

Design Brief **Hexbug® Nano® Maze Challenge***

Note: *This first page of the design brief is for teacher use to guide and communicate information about the challenge to students. It is not intended to be handed out to the young learners of focus in the “Oh No, Henrietta Got Out” article! The second page may be given to student teams to remind them of the required maze parts for the challenge.*

Problem:

The Hexbug® company has run out of mazes for its mini Nano robots! This is a big problem! You have a mini Nano robot, Henrietta, and you want to have her move through her own maze.

Goal:

To create your own maze for Henrietta.

Rules:

1. **Time:**
 - a. Planning: 10 minutes to place your blocks using a “model” or pretend Henrietta.
 - b. Trying and Trying Again: 20 minutes try and try again to create your maze with the real Henrietta.
2. **Teams:** You must work in teams of 2 or 3.
3. **Materials:** You have a basket of blocks: 10 foam blocks and 10 wooden. You may use all or some of those blocks to make the maze.
4. **Start and Stop:** You should mark the START of your maze with a green sticky note, and the END part of the maze with a red sticky note.
5. **Maze parts:** Your maze should include:
 - A straight section.
 - A bend where Henrietta makes a large change in direction (makes a big turn).
 - Something for Henrietta to go under.(see sheet on page 2 to hand out to students to remind students of these maze parts)

Math Connection:

Ask students to count the foam blocks (10) and wooden blocks (10) and total blocks (20) at the beginning of the challenge. At the end of the challenge, ask them to count the number of foam blocks they used, wooden blocks they used, and total blocks they used.

* Modified from Dr. Laura Bottomley’s Nanobug Mazes activity at Linkengineering.org:
<https://www.linkengineering.org/Share/247/5347.aspx>.

Note: This design brief is a supplementary document for the upcoming Science and Children article, “Oh No, Henrietta Got Out!”

Maze Parts

