

TABLE 1

### Inquiry-based classroom connections using picturebooks on biomimicry.

Book Title/ Author	<i>Next Generation Science Standards (NGSS)</i>	English Language Arts Standards (ELA)	Materials Needed	Inquiry-Based Classroom Connections
<i>Mimic Makers: Biomimicry Inventors Inspired by Nature</i> (Nordstrom 2021)	(1-LS1-1) From Molecules to Organisms: Structures and Processes Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs	CCSS.ELA- Literacy.W.1.1 Text Types and Purposes Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure	Picturebook Pencil Paper Velcro Band-Aids Scotch Tape Image of burrs on dog A piece of fake fur A hairy cloth Anchor chart paper Chart markers	Students will participate in a play-based learning engagement to determine how an invention was created mimicking the natural world. They will explain their understanding through writing.
<i>Nature Did It First: Engineering Through Biomimicry</i> (Ansberry 2020)	(1-LS1-1) From Molecules to Organisms: Structures and Processes Use materials to design a solution to a human problem by mimicking how plants and/or animals use animal parts to help them survive, grow, and meet their needs	CCSS.ELA- Literacy.RI.1.3 Key Idea and Details Describe the connection between two individuals, events, ideas, or pieces of information in a text.	Picturebook Copies of a Box & T Chart for each small group Groups of cards (each including written words and real images of examples shown in the book) burrs, echolocation, stick and unstuck, super slippery surfaces, bumpy surfaces, rolling into a ball, and streamlined shapes	Students will identify key innovations, compare and contrast two solutions, and determine which solution was most effective for solving a problem.
<i>Biomimicry: When Nature Inspires Amazing Inventions</i> (Menu and Walker 2020)	(1-LS1-1) From Molecules to Organisms: Structures and Processes Use materials to design a solution to a human problem by mimicking how plants and/or animals use their parts to help them survive, grow, and meet their needs	CCSS.ELA- Literacy.RI.1.4 Craft and Structure Ask and answer questions to help determine or clarify the meaning of words and phrases in a text	Picturebook Cardboard pieces in various sizes and shapes Recyclables Paper plates Pipe cleaners Straws Scissors Tape Glue Cups Cotton balls Sponges Staples and Staplers Plastic Wrap Aluminum Foil Writing paper Pencils	Students will ask and answer questions while reading the text to determine meaning and they will use different materials to come up with an invention inspired by characteristics and/or features of animals.