



## **ZOOB Challenge Kit Hints**

To encourage you to try to solve the Challenges on your own, here are some hints to some of the challenges. Please note that there is more than one solution to each Challenge; these hints do not help with all of the solutions.

### **ZOOB Challenge #1 Hint**

Think about what it takes to make the car start moving. What materials that come with the ZOOB Challenge (or that you have around the house) could you use to make it start? You can't touch the car, but something that you build can.

Or, is there something you can build to propel the car across the table?

### **BONUS Challenge**

The hardest part of this Bonus Challenge is to make sure that whatever you build stays in place (otherwise the car will push it off the table and still fall off). How can you make ZOOB pieces stay where they are when the car runs into them? Or, how can you make the car move a little slower so it runs into whatever you build gently enough that it doesn't knock it off the table?



### **ZOOB Challenge #2 Hint**

#### **DON'T BE A SQUARE**

The ZOOB Cube that you build doesn't need to have all the edges of a square. Look at the ends of each different colored ZOOB piece carefully. Which ones can snap together with themselves in more than one way? For example, if you put two yellow pieces together, can they snap

together with another set of two yellow pieces? As you study the ZOOB pieces, think about how you can use the notches as well as the balls and jaws.

## **BONUS Challenge #1**

The solution to this Challenge that we know about uses two colored ZOOB pieces that are different from the color you used to build a cube with one color.

## **BONUS Challenge #2**

A pyramid is a shape that has a square as its base and triangles that sit on top of all four sides of the square. One point from each triangle comes together with the points from the others at the top. For this Bonus Challenge, the points at the top don't necessarily have to connect to each other—they just have to touch.

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## **ZOOB Challenge #3 Hint**

### **BATTLE BOT**

In order to knock over the Mini-ZOOBot, you will need to make something that you can activate and release. Since you can't use the ball, what else can you make that can roll (so you can push it and let it go)? What other components can you use that could propel something at the Mini-ZOOBot? You can also use a solution you create for the Bonus Challenge to solve this Challenge.

## **BONUS Challenge #1**

Think about what happens when you stand dominoes up in a line close together, then push over one of the dominoes at one end of the line. Can you make something like this with ZOOB pieces?

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## **ZOOB Challenge #4 Hint**

### **COUNT ME IN**

We think the hardest part of this Challenge is using the multiples correctly, so you may want to write out the first four or five multiples for each number before you start. For example, for “2” you would write: “2, 4 6, 8, 10” so you would know that you can only use these numbers as you build the number 2. Remember that your numbers will get bigger as they get larger.

## **BONUS Challenge #1**

The smallest number we came up with is xx. If you did better than that, please have one of your parents email us your first name, age, hometown, the number of pieces you used, and a picture of all 10 of your numbers.

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## **ZOOB Challenge #8 Hint**

You may want to figure out a way to make the frame stay in one place, so that it doesn’t move too much when you roll the ball into it.

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## **ZOOB Challenge #12 Hint**

You may want to figure out a way to make the frame stay in one place, so that it doesn’t move too much when you roll the ball into it.