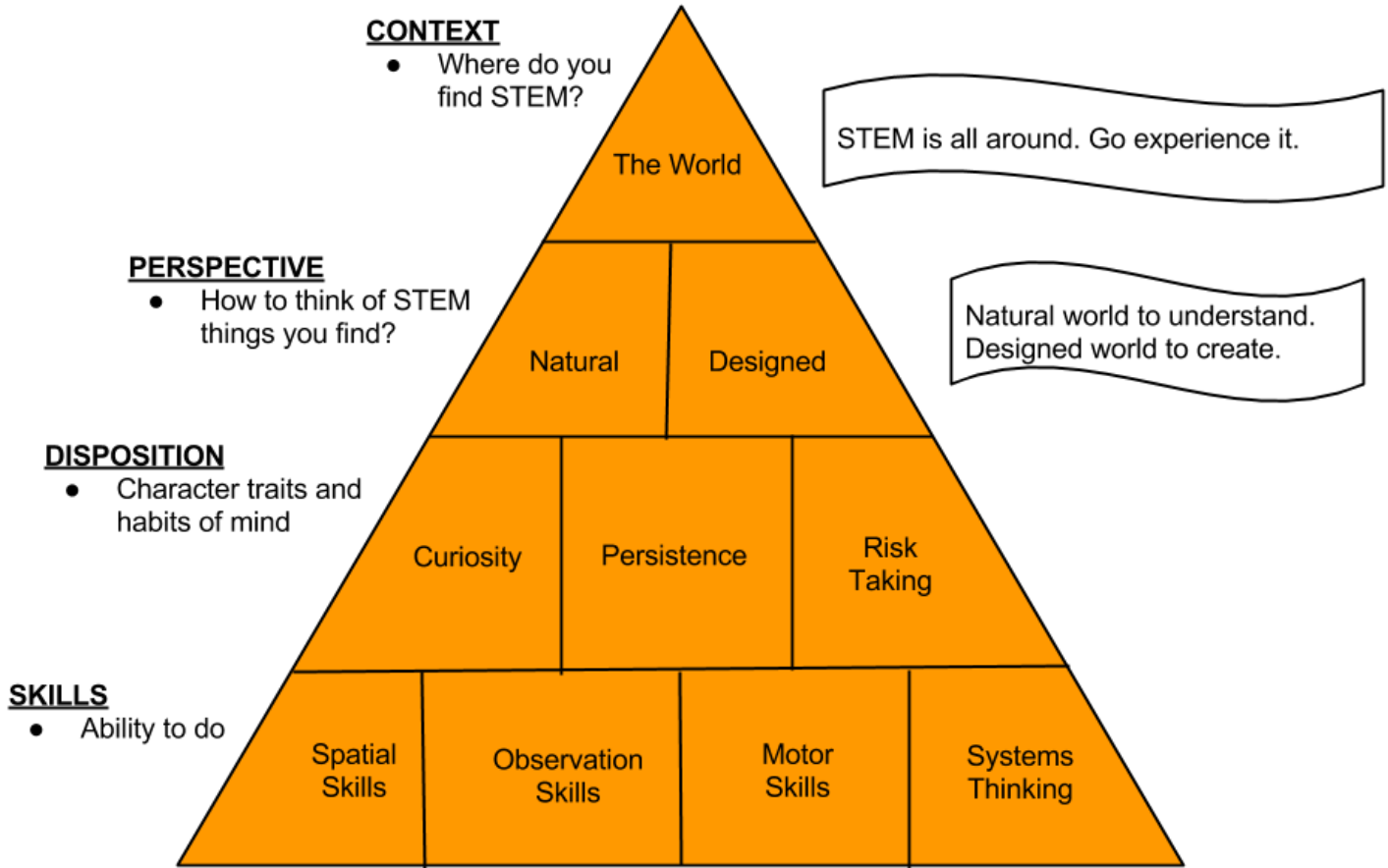


Preschool STEM Pyramid



Curiosity: Ask questions Why...did that happen? What...if we did this? Where...did it go? How...can we do...

Persistence: Look for trying again, patience, focus, keep moving forward...

Risk Taking: Look for trying something new, negotiating physical risk (watch for edge, determine speed, distance, avoiding familiar dangerous situation, handling falling), doing something saw others do

Spatial Skills: Best predictor for STEM success - Use words, gestures!

- Object description:** describe size, geometric features, shape of objects (long, short, corner, straight, square, triangle)
- Orientation and transformation:** act of moving objects and people in space (upside-down, sideways, turn, flip)
- Position and location:** description of object in space (top, under, between, left, right)

Observation Skills: See, smell, feel, hear, taste

Motor Skills: Large motor (sit, crawl, stand, walk, jump, turn); Small motor (with hands, with feet)

Systems Thinking: How do parts work together and influence each other in the whole?

- Finding patterns and similarities:** Classify by color, shape; "one of these things is not like the others"
- Sequencing:** Guessing the order (e.g. wash hands before and after eating); putting in order (trains)
- Part to whole:** It has a head, body, 4 legs and a tail; it must be a dog (it's a deer)
- Whole to parts:** A truck is a vehicle (like a car): where is the tire? window? headlight?

THE STEM FACTS





Current	Future	Potential
<i>More jobs need STEM</i>	<i>US goods and services to the world</i>	<i>STEM wage premium</i>
<p>26 Million jobs requiring STEM</p> <ul style="list-style-type: none"> • 20% of all jobs • number doubled since 1850 (Industrial Revolution start) <p><i>Brookings.edu, 2013, The Hidden STEM Economy</i></p>	<p>Top American companies leverage STEM</p> <p>Johnson & Johnson, Proctor & Gamble, AT&T, General Electric</p> <p><i>Fortune 500</i></p>	<p>Earn more with STEM</p> <ul style="list-style-type: none"> • Men: \$24.47/hr vs \$36.34/hr • Women: \$19.26 vs \$31.11 • 50% do not require college <p><i>US Dept of Commerce, Women in STEM, 2011 Brookings.edu, 2013, Hidden STEM Economy</i></p>

What do/did you enjoy doing with your child? Look forward to doing?

Infant (0-1)	Toddler (2-3)	Pre-school (4-5)

→ Play a bit

WHAT IS STEM for an infant, toddler, preschooler?

Science	Mathematics	Technology	Engineering
<p>Curiosity → Observation</p>  <p><i>image by Zela (Marja Flick-Buijs), via rgbstock.com</i></p>	<p>Spatial → Numerical</p>  <p><i>image by chidseyc (Chris), via rgbstock.com</i></p>	<p>Experience → Manipulation</p>  <p><i>image by lusi (sanja gjenero), via rgbstock.com</i></p>	<p>Persistence → Logical Problem Solving</p>  <p><i>Yvonne Ng personal photo</i></p>
Infant			
toddler			
pre-schooler			

→ Play more (see other side)