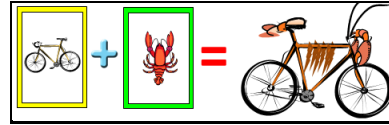


Design Inspirations

Inspiration and Engineering Meet in this Creative Design Challenge



What do a bike and a lobster have in common? You tell us. Design a product inspired by two seemingly unrelated objects.

Activity Challenge

Using the “Design a…” and “Inspired by…” activity cards (pgs. 2-3), first design, and then build, a product that combines the items on each card. For example: the bike inspired by a lobster in the picture above.

Preparation

1. Print, or copy, the design cards (see below). Cut out each card.
2. Create one pile for the “Design a…” cards and another for “Inspired by…” cards.
3. Place cards face down or in two separate containers.
4. Gather building materials, and items, to sketch with.

To Do

1. Select one card from each pile.
2. Look at the objects on the “Inspired by…” and “Design a…” cards. List attributes, or features, of each on paper.
3. Think of ways to blend the objects into one product.
4. Draw a large sketch of the product.
5. Give the product a name, reflecting its attributes.
6. Build a prototype of the product using materials from around the house.

Extensions

- Write an advertisement for the product.
- Use this same process to create a challenge in a different subject. For example: “write an essay about winter that is inspired by a wedding cake.”

The Content behind the Activity

The process modeled in this activity is called **morphological forced connections**. Clothing designers, and architects, routinely integrate patterns from nature into their designs. Copying nature (**bio-mimicry**) is also used by engineers. For example, Velcro was inspired by the burrs on a weed seed. There are many stories about engineers and designers who got their best ideas from unexpected sources. A designer working on a space satellite might be inspired by looking at the can opener!

Materials Needed

- Design cards (see below)
- Markers, pencils, colored pens, etc.
- Paper for sketching
- Building materials such as cardboard, plastic pieces, paper, sticks, plastic utensils, boxes, etc.
- Fasteners such as binder clips, paper clips, string, tape, etc.

Grade Range

3-5
6-8

Topics/Skills

Design
Engineering
Creativity
Drawing

Learning Standards

NGSS: [Science and Engineering Practices](#)

Duration

20-45 minutes

Prep Time

10 minutes















Activity Cards

Print, and cut out, these cards. Then divide them into two stacks. One for “Design a...” and another for “Inspired by...”.

“Design a” Cards

<p>Design a... NEW BOARD GAME</p> 	<p>Design a... GREETING CARD</p> 	<p>Design a... REFRIGERATOR</p> 
<p>Design a... LUNCH BOX</p> 	<p>Design an... ITEM OF CLOTHING</p> 	<p>Design a... BOAT</p> 
<p>Design a... FLAG</p> 	<p>Design a... VIDEO GAME</p> 	<p>Design a... BACKPACK</p> 
<p>Design a... LAMP</p> 	<p>Design a... BICYCLE</p> 	<p>Design a... AIRPLANE</p> 
<p>Design a... MUSICAL INSTRUMENT</p> 	<p>Design a... UMBRELLA</p> 	<p>Design a... CAR</p> 

"Inspired by" Cards

<p>Inspired by a... RIVER</p> 	<p>Inspired by a... RAINDROP</p> 	<p>Inspired by a... CLOUD</p> 
<p>Inspired by a... GRASSHOPPER</p> 	<p>Inspired by a... LOBSTER</p> 	<p>Inspired by a... STARFISH</p> 
<p>Inspired by a... LIGHTNING BOLT</p> 	<p>Inspired by a... FISH</p> 	<p>Inspired by a... KANGAROO</p> 
<p>Inspired by a... HONEYBEE</p> 	<p>Inspired by a... BIRD</p> 	<p>Inspired by an... ELEPHANT</p> 
<p>Inspired by a... PIRATE</p> 	<p>Inspired by a... VOLCANO</p> 	<p>Inspired by a... WALNUT</p> 