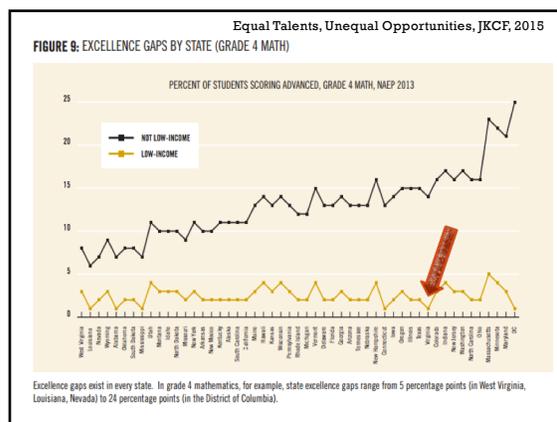
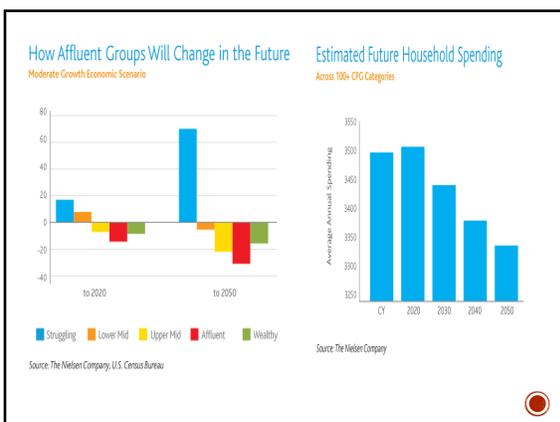


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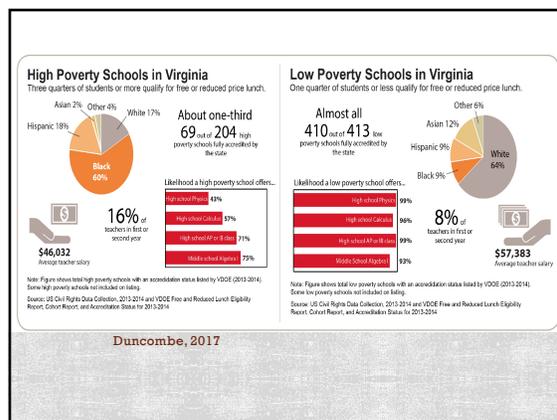
**TEACHING STUDENTS FROM LOW INCOME HOUSEHOLDS**

**LESSONS LEARNED FROM EFFECTIVE CURRICULUM**

Ramra Stambaugh, Ph.D.  
Associate Research Professor, Special Education  
Executive Director, Programs for Talented Youth



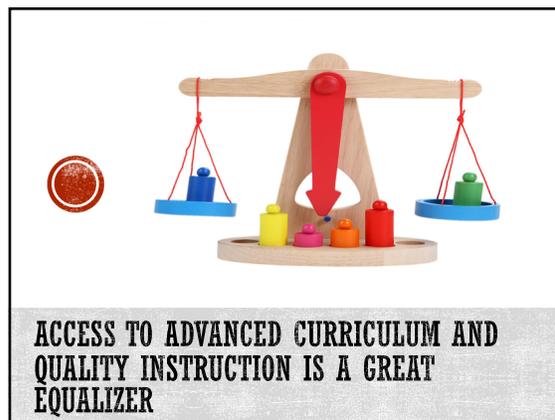
**IF ALL GIFTED PROGRAMS WERE ELIMINATED WHAT EFFECT WOULD THAT HAVE ON OUR LOW INCOME LEARNERS? ON OUR WEALTHIER LEARNERS?**



### MOTIVATION + OPPORTUNITY

	High Opportunity	Low Opportunity
High Motivation	Greatest likelihood of eminent outcome with appropriate educational dosage, psycho-social supports, and environmental supports  Best "bang for the buck"	Enhanced likelihood of eminent outcome with teaching resources and insider knowledge plus appropriate educational dosage, psycho-social supports, and environmental supports  Most important societal responsibility
Low/Undetermined Motivation	Eminence not likely unless motivation is enhanced by programs that assist with changing mindsets and matching to appropriate domains and mentors  Limited investment to generate motivation	Outcome depends on provision of opportunities to reveal interests and abilities and enhance motivation  Greatest challenge to society; worthy of investment in opportunity  With opportunity, motivation may or may not develop

Fig. 4. Achievement as a function of high versus low motivation and high versus low opportunity. Subotnik, Olszewski-Kubilius, & Worrell, 2011



Possible Learning Characteristics	Curriculum Response
<b>Experiential Learners and Practical Emphasis for Learning</b>	Creative choice products and hands-on opportunities; create opportunities and experiences in the classroom; visuals
<b>Expressive (not always in writing)</b>	Opportunities to show knowledge in a variety of ways using exemplars with clear expectations for design
<b>Communal Learner</b>	Opportunities to work in groups and discuss ideas verbally with guided instruction
<b>Gaps in Knowledge</b>	Pre-assessment and early intervention; skill development embedded in higher level thinking opportunities
<b>Fewer opportunities for access to content experts, disciplines, or experiences</b>	Model discussions, sentence stems, language of the discipline, measure thinking and content knowledge separately from formal language measures; concept maps
<b>Lack of long-term goal setting</b>	Longer term projects with guidance and modeling; mentoring and role models;
<b>Strong real-world problem solving skills</b>	Relevant, issue-based problems; problem-based learning

- ### WHAT DO WE KNOW? VALUE-ADDED INTERVENTIONS — WHAT CAN WE CONTROL?
- Relationships/Mentoring
  - Guidance and Career Counseling
  - Use of Leisure Time
    - Saturday and Summer Programs
  - Access to Advanced Curriculum and Educational Opportunities
  - Recognition of Talent to Be Developed
  - Bridging Programs
  - Community/Family Enrichment and Support
  - Affective Components (goal setting, perseverance, motivation)
- Adapted from Stambaugh, 2007



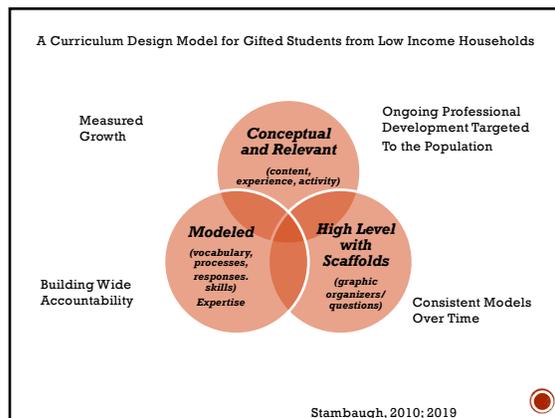


**Vanderbilt Programs for Talented Youth Curriculum**

**Project U Stars & U Stars Plus: UNC Chapel Hill**

**Engineering Is Elementary**





Modeled:	Relevant and Conceptual:	High Level and Scaffolded
How will I explicitly model the thinking processes and habits of the discipline?	How will I make the curriculum relevant to my students' life, experience, and/or background?	What questions/organizers will I ask/use to build understanding of a model or concept?
Which models or graphic organizers will I use on a consistent basis to promote habits of the discipline?	What concepts will my students make meaning of this based on their situation?	What skills are necessary to teach in order for student to reach higher level questions?
How will I show my thinking and encourage students to show theirs?	What real-world issues are relevant to the content and students' life?	How will I help them meet high level expectations?
	What resources are most appropriate to connect with my students? What other perspectives do I need to include?	
	How can I adapt the experience or build an experience or provide access?	



**CONCEPTUAL AND RELEVANT**

**WHAT CONCEPTS ARE IMPORTANT TO YOUR STUDENTS WHO ARE FROM LOW INCOME HOUSEHOLDS?**

**Safety Relationships**

**Fairness Loyalty Equity**

**Order and Chaos Change**

**Truth Survival Structure**

**Conflict**

How can you leverage these for engagement, relevance, and high level learning?

Topic	Issue
Story of Bluebeard	Is it every ok to be punished for breaking an unfair rule?
Revolutionary War	Can change happen without conflict?
Kennedy and Obama's Space Speeches	Should the exploration of space continue to be funded or should that money go to other public policies?
The Dutchman Painting	Does someone have to give up a part of their culture to support a new one?
Plants	Should we have community gardens?
Spiders	Should we kill spiders in our house?
A book character	Is ____ a rebel or a hero?
Fractions	To what extent are fractions important for fairness?

	<b>Generalizations</b>
<b>B3</b>	How does the theme of "a search for identity" play out in the character's life? Your life? Provide specific examples.
	<b>Classifications</b>
<b>B2</b>	What would you include on a character charm bracelet to symbolize his search for identity? What would your bracelet look like?
	<b>Details</b>
<b>B1</b>	What evidence in the story shows the theme of identity? Cite as many details or examples as possible.  Think about it: What characteristics or evidence from your life show your identity?

	Grades K-1	
<b>B3</b>	<b>Generalization</b>	The Hare and Tortoise
	What does this story say about the concept of persistence? How does this compare to another you have read?	
<b>B2</b>	<b>Categorization</b>	
	How would characterize the tortoise's success? What personality features made him successful?	
<b>B1</b>	<b>Details/Examples</b>	
	Create a Venn diagram to show the similar and different personality qualities of the tortoise and the hare.	

Asked to develop 2-3 general statements that apply to statements

Asked to categorize examples & details based on characteristics

Asked to list examples or details from what they have read or know from the real world

## MIRRORS AND WINDOWS

Bishop, 1990

## KNOTS IN MY YO-YO STRING

JERRY SPINELLI (1998)

### Johnson Highway

Like much of my life until that sixteenth year, it was a sunny day. A Sunday afternoon. I was in Carol Eckers' house on Pine Street. We were in the living room. Carol was telling me about her new boyfriend, and I, as always, was the good listener.

The doorknob rang. It was my younger brother, Bill, panting. "Lucky was hit by a cat!"

Lucky was our dog.

I didn't know what to say except, "Where?"

"Johnson Highway."

I apologized to Carol and left with Bill. We ran. We ran down Pine to Roberts, down Roberts to Locust, and up Locust toward Johnson Highway. As we came near, I wanted to say to Bill, "You look. I'm not stopping." I wanted to cross Johnson Highway and not look down but run on, run out of town, out of time, out of myself, because I was having a bad year, and it was too few hours ago that I was king.

## BROWN GIRL DREAMING

JAQUELINE WOODSON (2014)

february 12, 1963

I am born on a Tuesday at University Hospital  
Columbus, Ohio,  
USA—  
a country caught  
between Black and White.

I am born not long from the time  
or far from the place  
where  
my great-great-grandparents  
worked the deep rich land  
unfree  
down hill dusk  
unpaid  
drank cool water from scooped-out gourds  
looked up and followed  
the sky's mirrored constellation  
to freedom.

I am born as the South explodes,  
too many people too many years

## OBSERVABLE IMPACT OF CULTURALLY RELEVANT MATERIALS

(TEACHER AND GIFTED COACH)

- Increase in student engagement
- Decrease in escalation of behavior problems
- Increase in student participation in discussions and Socratic Seminars
- Roughly half of the class selected to read an additional book by the author for an independent reading assignment
- Increase in number of students who completed the end of quarter ELA "that \_\_\_ and \_\_\_" writing project (depth and complexity).



## REFLECTIONS FROM STUDENT JOURNAL ENTRIES

"Brown Girl Dreaming? I'm a brown girl who is always dreaming!"

"Can I be honest? Its nice to read a book about someone who looks and thinks and feels like I do."

"She was followed around in a store when she was shopping with Grandma Georgiana. I've been followed before and its wrong. I could relate with her about a lot, but that one stuck out."

"We get to read the rest of her books, right?"

"She spent a lot of time with her grandparents in South Carolina while her mom found herself. I live with my grandparents because my mom is gone too. Her uncle got in trouble and so did mine. We are both good writers...I guess we had more in common than I thought we would." (male student)



## RELEVANCY THROUGH CHARACTER EXPERIENCES

- In *Touching Spirit Bear*, a high school student whose parents have grown distant ends up getting into a fight with a student at his school, knowing that by getting in trouble his parents will have to focus some of their energy on him, rather than their divorce and drinking.
- Despite the fact that the main character came from an affluent neighborhood, was White, and ended up spending time with Tlingit Indians in Alaska, students related not only to references suggesting the impact of restorative justice, but the desire to act out in order to gain the attention of parents and the idea that sometimes we have to come to terms with our own character flaws before seeking the forgiveness of others.



## WHY CHURCHILL? ONE LOW INCOME STUDENT'S RESPONSE TO BIOGRAPHY STUDY

Well he's one of my heroes. A natural born leader, courageous. I just identify with him. He talks about at a young age this feeling of "Destiny" that I feel as well. We are kindred spirits in this sense. This belief that he was born for a great purpose. I also really like his resiliency to failure. His career history was this wave of ups and downs. Something would happen, he'd get knocked down, and then he'd get back up again. I guess I like having stuff about him to remind me that I'm going to be like him.



**RELEVANCE ALSO MEANS CREATING THE EXPERIENCE FOR THEM**



## SAMPLE PROBLEM-BACKGROUND

- Every year the seventh grade students at Langston Hughes School go on an outdoor education camping trip. During the week-long trip, the students study nature and participate in recreational activities. Everyone pitches in to help with the cooking and cleanup. Arvind and Mariah are in charge of making orange juice for all the campers. They make the juice by mixing water and orange juice concentrate. To find the mix that tastes bests, Arvind and Mariah decided to test some recipes on a few of their friends.

• Connected Math Series



### THE PROBLEM

- Arvind and Mariah tested four juice mixes.
  - Mix A: 2 cups concentrate and 3 cups water
  - Mix B: 1 cup concentrate and 4 cups water
  - Mix C: 4 cups concentrate and 8 cups water
  - Mix D: 3 cups concentrate and 5 cups water
- Which recipe will make juice that is the most "orangey"?
- Which recipe will make juice that is least "orangey"?
- Assume that each camper will get  $\frac{1}{2}$  cup of juice. For each recipe, how much concentrate and how much water are needed to make juice for 240 campers?
- Explain your answers in pictures, numbers, or words. Test your hypothesis as needed.
  - From Connected Mathematics

### WHO STOLE THE PRINCIPAL'S WATER?

- Dear students,
  - After returning from a meeting, the janitor met me at the door and said the school air conditioning unit was not working, but would be fixed soon. I went to my office and found that the water I brought back from my beach vacation was gone! Did someone steal it or is there a scientific explanation? Please help me find out what happened. My water is the only souvenir I brought back from my trip.

GOAL: Describe the most common states of matter and processes for condensation and evaporation.



**Mountain Scramble**  
ECOSYSTEMS SIMULATIONS  
CREATE A HEALTHY ECOSYSTEM

- Exploration 1: Add things and see what happens. What caused things to be less healthy at the end of the day?
- Exploration 2: Each day add only one producer, one primary consumer, one secondary consumer each day. Nothing else. What happens? Does variety of plant and animals matter? Why or why not? Did limiting your organisms to only 3 help or hurt your ecosystem? Why or why not?
- Exploration 3: Add a lot of on thing. What happens to the other living things around it?
- Exploration 4: Keep everything alive and use all animals and plants by Day 12.

Make a Mangrove      Jungle Jeopardy      Feed the Dingos





## HIGH LEVEL WITH SCAFFOLDS



*High Level and Scaffolded*  
(graphic organizers/questions)

USE OF THE SAME graphic organizers over time

Lower to Higher Level Questions Based on Student Gaps

GIVE THEM THE SKILLS THAT EXPERTS HAVE THROUGH HIGH LEVEL MATERIAL FIRST

Don't allow lack of skills to be a gatekeeper to hold you back from teaching advanced content.

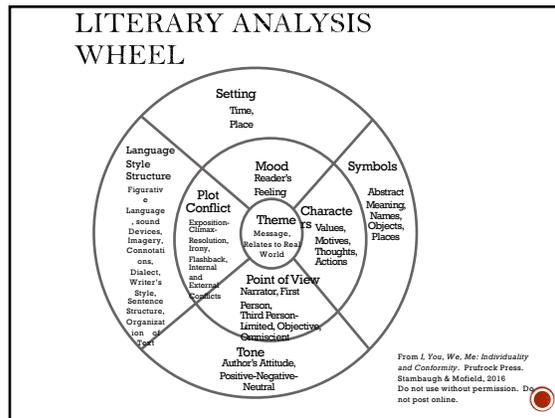


### IF YOU DON'T TEACH IT, HOW WILL YOU SEE IT? HOW WILL STUDENTS LEARN IT?

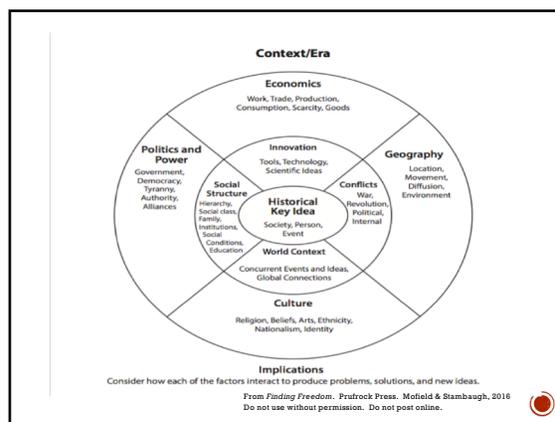
You are more likely to find something when you are looking for it.

**BEGIN WHERE YOU WANT TO END  
THEN SCAFFOLD AS NEEDED;  
EMBED SKILLS AND ACCESS TO  
PRIOR KNOWLEDGE AS  
NECESSARY (WHOLE TO PART)**

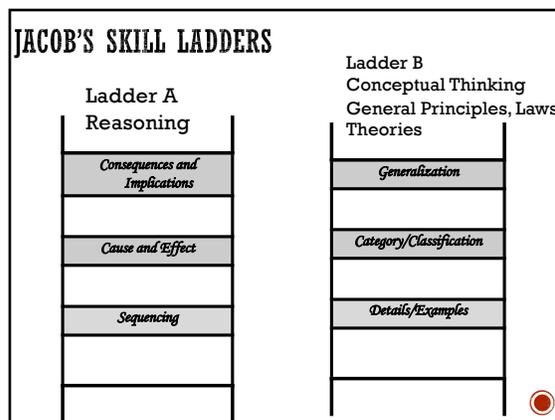
Open Ended – Prior Experience  
Targeted  
Used to Fill in Gaps and Skills



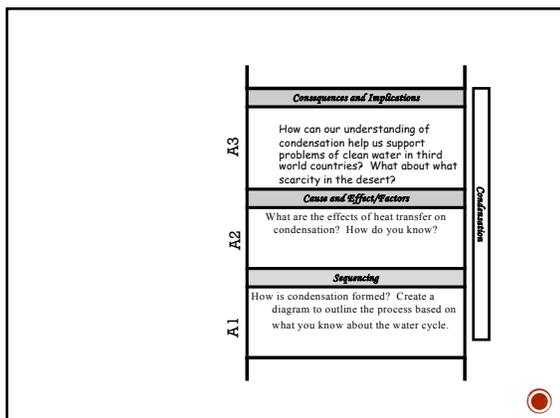
Not Very Complex (Single Element)	Somewhat Complex (Focus on relationships, connections, and interactions)	Complex (Focus on multiple elements or manipulate elements).
What is the <u>setting</u> ?	How does <u>setting</u> shape the <u>conflict</u> ?	How does <u>language</u> used to describe the <u>setting</u> shape the <u>theme</u> ?
What <u>figurative language</u> do you notice?	How does <u>symbolism</u> enhance the <u>theme</u> ?	How would the <u>theme</u> be different if the <u>conflict</u> showed a <u>shift in power</u> (concept)?
What is the <u>conflict</u> ?	How does the author's <u>point of view</u> shape the <u>theme</u> ?	
What is the <u>theme</u> ? Cite textual evidence.	How does <u>alliteration</u> enhance <u>symbolism</u> ?	



- How did economic and political factors interact to cause conflict between the colonies and Britain?
- What is the key problem and how does it relate to the current economic and geographic context?
- What was the key problem regarding Indian Removal, and how did multiple concepts interact to cause the problem? (e.g., students may discuss the interaction of economics, geography, social structure, culture, and politics).







## MENTORING MATHEMATICAL MINDS

*Moli Stone - Grade 3 Place Value*

**Hint and Think Again Cards in Math –**  
**Students are determining the next number in a pattern using place value and base conversions.**

- **Scaffolded**
- **Think Deeply:** What are the similarities and differences between base 3 and base 10 systems? Does having place values in the base 10 system help us add and subtract more quickly than other bases? Why or Why not?
- **Hints:** What do the different numbers in each place indicate?

FIGM: Origin, M.K. Chapin, S., Daley, J. & Sheffield, L. (2006). Unraveling the mystery of the Moli Stone: Place value and numeration. Dubuque, IA: Kendall Hunt Publishing.

## PROJECT U-STARS PLUS

*The Very Hungry Caterpillar: Language Arts/Science*

- **Knowledge:** List things that the caterpillar ate when hungry.
- **Comprehension:** Describe each state of the butterfly's life.
- **Application:** Describe what would happen to you if you only ate junk food.
- **Analysis:** Compare and contrast the stages of the butterfly.
- **Synthesis:** Explain the relationship between the caterpillar and the butterfly.
- **Evaluation:** Describe which stage of the butterfly you like the most and why.

**Modeled**  
 (vocabulary, processes, responses)

# MODELED

**Habits and vocabulary of the discipline**  
**What a professional does**  
**How a professional talks**  
**Skills a professional needs to know**  
**Metacognition**

**WHAT DOES A \_\_\_\_\_ DO?**

**HOW DOES A \_\_\_\_\_ TALK?**

**HOW MIGHT A \_\_\_\_\_ THINK ABOUT \_\_\_\_\_?**

## SCIENCE ANALYSIS

- **The Problem:** Your school needs a new gymnasium. The mayor has said that she will give you the space needed for the new gymnasium from government-owned land. You just have to fill in a pond and build on top of it. Based on what you know about living and non-living interactions, what do you predict will happen as a result of this building?
- **Center of the Wheel:** What is the impact of filling in a pond to build a gymnasium?
- **Real-World Issue or Problem:** How do people interact with the environment in positive and negative ways?

(Stamungh & Moffitt, 2017) Used with permission



Modeled:	Relevant and Conceptual:	High Level and Scaffolded
How will I explicitly model the thinking processes and habits of the discipline?	How will I make the curriculum relevant to my students' life, experience, and/or background?	What questions/organizers will I ask/use to build understanding of a model or concept?
Which models or graphic organizers will I use on a consistent basis to promote habits of the discipline?	What concepts will my students make meaning of this based on their situation?	How do the questions or organizers build upon each other to support or lead students to accelerated or more complex content?
How will I show my thinking and encourage students to show theirs?	What real-world issues are relevant to the content and students' life?	How will I help them meet high level expectations?
	What resources are most appropriate to connect with my students? What other perspectives do I need to include?	
	How can I adapt the experience or build an experience or provide access?	

## MENTORING MATHEMATICAL MINDS EXAMPLE

*Moll Stone - Grade 2 Place Value*

**Conceptual and High Level - PBL**

- Students must decipher the numerical markings on a stone. To do this, they explore the essential concepts of place value: mainly patterns, groupings, and symbols. They will investigate differences between place values, various bases, and other numeration systems (including the Egyptian and Chinese systems).
- Activities: Apply your understanding of all concepts to create your own number system. Examine other bases (acceleration)

**Scaffolded**

- Think Deeply:** What are the similarities and differences between base 3 and base 10 systems? Does having place values in the base 10 system help us add and subtract more quickly than other bases? Why or Why not?

**Hints: What do the different numbers in each place indicate?**

- Talk Move Discussions - Modeled

FROM:  
Gavin, M. E., Chinn, S., Bailey, J. & Sheffield, L. (2006). *Unraveling the mystery of the Moll Stone: Place value and numeration.* *Explaining the World*

### STEM STARTERS+ ENGINEERING

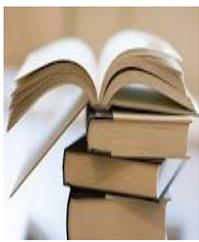


**UALR: Robinson, Kidd, Adelson, 2016**  
<http://rail.edu/igthed/files/2016/09/Executive-research-summary-of-SS-Grade-1-Results-2016.pdf>

Increase in student science scores  
As compared to control group

Increase in teacher nomination for gifted services

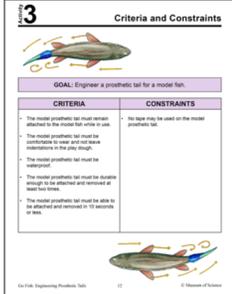
### BIOGRAPHY



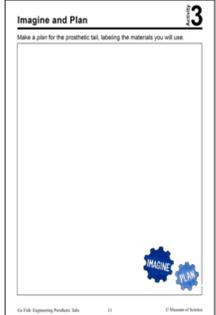
#### Winter's Prosthetic Tail, p. 11



#### Criteria and Constraints, p. 12

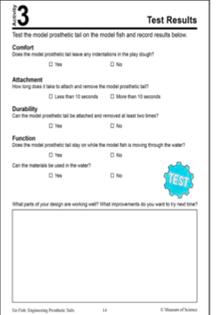


#### Imagine and Plan, p. 13



28

#### Test Results, p. 14



Go Fish

## WHAT MAKES THIS EFFECTIVE FOR STUDENTS FROM LOW INCOME HOUSEHOLDS?

- Plays to strengths (problem solving; arguing; creativity)
- Provides opportunities, hands-on ways to approach problems like an expert
- Access to similar methods and ideas as wealthier counterparts
- It has a proven record of promoting achievement when compared to students who did not have similar access

