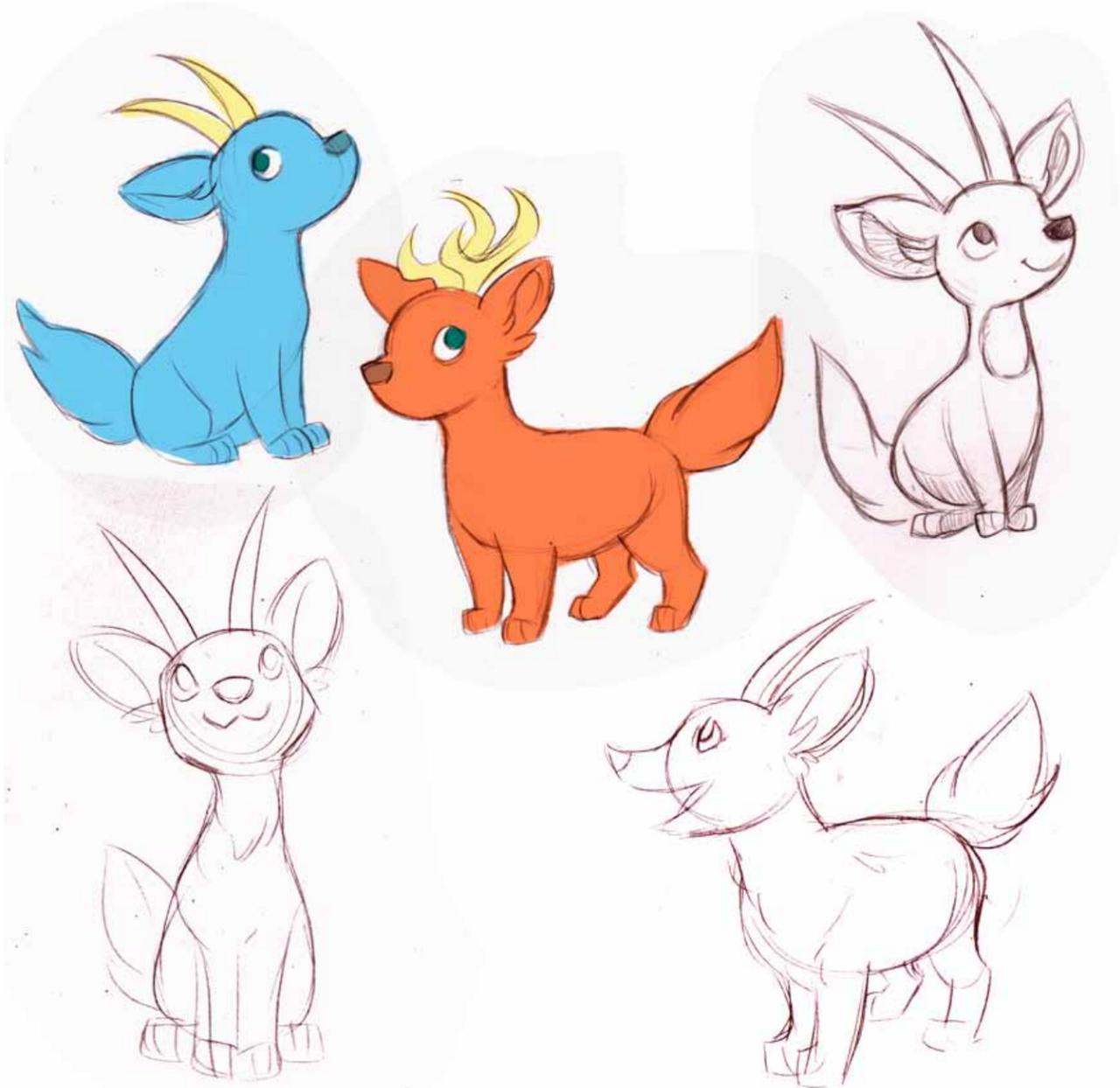


Adventure Time.
Television series.



The above EpiPens with googly eyes are a mock up of what a character-based practice EpiPen might look like.

Fictional Draft 1: The Wolfelopes



I'm Willow the wolfelope
I come with good news.
My friend Wesley has allergies
which makes him my muse!

What is an allergy you ask?
Well let me tell you!
It's when your body thinks foods
are very bad like the flu.

When Wesley the wolfelope eats cake
the milk in the frosting makes him ache
And if he ever eats pb&j
then Wesley will be sick all day.

Because not only is he allergic to milk,
but peanuts too!
So please don't feed him
your secret stew.

Wesley is special
for his food is unique.
When we all eat lunch
some call him freak.

But that is no good,
no good at all!
That is why
I will throw him a ball!

Here I present
the wolfelope chef, Mr. Wu.
He will help me plan
a tasty menu

There will be no allergens
non whatsoever.
So together we plot
to be very clever.

Throw out that yogurt
get rid of the cheese
take out the ice cream
and the pudding please.

To be safe,
I will see no more nuts!
Not in shells
Not in huts.

The preparations continued
without any trouble
Except for one peanut
lost under some rubble.

Wesley walked in and
the party began.
There was music and dancing
as that was the plan.

When it came time for the feast
the plates were dished out.
The menus by Wu
were out and about.

"Thank you!" said Wesley
with a grin past his chin.
"No problem, of course,
you must try the horse!"

The food was so good
the wolfelopes laughed
who needs milk and peanuts
when you can have craft.

Just at that moment
a peanut appeared.
"Oh dear!" said Wesley
of this food he feared.

He pulled out his EpiPen
ready for action.
But his pack jumped in
prepared for extraction.

The day was saved
thanks to his friends.
Wesley felt happy
to have a good end.

The wolfelopes won
as the peanut had lost.
The party continued
at a very low cost.

Correspondence with a Mother of a Non-allergic Child

Alle's Thesis

 Rebekah Aronson <rebekah@aronson.net>
Tue 3/4/2014 10:28 AM
Inbox

← REPLY ←← REPLY ALL → FORWARD ☰
mark as unread

To:

Alexandra Marin O'Neil;

Hi Alle-

As we are celebrating Dr. Seuss this week it was fun to recognize his style in your stories.

Food allergies are such a common problem these days. Many children, their families and teachers would surely benefit from these accessible (and fun) educational materials.

Just a couple of thoughts:

The age range 4-8 is rather broad. 3-5 and 6-8 are typically how stories are targeted so that is something you may want to keep in mind. My sense right now is that the concepts and stories seem best suited for the 6-8 demo. That said, younger children who have allergies (not a general audience) and their caregivers should definitely have access to similar materials but modified slightly.

I love the idea of recipes and lunch box. Again this could work for both age groups with modification.

Just curious, at what age do kids start doing it themselves (or do they?) I know in schools the nurse needs to do it and then they need to follow up with a trip to the doctor/hospital.

Perhaps, first and foremost, knowing what to eat and not to eat is MOST important message to get across. (Sven the EpiPen).

I hope this helps a bit.

Thank you for letting me take a look. Please keep me posted.

Best,

Rebekah

Feedback from an English Graduate

← REPLY ←← REPLY ALL → FORWARD ☰
 Jessica O'Neil <jessica.a.oneil@gmail.com>
Mon 3/3/2014 1:46 PM
Inbox

To: Alexandra Marin O'Neil;

Hey Alle!

I'm so sorry I haven't written back to you until now. I totally forgot about your email and didn't get a chance to read it until now. I hope you had an awesome birthday!

I love this idea. It's so cute. The rhyming stories are adorable. I think that some of the rhymes are a little confusing but that is something we can fix when you decide on which story version you like best. I think Sven the EpiPen is amazing! So creative and adorable! I think making an epiPen a recognizable logo/info-cue(?) is a really good idea.

I think your package could have things other than a book in it. What if you had a poster with pictures of all the things people are allergic to, in black and white outlines. Whoever is allergic to a specific thing can color it in and then a teacher can hang it up in the classroom. ...or maybe make some group activity out of that so they aren't pointed out so much. but anyway, then the poster with the colored in allergin can be in the classroom so everyone remembers what they cannot bring in the class or something.

I understand your concerns about practice epipens. I think the idea of making them less foreign and bizarre is a good idea. but I don't think people would like kids practicing in a classroom since it is supposed to be administered by an adult in schools. But make some activity or cartoony diagram can make it more approachable for kids to understand how it works so they don't just think it is weird and different.

Regarding, "Superman has kyrptonite, but also superpowers. If allergies are the kyrptonite, then what is the superpower?" I love this!

I'm just going to throw out things that come to mind, I don't love any of these ideas but maybe it will help you brainstorm;

superpowers: maturity, grown-up-ness, responsibility, knowledge, food explorer...because they have to find other things to eat?, creative foody, caring friend--because they understand adversity?, I don't know. what have you been brainstorming for this?

OH!--Independence. yeah? Because they have to learn how to navigate the world without the parents earlier than other children they have the superpower of independence. They have been forced into learning how to ask what is in their food. and speak up for themselves. and sit by themselves. Just like all great superheros they have had struggle but have become stronger for it. :) is that helpful?--I think a comic book would be cool. Frame it like a super hero.

I'm so excited for what you're doing. I think you're doing a great job!

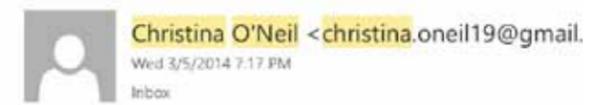
Feedback from Cohocton Librarian



To: Alexandra Marin O'Neil;

I haven't had time to open the attachments, but I will do so tomorrow, I just wanted to let you know how impressed I am with your idea and willingness to research it. I love the idea that "flaws" are actually assets, I believe that emphatically to be the case. (Have you read the Percy Jackson series, his learning disabilities actually help him battle the multitude of bad guys in the books), I look forward to reading them and talking to you later.

Hope



Feedback from Freshman with a Peanut Allergy

Hey Alle,

I definitely love this concept! I do have a few questions though.

Is this instead of the story or just a written aid for the prototype?

how did you get an epi-pen without a rx?

I like the eyes on the top of the prototype best for appearances sake, but the bottom of the epi-pen for practicality's sake since the top eyes may get in the way of the cap. If you had a flat sticker instead that wouldn't conflict with the cap, I'd choose the eyes on the top.

My only concern with the eyes on the bottom of the prototype is that kids may be confused about which end is up. Maybe not, but just a thought. Ultimately, I do like the eyes (wherever they end up) since it makes the epi-pen more friendly and less scary.

Is a wolfelope real? If not, it should be!

I definitely like this one better for a few reasons:

More real life kid foods are in this one (like pb&j, milk, etc.) which I think would really benefit a reader

the concept of one person having more than one allergy is a good idea

It addresses bullying and the pressure of lunch, which is a real life issue for kids

I loved the eighth stanza

And the "pack" understood/took the allergy seriously

Hopefully some of this is helpful! If you need me to clarify anything I wrote just let me know (I've written far too many papers this week).

Christina :)

From: Christina <christina.oneil19@gmail.com>
Sent: Wednesday, March 05, 2014 8:29 PM

To: Alexandra Marin O'Neil
Subject: Re: stories

Sure! I can definitely look at it, and probably 12:30ish? If it's later just text me.

I like the wolfelope a story better too!

I think peanuts and milk/ dairy are good since they're so common, but maybe add something that's becoming more common like stomach pains from gluten?

I'm not too sure about whether or not you should add an imaginary allergy like in the other story or just add more relatable ones. How did your professors respond to the imaginary one in the original story? That's definitely your call.

The only asset I can think of is the epipen as some sort of super liquid adding strength to the weak. But I think it would be hard to not give kids the wrong impression by accident of what it's for.

Feedback from Ms. Bird, Student Music Teacher

Main points from a two-hour in-person interview.

- Language such as “not safe” can be really scary for kids and cause them to hate the story.
- It is good to make the peanuts the enemy.
- Not a good idea to use Sven the practice EpiPen in the classroom, but just at home.
- “A ball” is a unfamiliar term to kids, make sure the words are backed up with strong visuals.
- Always end the story by spelling out the moral or the main takeaway.
- Add a verse after “extraction” for Wolfelopes.

Feedback from Dr. Botticello, Food Anthropologist

Main points from 40 minute Skype interview.

- Consider brand value vs labeling
- Rudolf the Rednose Reindeer and Dumbo both had flaws that became assets.
- Barbie Dolls are iconic even though some are black, white, male, female, etc. Look at having different Wolfelopes.
- Social stigma or the allergy becoming more normal

Remembering My Goals

I want to empower children with allergies so they..

- feel more confident
- don't feel like “why me?”
- feel supported

The kit should serve situations at home and in school, though some objects might be more suited to one or other goals.

Phase 2 | Market Research and Design

Bushmates: The World's First Child-Friendly Auto-Injector Protectors



A great tool for storing and carrying Anaphylaxis auto-injectors, Asthma inhalers or other medications.

A case large enough to hold several medications including EpiPen, AnaPen or Twinject epinephrine auto-injectors, Asthma Inhalers, antihistamine pills and liquids, etc.



Clearly identified as a medical product, easy to find in an emergency.



Not only a great tool for storing and carrying your medications, but also a great "friend" for teaching your child about their anaphylaxis.

- Fully insulated multi-layer construction
- Easily identified as a medical product
- Key ring on the front to hang or attach ID tags etc
- Soft and kid friendly outer skin
- Four Protective Layers
- Thermal silver inner layer
- Air pocket core
- Another thermal silver layer
- Plush outer skin



Activeaide's EpiPen cases are designed in consultation with medical and allergy specialists and hospitals. With parents of children with Anaphylaxis and Asthma and also with end product users.

Bushmates Series Medical Holders (above), Monster pencil case from Etsy (left)



Hungry Cat pencil case from Etsy

THE LUNCH BOX

- Food will come out of the mouth.
- Compartment for EpiPen (even if not allowed in schools, could apply elsewhere).
- Labels for mom to write "PB&J" so the child gets used to reading about what they are eating.



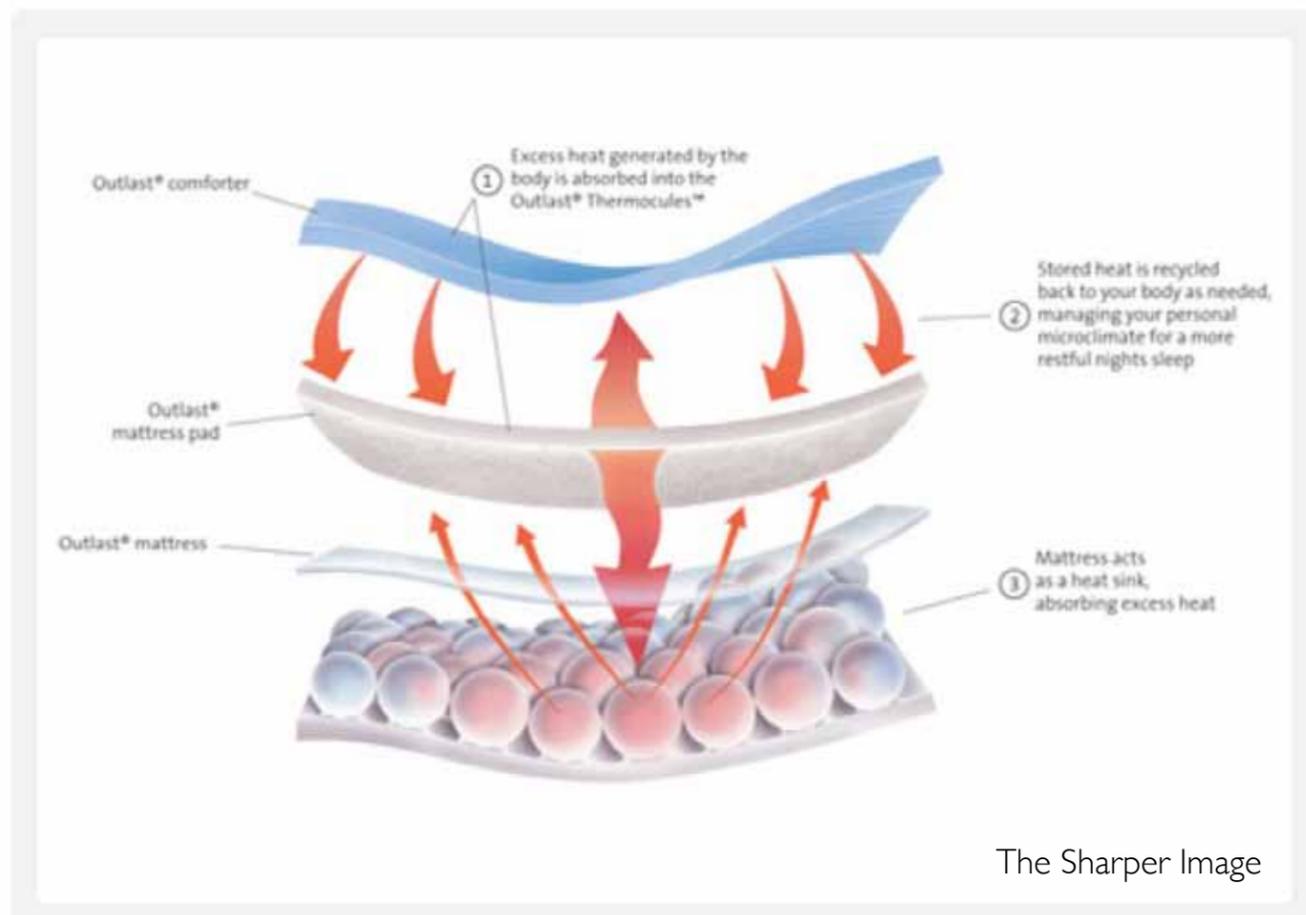
Disney's Mealtime Magic

The screenshot shows the website for Lunchboxes.com. At the top, there is a navigation bar with "CUSTOMER SERVICE" and "CONTACT" links. The main header features the "Lunchboxes.com" logo in a blue and yellow box, with the tagline "Your One-Stop Lunchbox Shop" below it. A red banner on the right indicates a shipping cost of "\$6.". Below the header, there is a search bar with the text "search our store" and a "GO" button. A "Do Lunch" button is also visible. The bottom section shows a collage of various lunchboxes, including one with the text "I LOVE ME" and a picture of an apple.

The EpiPen should be stored at a temperature between 59-86 degrees Fahrenheit.

Temperature Regulating Pillow Case

Originally developed for NASA to help astronauts contend with the temperature swings of space, Outlast fibers in this pillow case set contain millions of invisible microcapsules, Thermocules, that keep you cooler by absorbing your excess heat, then releasing when your skin temperature drops. When your skin temperature drops they release the stored heat to keep you from getting too cold. Never wake up with a soaking pillow case again – with Smart Temp Pillow Cases.



3M™ MonitorMark™ Time Temperature Indicators

Chat Unavailable
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[Order Online](#)

3M™ MonitorMark™ Time/Temperature Indicators monitor product temperature exposure through the entire supply chain. They provide a non-reversible record of temperature exposure that is accurate and easy to interpret.

3M™ MonitorMark™ Time/Temperature Indicators are available in a variety of time and temperature ranges, and may be used to monitor the cold chain for perishable food products, vaccines, blood and many other applications.

Product Construction

Rectangular, flat laminate with layers of paper, film, adhesive and other components

Blue compound run-out to estimate how long your product was above the threshold temperature

Removable film activation strip

Pressure-sensitive adhesive allows attachment to almost all clean, dry surfaces

Uses

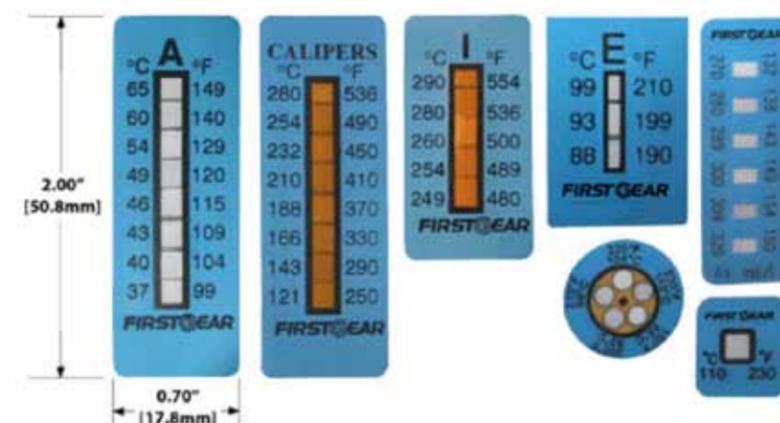
Monitoring temperature exposure of temperature-sensitive products during transportation and storage (for example, frozen or refrigerated foods, drugs, vaccines, medical diagnostic kits, blood, blood products, and intraocular lenses)

Typically placed inside insulated shipping boxes near the temperature sensitive product

The indicators monitor temperature exposure, not product quality. Their purpose is to signal when product quality should be checked due to temperature exposure.

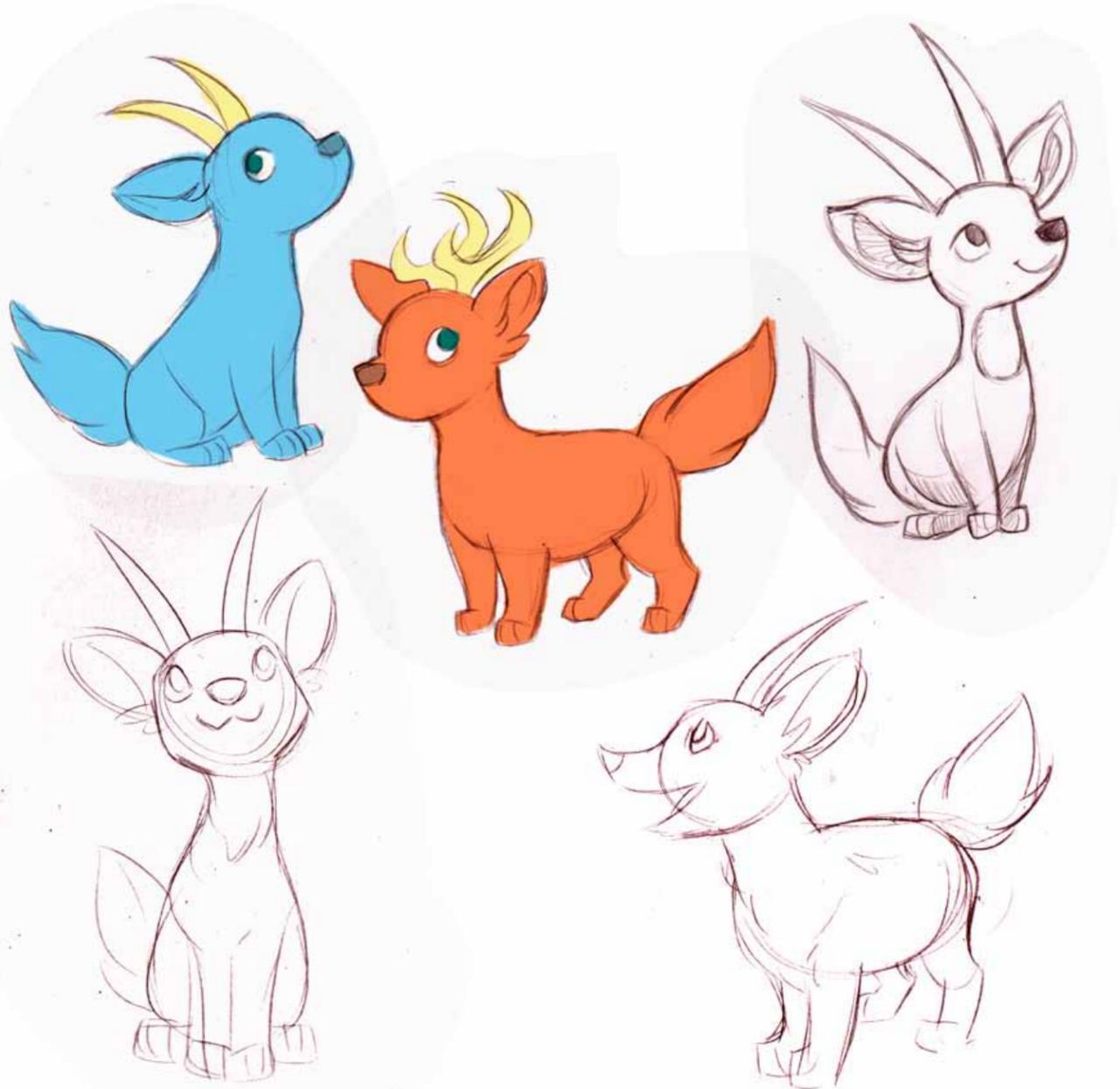
TEMPSTRIPS.COM

Temperature Measuring Indicators



When children need to start carrying their own EpiPen, there should be a safety net. If a parent can see if the EpiPen was compromised, then that would put less pressure on the child.

Post-Feedback Revised Draft: The Wolfelopes



I'm Wesley the wolfelope
and I want you to meet,
my best friend, Willow,
who is really very sweet.

Her dream is to cook
amazing dishes of food.
But it is not easy
cooking for the rude.

She tries to make food
that everyone will like
and that is much harder
than riding a bike.

Especially since
her meals can be scary.
Once she tried to make
fish with a cherry.

I'm allergic to milk
and peanuts as well.
So if she makes pizza
then I try not to dwell.

Instead I bring a lunch
full of delicious treats.
Some call me picky
but milk is worse than beets.

In fact, I love my lunch
because it is special.
Made with love just for me
and that is essential.

I am not the only one
who has a unique diet.
Willow keeps a long list
so allergens can't riot.

Giles the wolfelope
cannot eat wheat.
Willow must know that
when she cooks his treat.

Her experiments
are sometimes mysterious.
When that happens
Willow gets serious.

She started to label
every dish that she shares.
It takes her some time
so you can tell that she cares.

Still, I will not take a bite,
unless an adult says it's alright.

Willow is the best
because together we have fun.
I tell her of new foods
when she can think of none.

Since I eat different foods
than other wolfelopes,
I know more about
fruits called cantaloupes.

This gives her ideas
of new snacks she can make.
After trying the fruit,
she decided to bake.

Willow cooked all day
and into the night.
When she came back
she was quite the sight.

There were stains on her
and fruit in her ear.
She tried to get it out
because she could not hear.

When she did,
we tried her concoction.
It was so good,
she put it up for auction.

Thank you Wesley
for sharing your fruit.
If it weren't for you,
I'd be eating a boot.

Thanks to Wesley
everyone was glad.
Wolfelopes now love cantaloupes
making it a fad.

Feedback on the Newest Revision

← REPLY ← REPLY ALL → FORWARD ☰



Christina O'Neil <christina.oneil19@gmail.com>

Thu 3/6/2014 1:07 AM

Inbox

mark as unread

To: Alexandra Marin O'Neil;

I like the two story idea!

I'm not sure which version I prefer, but I think it depends on which you feel conveys more empowerment.

The first one seemed more like I was with Wesley in the story, and I wanted to continue reading to find out what would happen to him. It seemed focused on options, the importance of supportive friends, and bullying. Precautions were listed too, which was a bonus. it could always be used as a sequel or a prequel if you decide you want one.

The revised version appeared to convey more about the two characters, asking adults, options and independence. I like that his lunch made him feel "special" rather than a target for bullying, and that the two friends could bond over their new concoctions.

I do like both, but I think the final one will depend on what you are looking to communicate. Ultimately, I think the revised version will work best since Wesley's voice was brought out more, and he did seem more empowered too.

Oh, and I liked the peanut famine scenario though it may be too late or unhelpful to work an entire new topic in.

Hopefully I've been somewhat helpful, and let me know how the rest of the project goes!

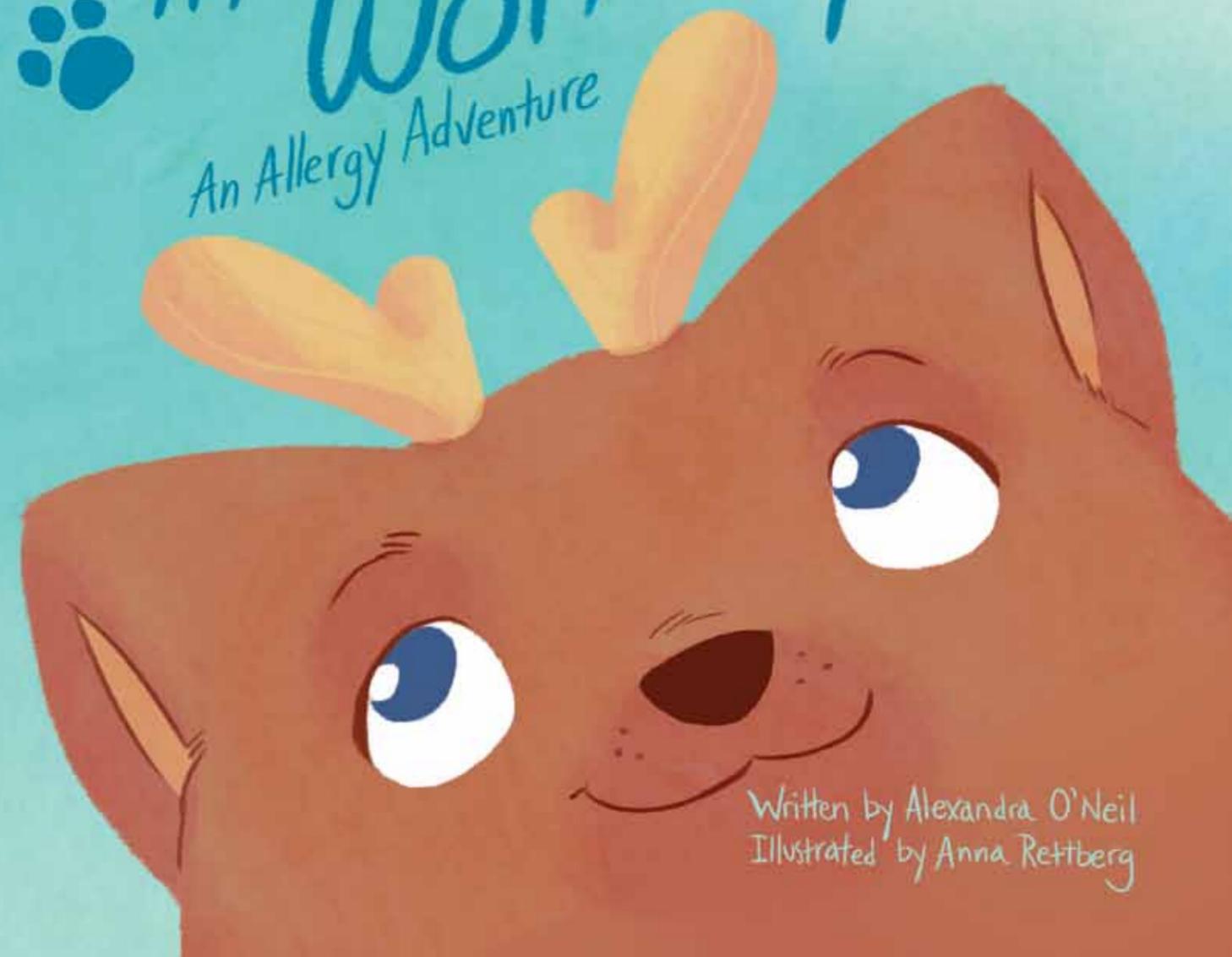
Phase 3

Meet the Wolfelopes!



The Wolfelopes

An Allergy Adventure



Written by Alexandra O'Neil
Illustrated by Anna Rettberg

Phase 3 | Persona

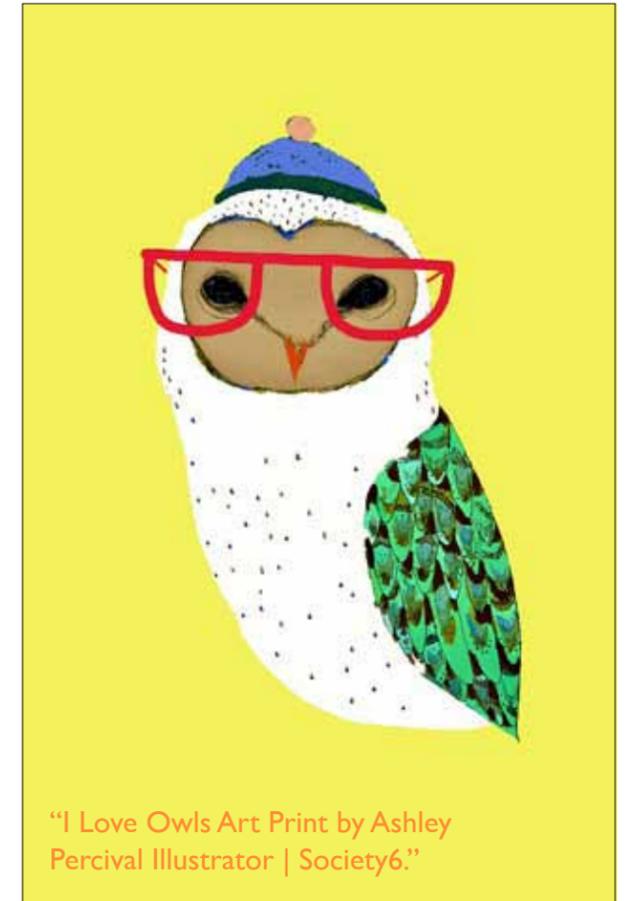
Meet Alice!

6 years old
Severe soy and egg allergy
The teddy bear's name is Oliver.

Alice is an older sister to a two-year old brother, James. Her favorite color is orange. She loves animals and nature. When she grows up, she wants to be either a musician or a botanist like her father.



"Girl and Her Teddy Bear."
Flickr: Kelsey Z.



"I Love Owls Art Print by Ashley Percival Illustrator | Society6."

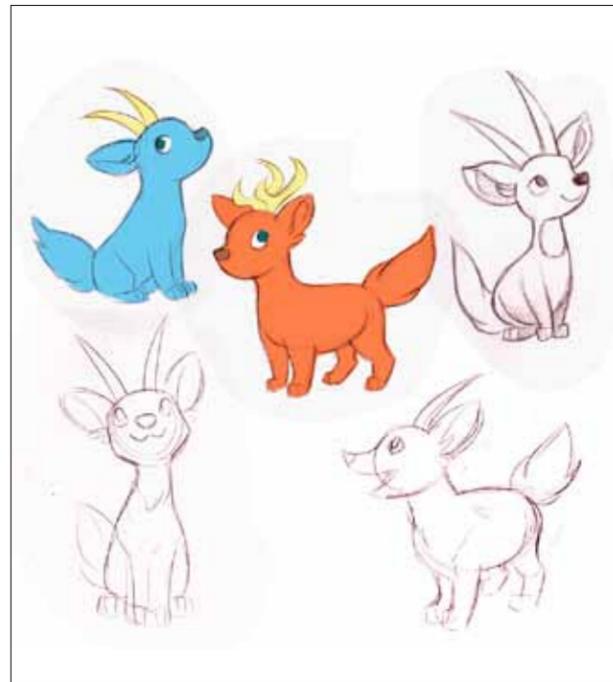


These are some of Alice's favorite things.



Beatrice says with a worried look, “That sounds scary. I hope you never accidentally eat acacia leaves so you never have to use your EpiPen.”

Beatrice the Beautiful Butterfly - Fictional Story



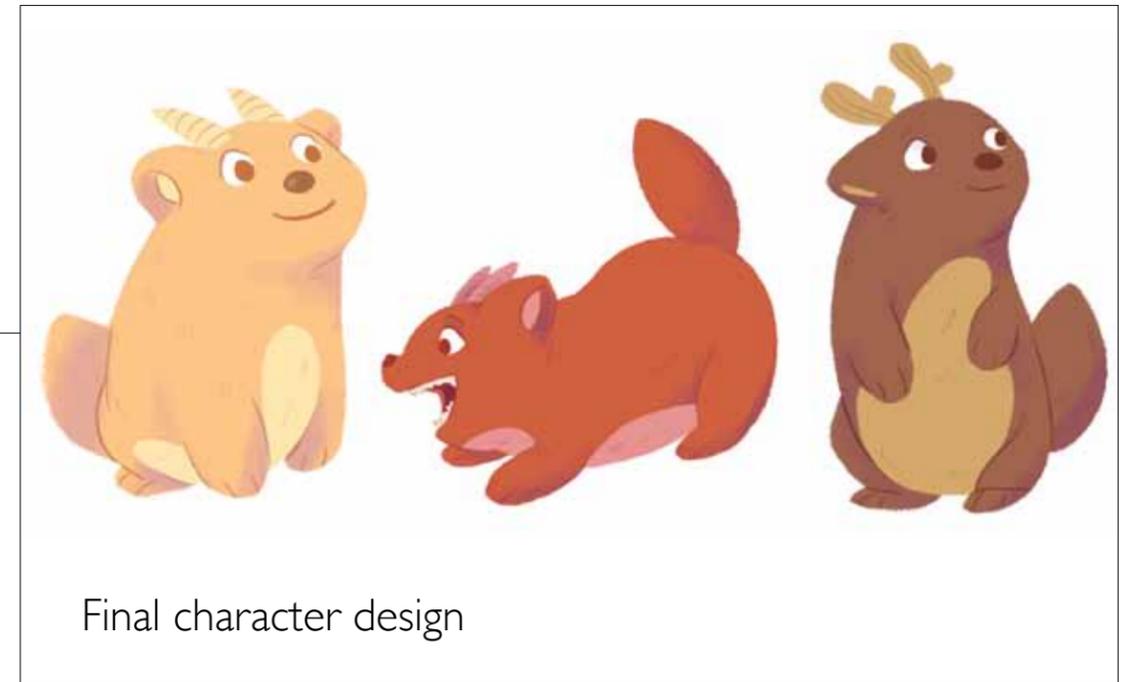
I'm Willow the wolfelope
I come with good news.
My friend Wesley has allergies
which makes him my muse!

The Wolfelopes - Fictional Story



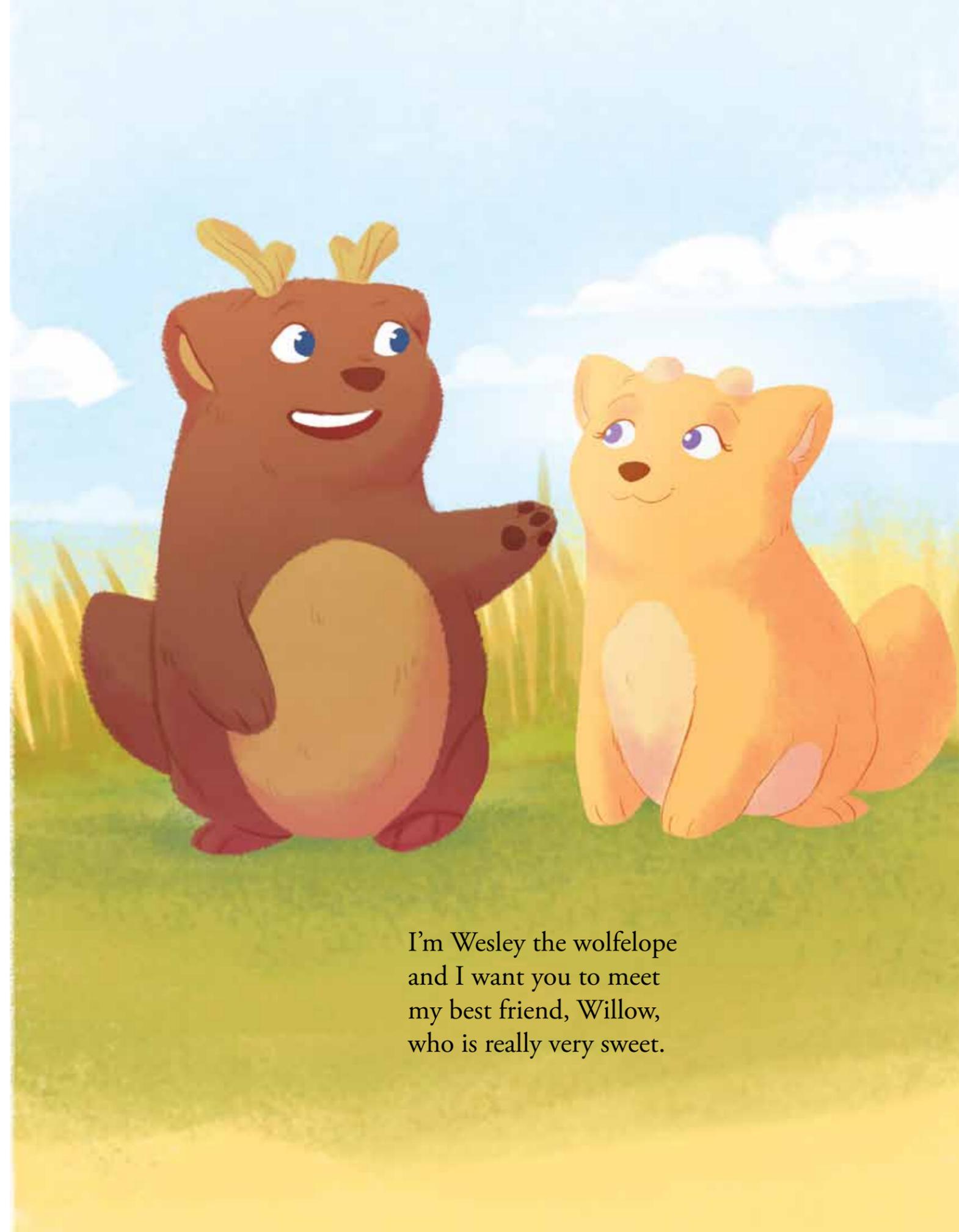
I'm Sven the EpiPen
and you really must know
allergies are real
and our knowledge must grow.

Sven the EpiPen - Nonfictional Story



Final character design

*Note that the illustrations were done by the illustrator for the book, but ideas behind the design came from me.



I'm Wesley the wolfelope and I want you to meet my best friend, Willow, who is really very sweet.



Her dream is to cook
new amazing dishes.
But it is not always easy
to serve everyone's wishes.

She tries to make food
that everyone will like
and that is much harder
than riding a bike.

I'm allergic to milk
and wheat as well.
So if she makes pizza
then I try not to dwell.

Because,
if there is milk in the treat,
it is one I cannot eat.

Instead I bring a lunch
full of delicious snacks.
None contain allergens
so then I can relax.

In fact, I love my lunch
because it is special.
Made with love just for me
and that is essential.

Willow does like to make
treats that I can eat.
So she had me teach her
how I make a sweet.

Now Willow labels
every dish that she shares.
It takes her some time
so you can tell that she cares.

Still, I will not take a bite,
unless an adult says it's alright.

Willow is the best
because together we have fun.
I tell her of new foods
when she can think of none.

Since I eat different foods
than other wolfelopes,
I know more about
fruits like cantaloupes.

This gives her ideas
of new snacks she can make.
After trying the fruit,
she decides to bake.

Willow bakes all day
and into the night.
When she comes back
she is quite the sight.

Everyone gathers around
as she gets out the label.
She reads off the ingredients
that will be on the table.

"My latest treat contains
no milk and no wheat.
But just in case,
ask Mr. Pete!"

When Willow sits down,
we try her snack.
It is so good,
I eat a whole stack.

In fact, all of the wolfelopes
love the cantaloupes.

Mr. Pete declares her
Official Pack Chef.
The cheers are so loud
I think I'll go deaf.

Then the Wand of the Wolfelope
is placed in my paws.
"You, my dear Wesley,
shall help with a cause."

"I, Mr. Pete, proclaim you
Keeper of Ingredients.
Help our pack using
your knowledge of nutrients!"

Together Willow and I
get to use our skills
to cook for the pack
which gives us such thrills.

Today my allergies
saved the day.
If it were not for them,
food might seem gray.

Since I eat other food
than the rest of the pack,
I am able to teach them
on what else they can snack.

I must be the luckiest
wolfelope in town
because I have a friend
who never lets me down.

Ice Breaker Prototype

Instead I bring a lunch full of delicious snacks. None contain allergens, so then I can relax.

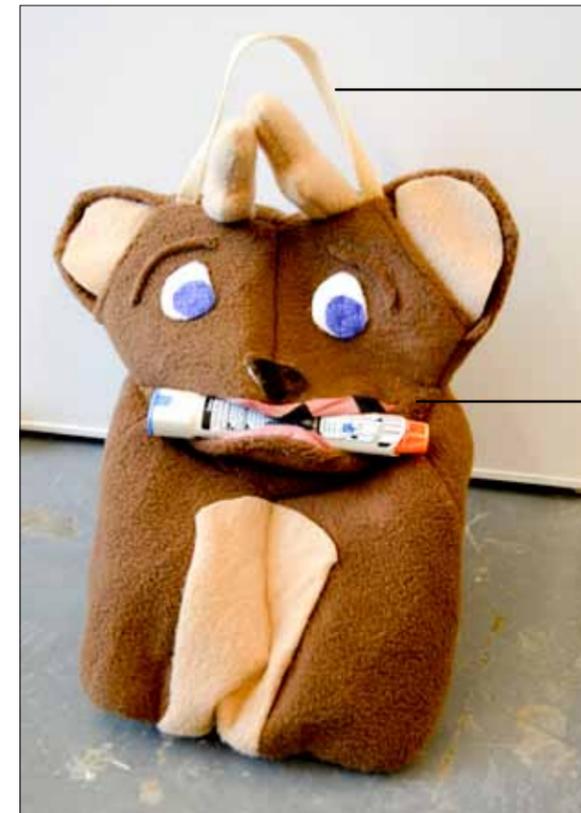


In fact, I love my lunch because it is special. Made with love just for me and that is essential.



• Personalized ID Label

• Zipper



• Handle

• A place to leave notes or hold EpiPen for a short time.

- Made of primarily synthetic fleece and vinyl.
- Machine washable.
- **Note:** this is not the final prototype

Lunch Box

- Subtly trains kids to be aware of their allergy throughout the day.
- Indicates to teachers if a kid has an allergy.

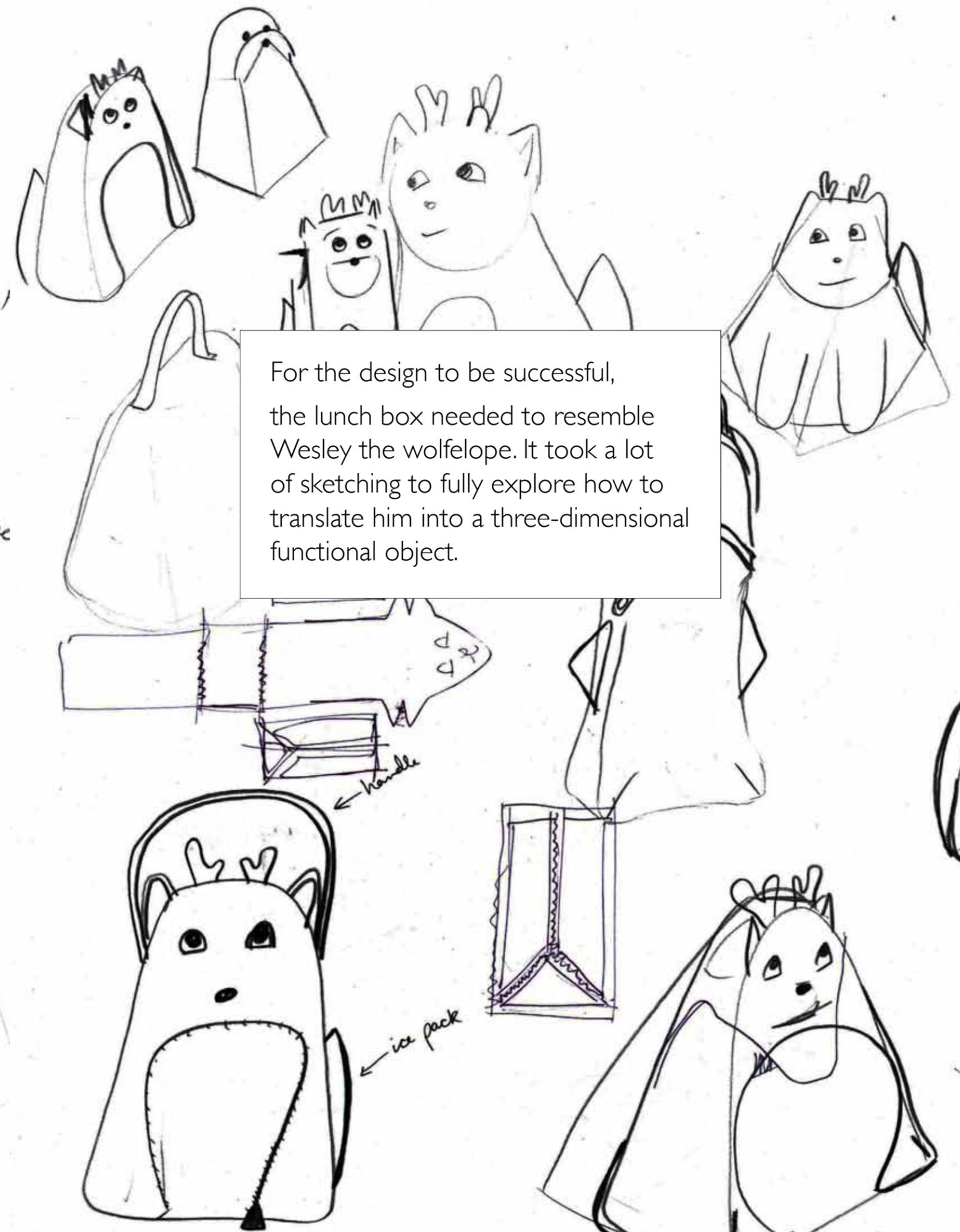
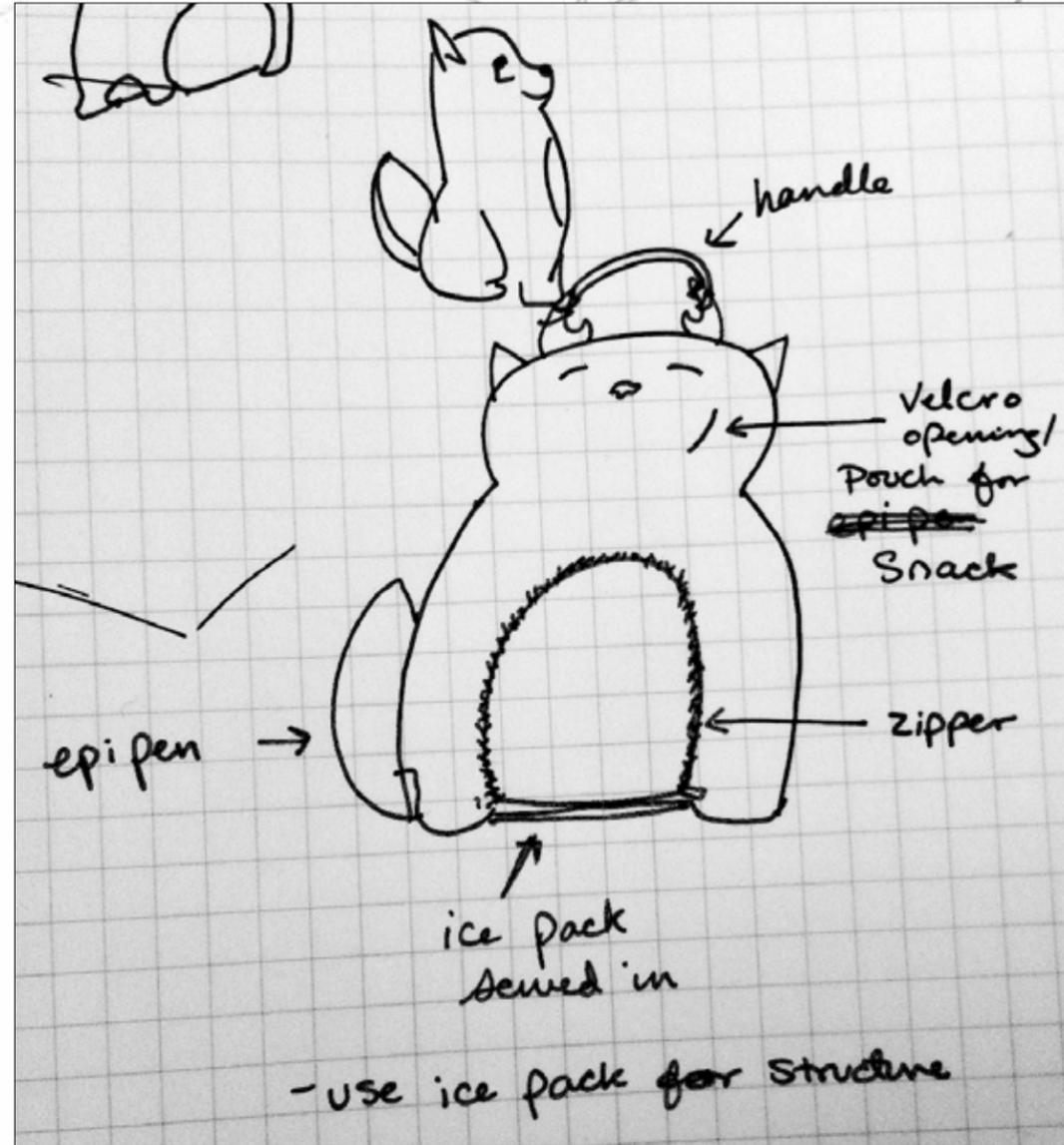


Then the Wand of the Wolfelope
is placed in my paws.
“You, my dear Wesley,
shall help with a cause.”

“I, Mr. Pete, proclaim you
Keeper of Ingredients.
Help our pack using
your knowledge of nutrients.”

Phase 3 | Developing the Lunch Box

Initial Sketches



For the design to be successful, the lunch box needed to resemble Wesley the wolfelope. It took a lot of sketching to fully explore how to translate him into a three-dimensional functional object.

ISO

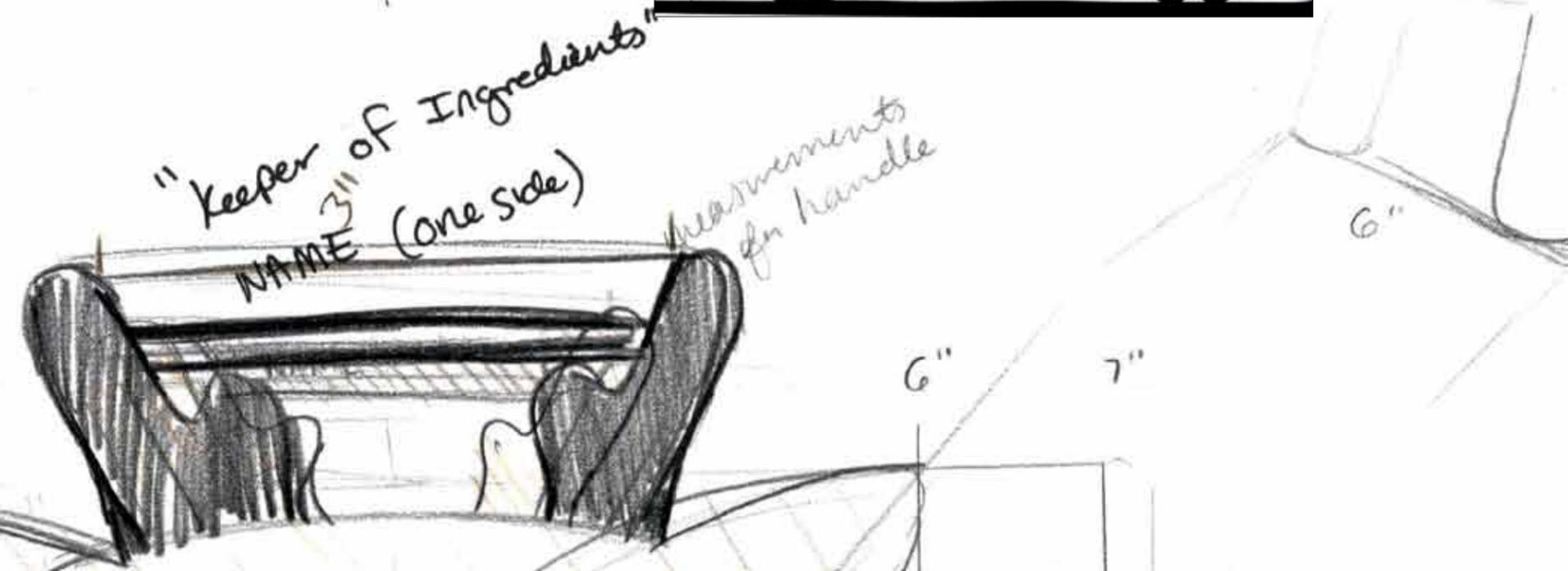
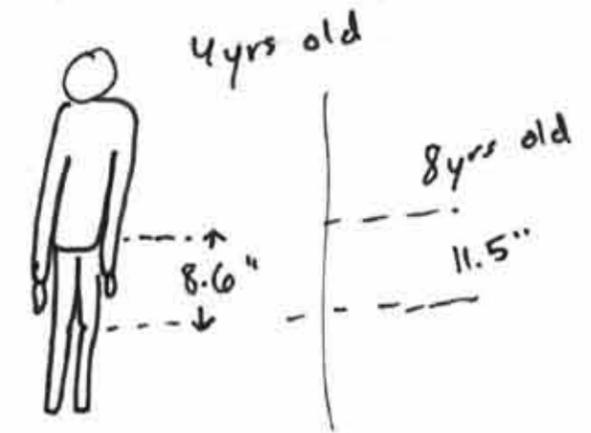
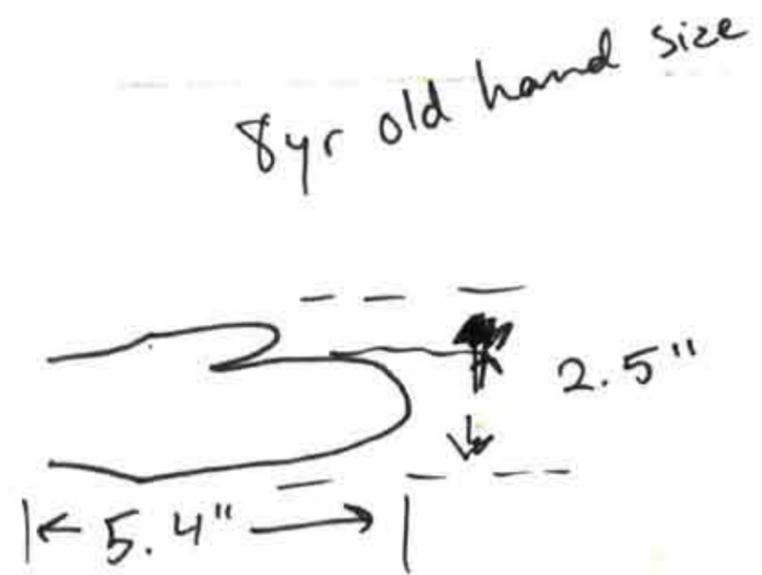
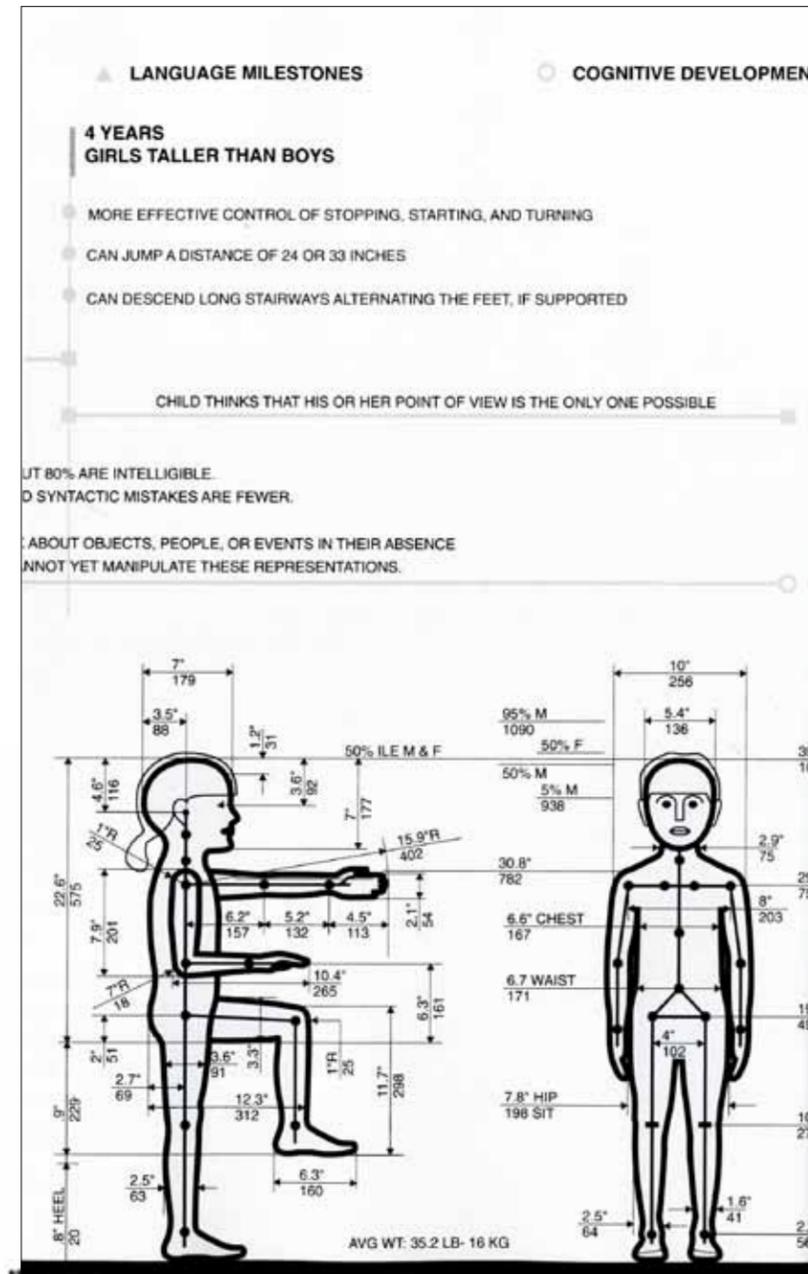
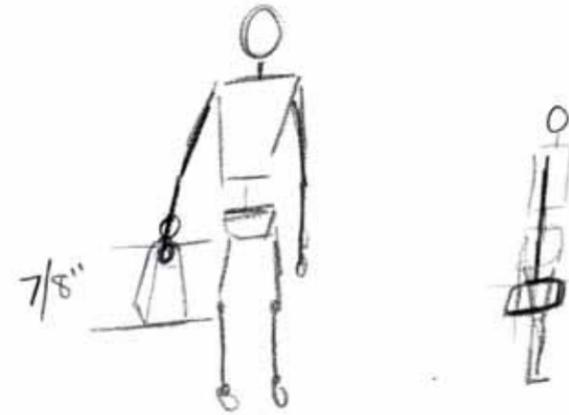
More Sketches



Phase 3 | Developing the Lunch Box

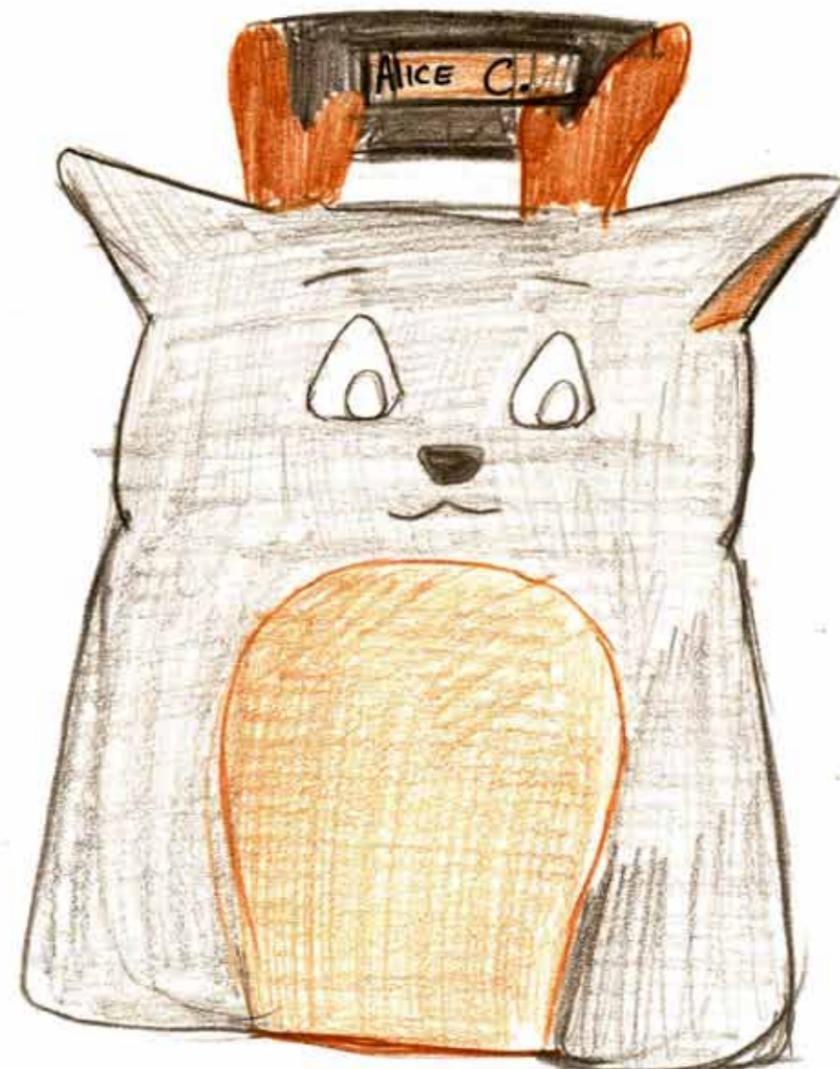
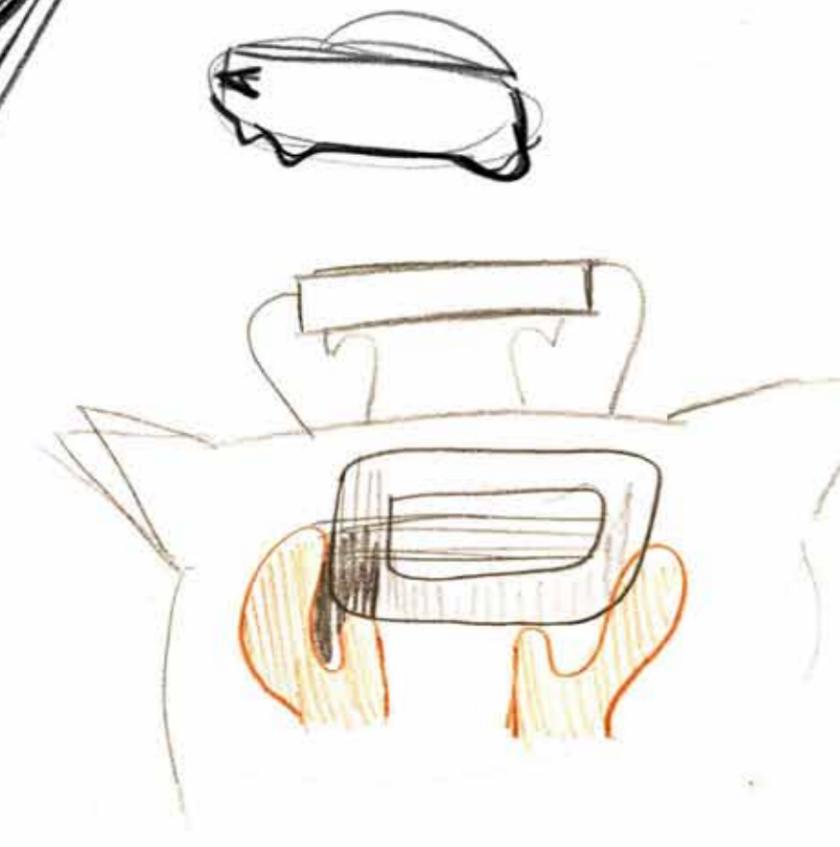
Human Factors

The handle dimensions are based on the hand size of an average eight-year old. The height of the lunch bag is based on the hand to knee dimensions of an average four-year old child.



Sketches that Consider Human Factors

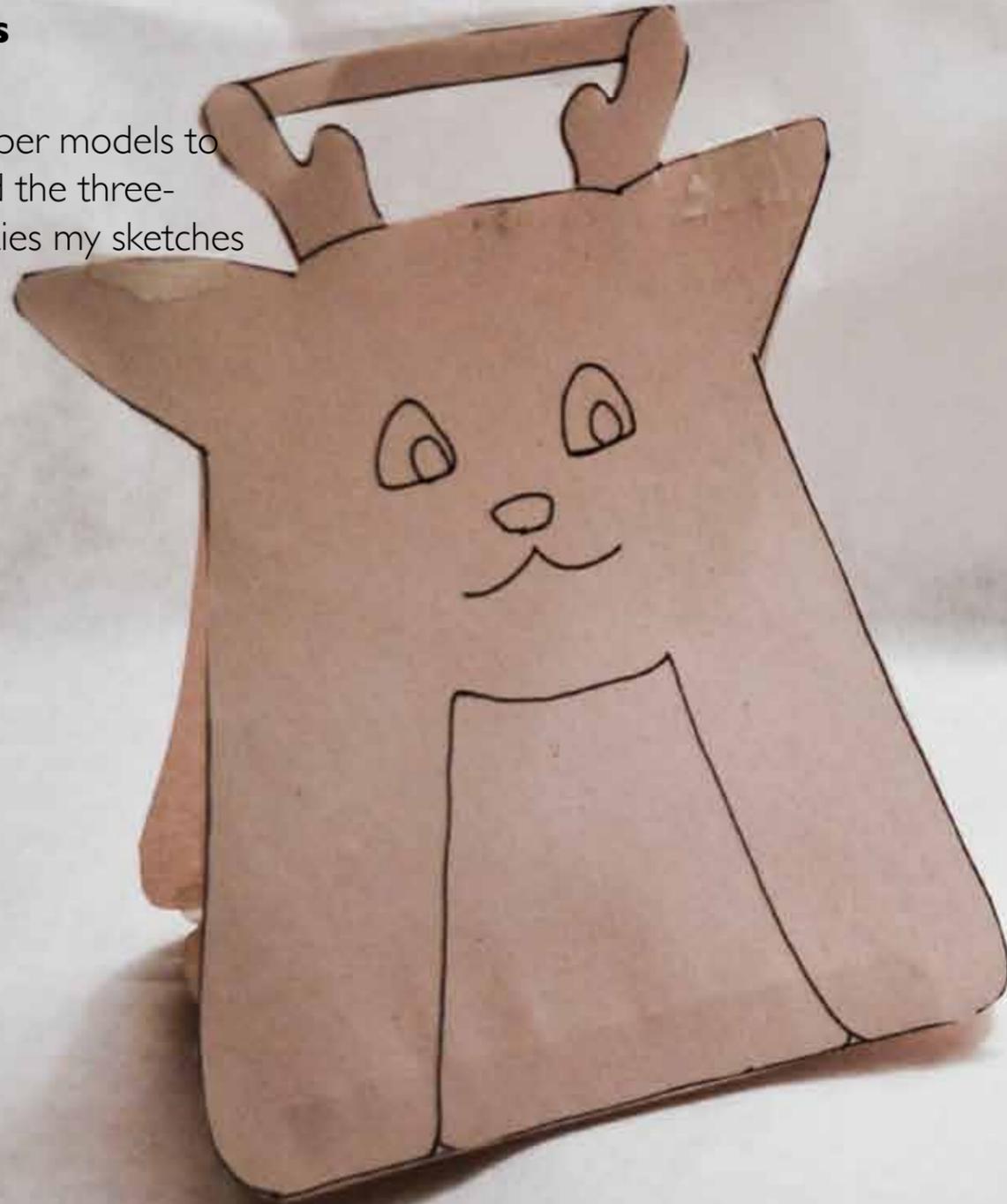
The character is taller than he is wide, but for the sake of human factors, most lunch boxes are wider than they are tall. These sketches show my exploration of tapering the form to create the illusion of height. In the end, I got rid of the taper.



Phase 3 | **Developing the Lunch Box**

Sketch Models

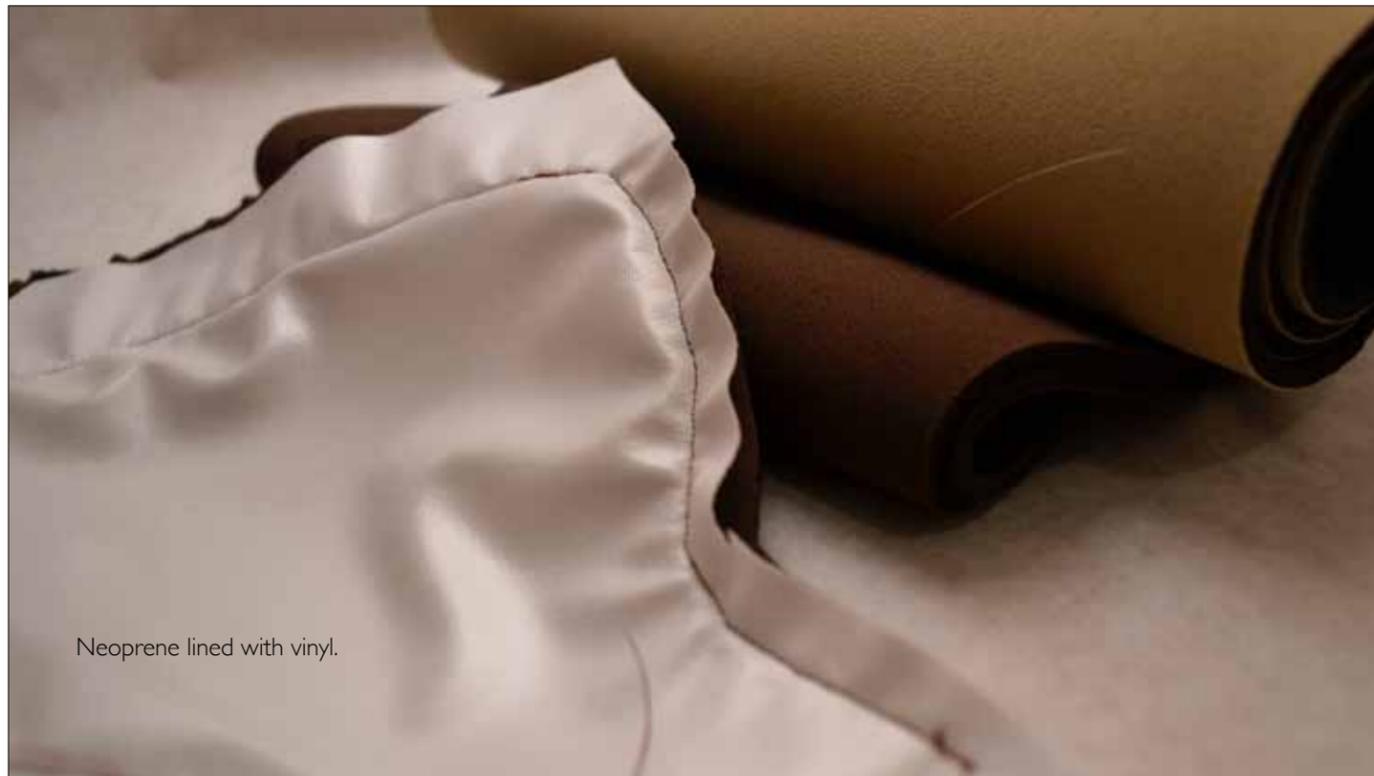
I made several paper models to better understand the three-dimensional qualities my sketches might adopt.



Phase 3 | Developing the Lunch Box

Materials

The material for the first prototype was polar fleece lined with vinyl. Since then, I explored neoprene as well as, using primarily vinyl. Neoprene is soft like a stuffed animal and insulates well, it is the same material used for wetsuits, but the material is expensive and difficult to acquire. Vinyl, also known as plastic leather, is more common than neoprene and is easily cleaned. Further, vinyl's leather-like qualities helps to make Wesley look more natural.



Neoprene lined with vinyl.



These are the final materials.

Form

After exploring various forms, I settled on working from an existing lunch box with my own alterations.



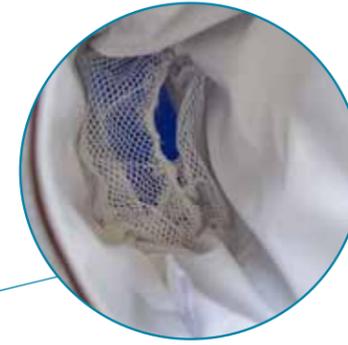
Final design completed in collaboration with fabricator, Jennifer Meyers.



Features of the Lunch Box



Wesley, the wolfelope lunch box is designed to have the same features as any other lunch box with added considerations for children with food allergies.



The tag on the inside of the lunch bag contains instructions for washing the vinyl.

The inside of the lunch box contains a pouch for the ice pack.



There is a pocket behind Wesley's ears for special notes written by a carer.

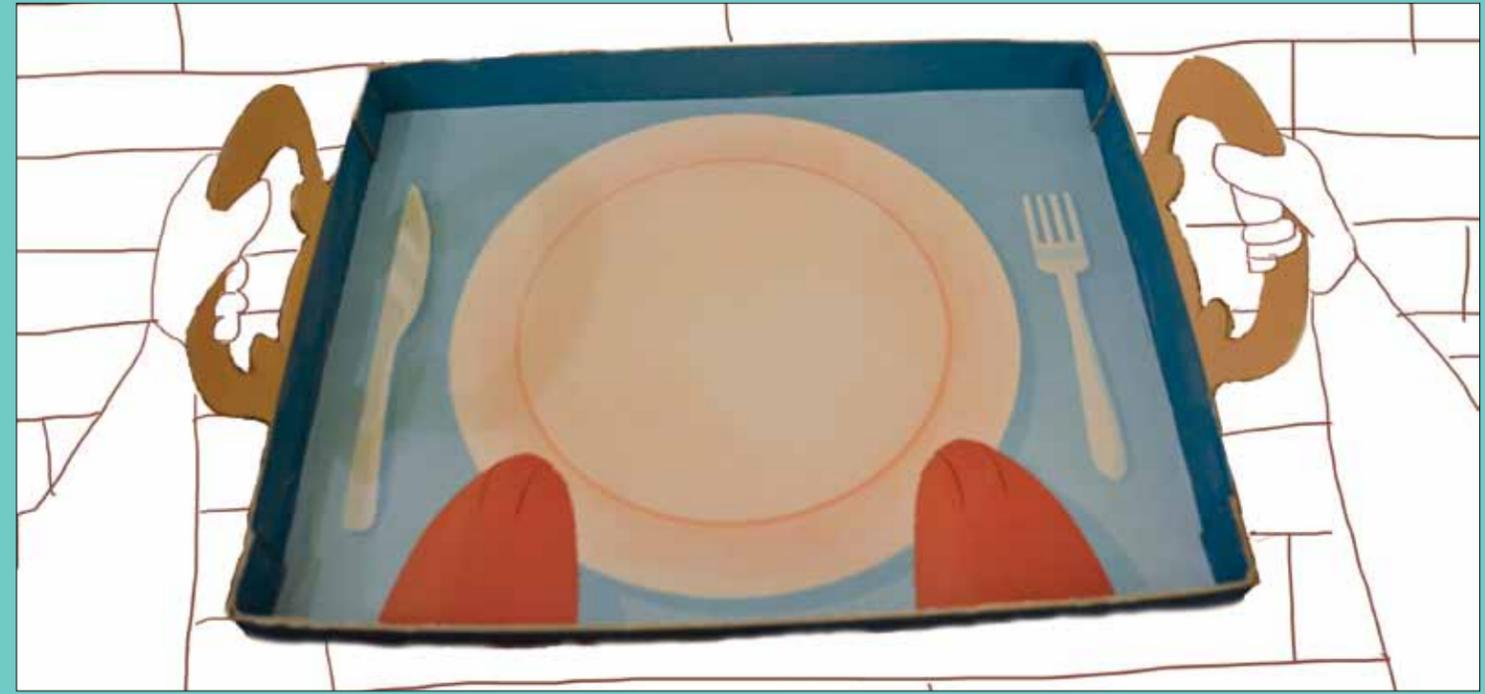


The tail is a pouch for the auto-injector. The intention behind using the tail as a pocket is to keep the EpiPen away from the cold of the ice pack. Beneath the tail is a name tag and space for emergency contact information that plays along with the narrative of the story.

Phase 3 | Developing the Packaging

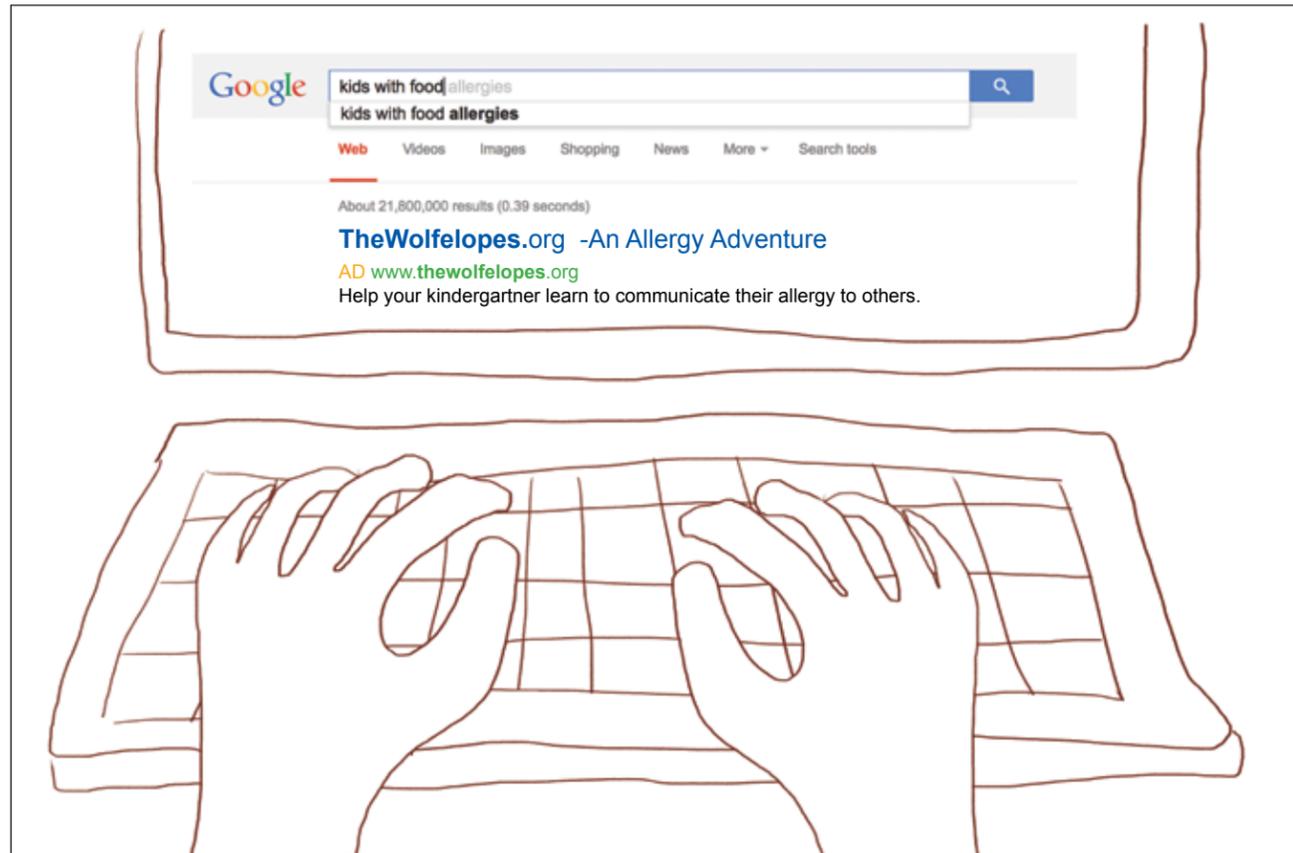
Sketch Models

The lid becomes a tray and the bottom becomes a poster with a prompt for illustrating yourself into the story.



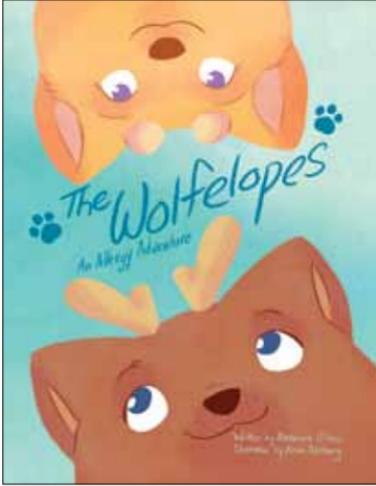
Final package design.

Phase 3 | Storyboard Interaction



Search Books the wolfelopes Go

Look inside ↓



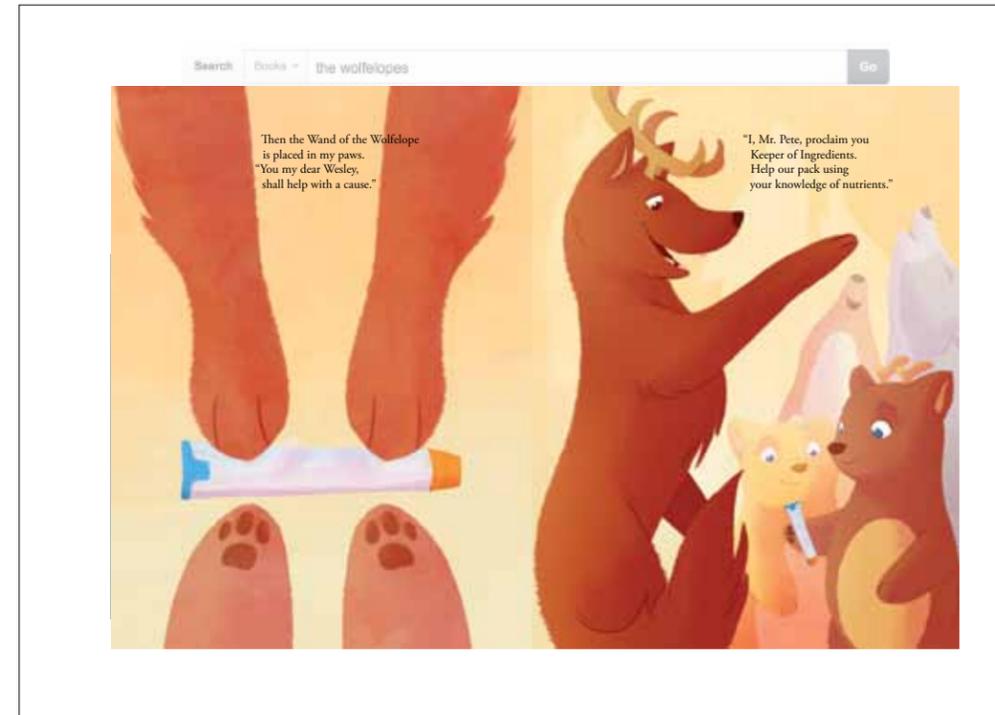
The Wolfelope Kit
by Alexandra O'Neil
Illustrated by Anna Rettberg

Sold By: thewolfelopes.org
Includes: book, lunch box, poster, toy tray

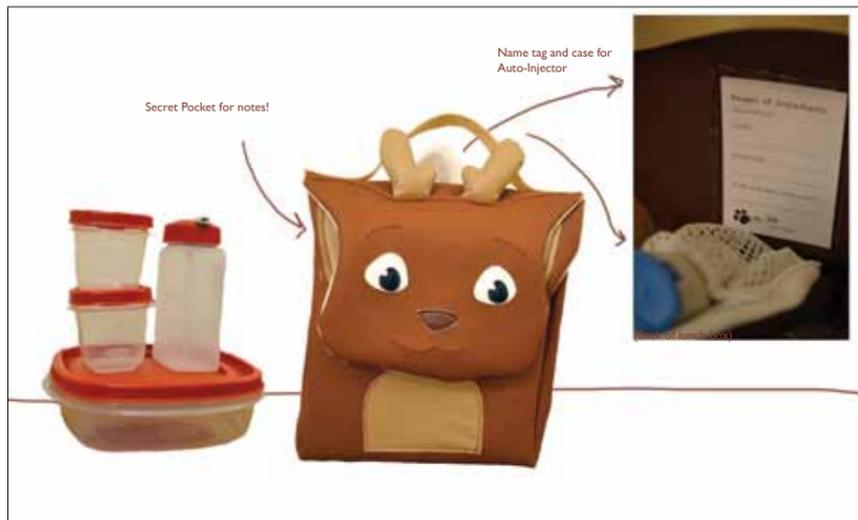
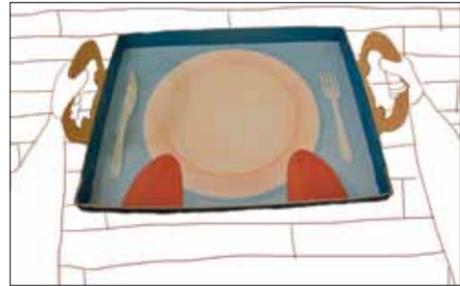
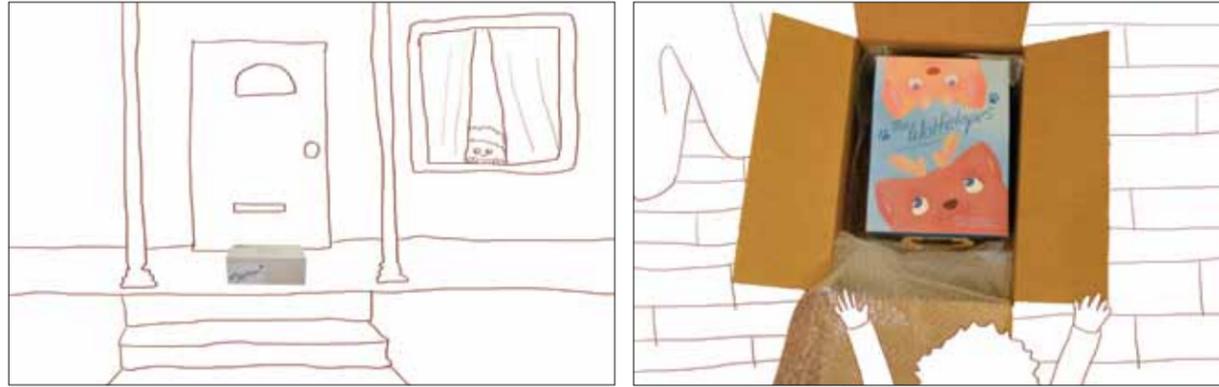
\$49.99 [Add to Cart!](#)

Meet Wesley and Willow as they take you on a journey of friendship! Willow loves to cook for the wolfelope pack, but it is not always easy to think of new ideas for recipes. Learn about how Wesley's food allergies saves the day.

"The Wolfelopes do a wonderful job of illustrating the importance of a team approach to successful avoidance of food allergy triggers."
-Anitha Shrikhande MD,
Westside Allergy Care, PC, Rochester, NY



Phase 3 | Storyboard Interaction





Conclusions

How the Design Goals were Met

There are several design goals that informed the final design and they were addressed in various ways.

To be successful, the design needed to encourage children to take responsibility over their own health. The book and lunch box are designed to equip children with allergies with tools to help them understand and communicate with others about their food allergy. Both objects are designed to live both in the home and in a classroom setting. In this way, the parent plays a role in the child's experience with the objects, but the book and lunch box continue to serve their functions in the parent's absence.

One of the goals of this project is to replace the negative connotations surrounding food allergies with more positive ones. The wolfelopes are playful, happy characters that support one another. Wesley never views his allergy as a hindrance, but as an opportunity to see the world differently. Further, the objects are presented with playful packaging to make learning about a difficult topic feel more magical and exciting than burdensome.

The kit promotes the growth of healthy habits in a few ways. The wolfelope story suggests a new way of thinking about allergies including how children with food allergies should not only support their peers who do not share their health challenges, but also, they should contribute positively to the world around them. The lunch box uses Wesley as a symbol to remind the child with allergies to be aware of foods they need to avoid during mealtimes. Eventually, when the child gets older, they will not require Wesley as a visual reminder to avoid their allergens.

The objects serve different functions, but work together to reinforce the story. The rebranding of allergies cannot be accomplished through the existence of just the book or the lunch box. The design uses the entirety of the kit to not just make food allergies more kid friendly, but also to transform the way allergies are perceived, resulting in the changing of experiences. The kit is not just a collection of objects, but they are props for a new, more successful story about how children cope with food allergies.

"3M™ MonitorMark™ Time Temperature Indicators." 3M™ Food Safety Website – Product Catalog: . N.p., n.d. Web. 17 Mar. 2014.

Arbuthnot, May Hill, and Zena Sutherland. *Children and Books*. Glenview, IL: Scott, Foresman, 1972. Print.

An English teacher, Mr. Justin Ongley at New Milford High School in CT teaches a class on writing children's books. He lent me a copy of *Children and Books*. This book informed me of how stories influence children from a young age.

Aronson, Rebekah. "Prototype Phase 2 Testing." Email interview. 4 March 2014.

Berkland, Kate. "Prototype Phase 1 Testing." In-person interview. 3 Feb. 2014.

Ms. Berkland is a kindergarten teacher in the Syracuse school system. She gave me insight into the effectiveness of all three objects in the kit.

Bird, Shelby. "Prototype Phase 1 Testing." In-person interview. 31 Jan. 2014.

Ms. Bird is a student music teacher in the Syracuse school system. She shared stories about how the kids focus during the day and what happens when they can't pay attention.

The Brave Little Toaster. Digital image. The Disney Wiki. Wikia, n.d. Web. 24 Feb. 2014. <<http://disney.wikia.com/wiki/File:The-brave-little-toaster-21.png>>.

Ciardi, John. *How Does A Poem Mean?* Northridge: California State University, 1959. PDF.

Decker, Hope. "Prototype Phase 1 Testing." Email interview. 2 Feb. 2014. 3 March 2014.

Hope Decker is the Director at Cohocton Public Library. I sent her the first draft of my children's book and she sent me a few comments about how complex the vocabulary should be. This will be an on-going contact.

"Designers and Manufacturers of Specialist." Bushmates Series Medical Holders. Activeaide, n.d. Web. 16 Mar. 2014.

Girl and Her Teddy Bear. Digital image. Flickr.com. N.p., 7 June 2010. Web. 19 Mar. 2014.

"Home Page - EpiPen." Home Page - EpiPen. N.p., n.d. Web. 18 Mar. 2014.

"I Love Owls Art Print by Ashley Percival Illustrator | Society6." Society6. N.p., n.d. Web. 12 Mar. 2014. <http://society6.com/AshleyPercival/I-Love-Owls_Print#l=45>.

"Lunch Box Types." Lunchbox.com. N.p., n.d. Web. 17 Mar. 2014.

O'Neil, Christina. "Prototype Phase 1 Testing." Sykpe interview. 2 Feb. 2014.

Ms. O'Neil is a freshman at Marist College who was diagnosed with an allergy to peanuts when she was in first grade. She provided stories about what she remembered of learning about her allergy at a young age and her relationship with her Epi Pen.

O'Neil, Christina. "Prototype Phase 1 Testing." Email interview. 5 Feb. 2014. 5 March 2014. 5 March 2014.

O'Neil, Jessica. "Prototype Phase 2 Testing." Email interview. 3 March 2014.

Ongley, Justin. "Prototype Phase 1 Testing." Email. 21 Feb. 2014. 26 Feb. 2014.

Mouhoxlab. "Monster Pencil Case Boy Toy Bag Handmade." Etsy. Etsy, n.d. Web. 16 Mar. 2014.

The Epi Friends story was emailed to Ms. Christina. She gave feedback on how the allergies were explained in the story and whether or not that was successful.

Rabe, Tish, and Aristides Ruiz. *Nside Your Outside: All About the Human Body*. Boston: Random House for Young Readers, 2003. 8. Print. Cat in the Hat's Learning Library.

"Rapunzel Meal Time Magic Collection." Disney Store. N.p., n.d. Web. 17 Mar. 2014.

Rettberg, Anna. 2011. Anna Rettberg Illustration. Tumblr. Web. 3 Feb. 2014.

Ms. Rettberg has agreed to illustrate the *Epi Friends* story.

"The Sharper Image - Official Site." Temperature Regulating Pillow Case @ Sharper Image. N.p., n.d. Web. 17 Mar. 2014.

Shedlock, Alex. *Adventure Time*. Digital image. Writers' Bloc. Edinburgh University, 5 Nov. 2013. Web. 24 Feb. 2014. <<http://www.literature.hss.ed.ac.uk/2013/11/adventure-time-is-the-best-show-on-tv-right-now/>>.

Superman. N.d. *Psephizo Scholarship and Ministry*. Web. 29 Jan. 2014. <<http://www.psephizo.com/life-ministry/searching-for-superman/>>.

This image came from a google image search and is used to illustrate a point in the beginning of this book.

"Temperature Monitoring Indicators." Temperature Monitoring Indicators. N.p., n.d. Web. 17 Mar. 2014.

Tokyoinspired. "Pencil Case, Eyeglass Case, Hungry Cat, White Wool." Etsy. Etsy, n.d. Web. 16 Mar. 2014.

The Wolfelopes

An Allergy Adventure

Meet Wesley and Willow as they take you on a journey of friendship! Willow loves to cook for the wolfelope pack, but it is not always easy to think of new ideas for recipes. Learn about how Wesley's food allergies save the day.



I, Mr. Pete, present the Wand of the Wolfelope.

With great power, comes great responsibility...

Then the Wand of the Wolfelope is placed in my paws.
"You, my dear Wesley, shall help with a cause."

"I, Mr. Pete, proclaim you Keeper of Ingredients. Help our pack using your knowledge of nutrients."

Take the Wolfelope Pledge.

Special lunches need special keepers. Store your food with Wesley, the Keeper of Ingredients.



Since I eat other food than the rest of the pack, I am able to teach them on what else they can snack.

Everyone gathers around as she gets out the label. She reads off the ingredients that will be on the table.

"The Wolfelopes do a wonderful job of illustrating the importance of a team approach to successful avoidance of food allergy triggers."
-Anitha Shrikhande MD, Westside Allergy Care, PC, Rochester, NY

The Wolfelopes go to Show and Tell!

Instead I bring a lunch full of delicious snacks. None contain allergens, so then I can relax.

In fact, I love my lunch because it is special. Made with love just for me and that is essential.





Meet Wesley and Willow as they take you on a journey of friendship! Willow loves to cook for the wolfelope pack, but it is not always easy to think of new ideas for recipes. Learn about how Wesley's food allergies save the day.

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The Wolfelopes

An Allergy Adventure



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Illustrated by Anna Rettberg



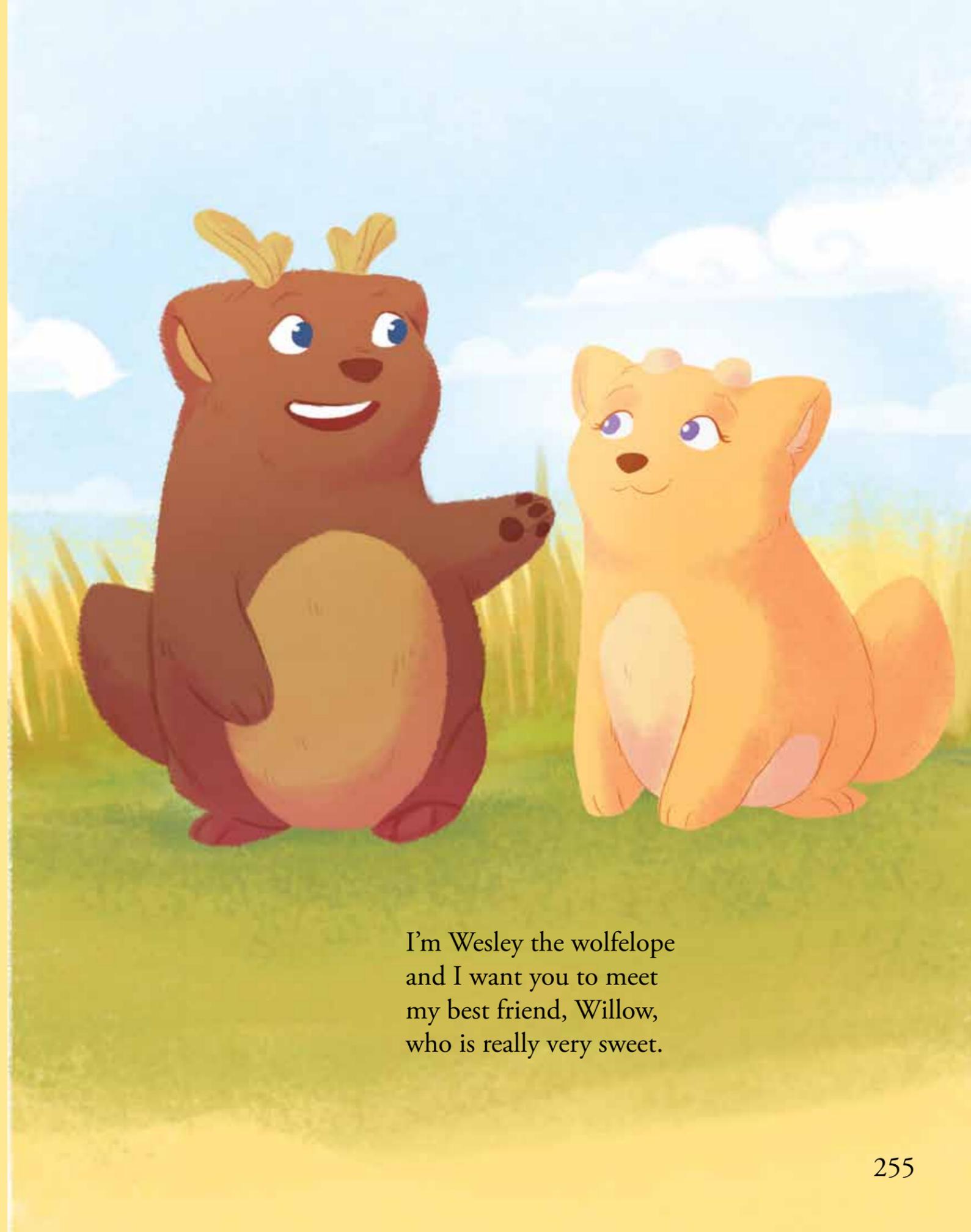
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Alexandra O'Neil

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The Wolfelopes

Written by Alexandra O'Neil
Illustrated by Anna Rettberg



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my best friend, Willow,
who is really very sweet.

Her dream is to cook
new amazing dishes.
But it is not always easy
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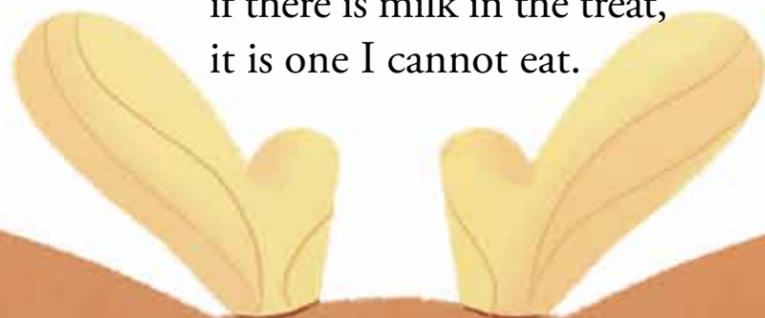
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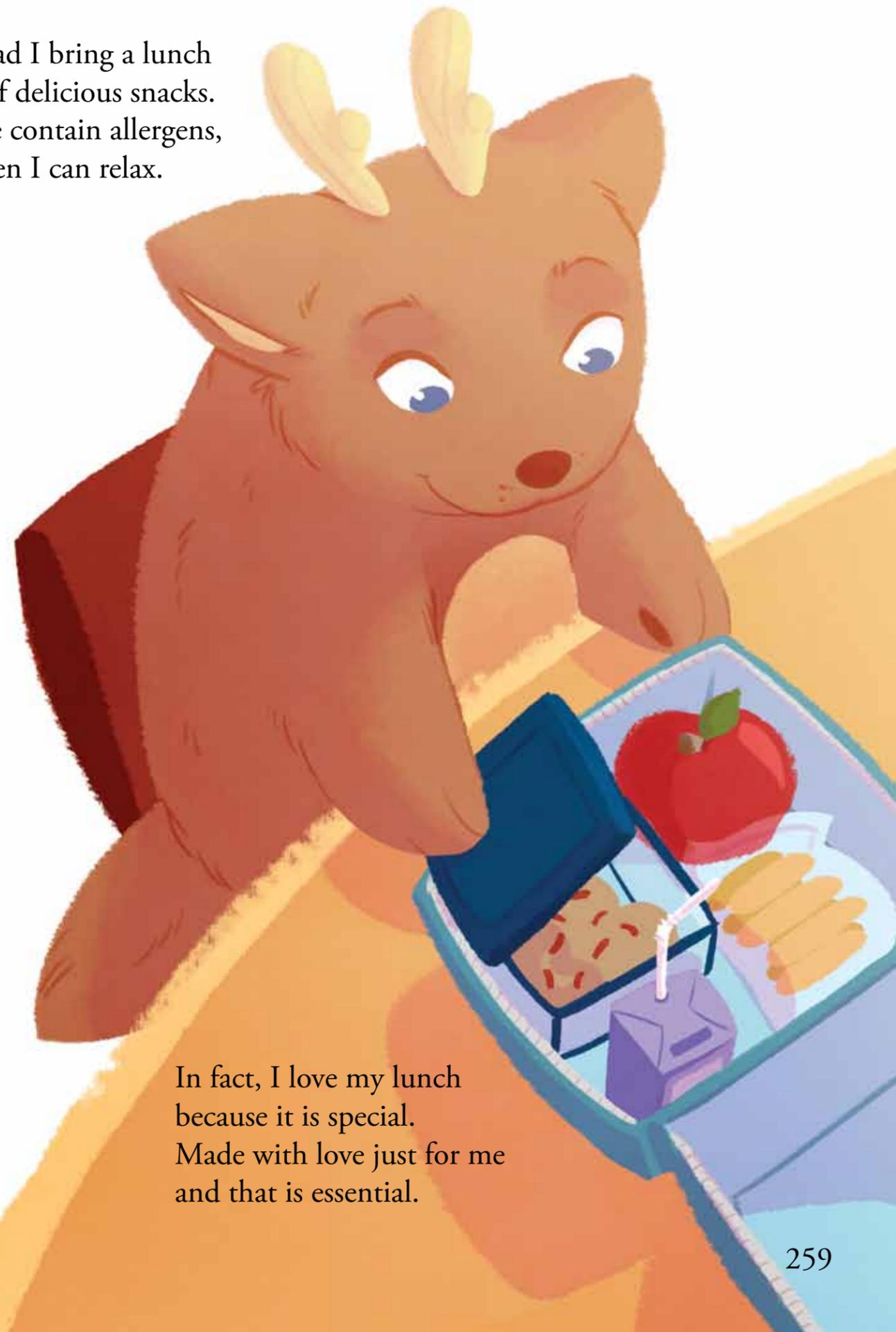


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Willow does like to make
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how I make a sweet.



Now Willow labels
every dish that she shares.
It takes her some time,
so you can tell that she cares.



Still, I will not take a bite,
unless an adult says it's alright.



Willow is the best
because together we have fun.
I tell her of new foods
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Since I eat different foods
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I know more about
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This gives her ideas
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Willow bakes all day
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Everyone gathers around
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It is so good,
I eat a whole stack.

In fact,
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Together Willow and I
get to use our skills
to cook for the pack
which gives us such thrills.

I must be the luckiest
wolfelope in town
because I have a friend
who never lets me down.



The End

Color the Wolfelopes!



Wesley



Willow

Wesley says you can be
Keeper of Ingredients too!



Draw yourself
next to Wesley.

The Wand of the Wolfelope Pledge



With great power, comes great
responsibility.

I, _____

promise to take care of the Wand of
the Wolfelope. I promise to...

Always keep it

_____ or with
_____.

Never let it get too hot or too cold.

Learn how to use the Wand of the
Wolfelope properly.

Only use the Wand of the Wolfelope
when I am having an allergic reaction.

Sign here:

Adult signs here:

What ingredients would you
like to share with Willow?
Draw them here.



Know your stuff!

- Allergen** A substance that causes the body to react.
- Allergic Reaction** An immune system response to a substance that the body mistakes as harmful.
- Anaphylaxis** A severe allergic reaction that can lead to death.
- Antihistamine** An over the counter medication used to minimize the effects of the symptoms of an allergic reaction.
- Celiac Disease** An autoimmune disease that results in damage to the small intestine and interferes with the body's ability to absorb nutrients from food. People who have celiac disease cannot tolerate gluten, a protein found in wheat, rye, barley (commonly found in malt), and oats.
- Chef Card** A card individuals with food allergies can use to communicate to restaurant staff which foods they must avoid.

Cross-Contact

Occurs when one food comes into contact with another food and their proteins mix. As a result, each food then contains small amounts of the other food, often invisible to us. Such contact may be either direct (e.g., placing cheese on a hamburger) or indirect via hands or utensils.



Epinephrine

Another name for adrenaline. It is the medicine of choice for controlling severe or anaphylactic reactions. It is available by prescription in a self-injectable form, called EpiPen® or Twinject®. People who are prescribed this medication should have it available at all times.

Food Allergy

The immune system's reaction to a certain food. The immune system mistakenly considers the food to be harmful and creates antibodies to that food. When the food is eaten again, the immune system releases histamine and other substances, causing the symptoms of an allergic reaction.

Food Poisoning

Illness that results from eating food contaminated with organisms or toxins. Symptoms typically occur within two to six hours and may include nausea and vomiting, abdominal cramps, diarrhea, fever and chills, weakness, and headache.

Histamine

One of several substances released by the body during an allergic reaction. It is the cause of many of the symptoms of an allergic reaction.

Hives

Bumps that resemble mosquito bites. They are extremely itchy and can appear anywhere on the body. This is a common and visible symptom of food-allergic reactions. Also called "urticaria."

Lactose Intolerance

A reaction to a food that does not involve the immune system. Lactose-intolerant people lack an enzyme that is needed to digest milk sugar. When they eat milk products, symptoms such as gas, bloating, and abdominal pain may occur. Lactose intolerance is more common in adults than in young children.

Definitions supplied by The Food Allergy and Anaphylaxis Network

Resources for Families

- AAAAI** (The American Academy of Allergy Asthma and Immunology) is an organization for health care professionals. The website for this organization contains information about allergies of all types and includes insight into the medical professional's perspective.
- CDC** (Center for Disease Control and Prevention) is a component of the US Government's Department of Health and Human Services. The website can be useful for anyone interested in learning about what initiatives the US Government is taking to help people with food allergies.
- FARE** (Food Allergy and Research Education) is a website rich with information ranging from how to manage food allergies to where to find support groups. The website is a great starting point for anyone who is looking to learn more and get plugged into a community of people focused on allergies.
- JAMA** (The Journal of the American Medical Association) has a website containing a collection of articles related to allergies that can be accessed with a subscription.
- NAIAD** (National Institute of Allergy and Infectious Diseases) conducts and supports basic and applied research to better understand, treat, and ultimately prevent infectious, immunologic, and allergic diseases. The website provides information on what advancements are being made.

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Dear Families:

It is estimated that food allergy affects approximately one to two percent of the population. Epidemiologic evidence does support an increase in food allergy prevalence. The reason for this probable increase in prevalence is complex and multifactorial. Leading theories include an interplay of genetics with timing and route of food exposure as well as an increasingly hygienic environment.

Coping with food allergy requires a lot of time and effort. The Wolfelopes do a wonderful job of illustrating the importance of a team approach to successful avoidance of food allergy triggers. Many families receive the diagnosis of food allergy from their physician and are left to deal with the real world on their own. Fortunately today we are in an environment of heightened awareness and acceptance of people who require special diets.

Children especially are subject to feelings of isolation because of food allergy. Thanks in large part to community efforts, children with food allergies can now be empowered to have socially fulfilling lives of inclusion and acceptance.

While avoidance and availability of epinephrine auto-injectors remain the mainstay for food allergy treatment, promising research continues to be done for improved outcomes and quality of life.

Anitha Shrikhande MD
Westside Allergy Care, PC
Rochester, NY





Meet Wesley and Willow as they take you on a journey of friendship! Willow loves to cook for the wolfelope pack, but it is not always easy to think of new ideas for recipes. Learn about how Wesley’s food allergies save the day.

“The Wolfelopes do a wonderful job of illustrating the importance of a team approach to successful avoidance of food allergy triggers.”

-Anitha Shrikhande MD,
Westside Allergy Care, PC, Rochester, NY

