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## 1412-3 Crazy Creatures

Hardware Robot  
Designed by Melony Bradley

Create a unique robot with hardware and foam project bricks that can actually move.



 When you see the "helping hand" symbol on a project, it means you may need adult supervision to do the project. Always cover your work surface with a mat or some type of protective

covering like wax paper or plastic. Always use care when using tools or a heat source. Be careful and safe!

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Age Range: 7 to 12

Grade Range: 2 to 6

Skill Level: Advanced

Appropriate for These Special Events:  
Every Day and Rainy Days

Supports Subject Area(s) of:  
Language Arts - e.g. step by step instructions  
Mathematics - measuring  
Visual Arts

Time Needed for Project:  
2 hours

Please see the next page for project instructions.

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## Cool "hardware" Robot

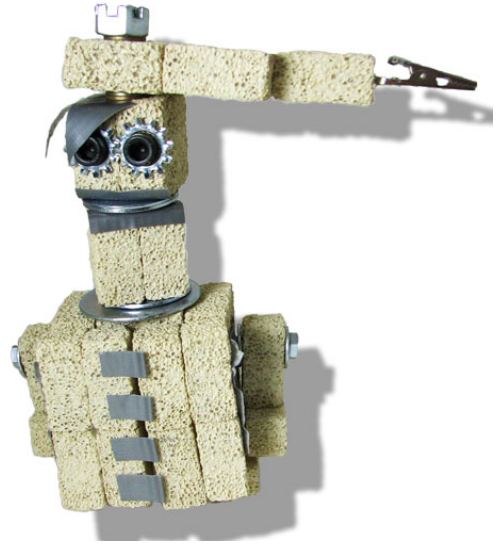
### Materials

1 box FloraCraft Make it Fun Project Bricks  
One 6½ (¼ in thread size) hex bolt  
Two 1½ in (¼ in thread size) hex bolts  
Two ¾ in (¼ in thread size) hex bolts  
Eight ¾ inch (¼ in thread size) washers  
1 x 2 inch (¼ in thread size) washer  
3 x 1½ in (¼ in thread size) washers  
Assorted ¼ in thread washers and nuts for eyes and crown  
Fencing staples  
Alligator clip  
Large drinking straw  
Silver Duct tape  
Scissors  
Toothpicks  
Elmer's Glue

### Step 1

#### **The back body (make 1):**

Glue sixteen bricks into a cube



#### **Front body (make 2):**

Glue four bricks as shown.



**Head (make 2):**

Glue four bricks as shown.



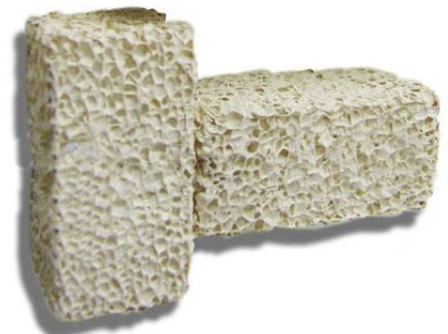
**Head decoration (make 1):**

Glue five blocks as shown.



**Arms (make 2):**

Glue two bricks as shown.



**Feet (make 2):**

Glue two bricks as shown.

When gluing the bricks it is easiest to join them by breaking a toothpick in half and insert it between the bricks to support the join.



**Step 2**

Make holes in the glued shapes using a straw as follows:

**Back body**

One hole from the top of the shape halfway down it.



**Head**

Make a hole as shown through each of the two head pieces.



**Head decoration**

Make one hole as shown all the way through the piece.



### **Arms**

Make one hole as shown through each arm and a dent for hands.

### **Feet**

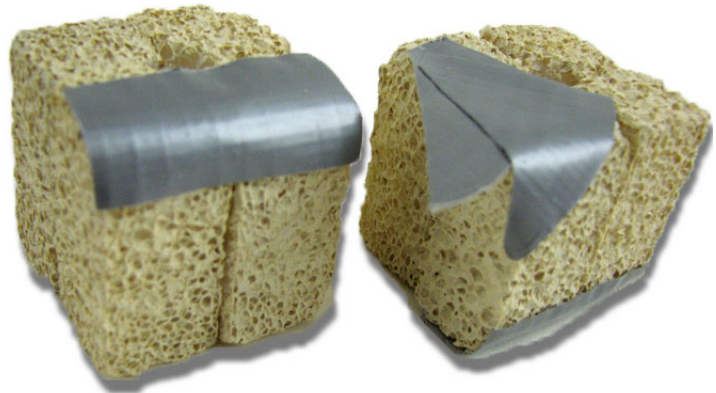
Break two toothpicks in half and insert into feet as shown.



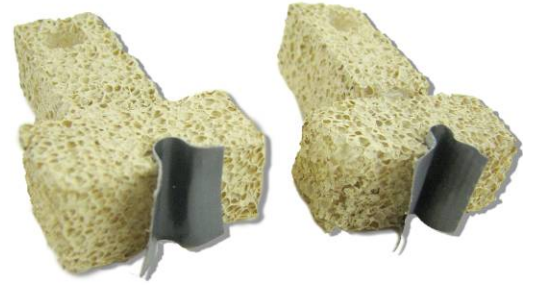
### **Step 3**

Cut two triangles of duct tape and add to the head piece for the robot's hair.

Use your fingers to rub off one square edge on each of the head shapes to round it slightly. Cut two pieces of duct tape and adhere to the rounded edges for the robot's lips.



Add small pieces of duct tape to the robot arms as shown.



Front body pieces - cut a piece of duct tape and adhere to the front of each of the two body pieces.

Back body - affix a large sheet of duct tape to the front of the large body piece as shown.

Using duct tape, hinge the front body pieces to the back body pieces with duct tape.

Cut four small pieces of duct tape and fold over the ends. Attach to the left hand front body to give the impression of tabs holding the robot closed.



#### Step 4

Push bolts through some washers and attach to the top part of the robot head with glue for the eyes.



#### Step 5 Final assembly

Attach and alligator clip to the end of the head decoration piece.

Assemble a crown shaped washer onto the long bolt. Add a  $\frac{3}{4}$  in washer and then the head decoration piece.

Attach two  $\frac{3}{4}$  in washers and then the head piece with the eyes.



Attach two 1½ in washers and then the second head piece which is the robot's bottom jaw.

Attach a 1½ and a 2 in washer and then set the bolt end into the body piece.

To attach the arms, first affix fencing staples through the duct tape on the sides of the robot's body.

Take the two remaining bolts and add a ¾ in washer to each. Thread a bolt through the hole in the arm, add a second ¾ in washer and then press the bolt into the robot's side.

Affix the feet to the bottom of the robot gluing in place.

Set aside until dry.

When you're done, the robot can move its neck and arms and you can attach a photograph or short message using the alligator clip.

