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Blue Marble NGMRGID80

NATIONAL GEOGRAPHIC Glowing Marble Run Instruction Manual

Model: NGMRGID80

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1. INTRODUCTION

This manual provides instructions for the assembly, operation, and care of your NATIONAL GEOGRAPHIC Glowing Marble Run. This construction set is designed to allow users to build custom marble mazes and observe the movement of glow-in-the-dark marbles.



Image 1.1: Fully assembled Glowing Marble Run with marbles.

2. SAFETY INFORMATION

- Not suitable for children under 8 years of age.
- For use under adult supervision.
- Small parts (marbles) present a choking hazard. Keep away from young children and pets.
- Ensure all pieces are securely connected to prevent collapse during play.

3. PACKAGE CONTENTS

Verify that all components are present in your package:

- 45 Smooth-Run Tube Pieces for building the marble run structure.
- 15 Glow-in-the-Dark Marbles in 6 different colors.
- 1 Storage Bag for components.

- 1 Marble Pouch.
- 1 Learning Guide with activities.
- 3 LR41 batteries (included for any light-up components, if applicable).

REAL GLASS MARBLES GLOW IN THE DARK!



Image 3.1: Contents of the Marble Run Kit.

4. SETUP AND ASSEMBLY

1. **Unpack Components:** Carefully remove all pieces from the packaging. Separate the different types of track pieces, bases, and action pieces.
2. **Plan Your Design:** Before connecting pieces, consider the layout of your marble run. Start with a stable base on a flat, level surface.
3. **Connect Pieces:** The construction kit features tight-fit pieces. Align the connectors and push them firmly together until they are snug. Ensure each connection is secure to prevent the structure from falling apart during use.
4. **Incorporate Action Pieces:** Integrate the 15 exciting action pieces (e.g., spinners, ramps, funnels) into your

design to create varied marble paths.

5. **Build Vertically:** Use the tube pieces to build height and create drops for the marbles. Ensure the structure remains balanced as you build upwards.
6. **Test Stability:** Periodically test the stability of your marble run by gently pushing on different sections. Reinforce any wobbly areas with additional support pieces or by re-connecting loose joints.

RACE YOUR MARBLE DOWN A TWISTING TURNING MAZE



Image 4.1: Example of a marble run in operation.

5. OPERATION

1. **Prepare Glow-in-the-Dark Marbles:** To activate the glow feature, expose the 15 glow-in-the-dark glass marbles to a light source for a few minutes. Brighter and longer exposure will result in a more intense and prolonged glow.
2. **Place Marbles:** Carefully place one or more marbles at the starting point of your marble run.
3. **Observe Movement:** Release the marbles and observe their path through the various tubes and action pieces.

4. **Experiment:** The included learning guide provides experiments and ideas for designing different marble runs to explore concepts of physics, motion, and aerodynamics.

LEARNING GUIDE WITH ACTIVITIES INCLUDED

The math can get pretty complicated, but basically when an object changes direction, some of the energy pushing the object gets channeled into the change of direction, so the object slows down. You probably feel this when you're in a car that is going around a sharp curve.

An object's velocity can also change if it has to overcome some obstacle or *impediment*. Because some energy is needed to move the impediment out of the way, there is less energy available for forward motion.



Experiment with Design

Which arrangement of pieces will make the marbles run fastest?
Which arrangement will make them run slowest?



FASTEST MARBLE RUN

Trial 1	Time:
Trial 2	Time:
Trial 3	Time:
Trial 4	Time:

Total time for 4 runs: _____

Average time (divide total by 4): _____

SLOWEST MARBLE RUN

Trial 1	Time:
Trial 2	Time:
Trial 3	Time:
Trial 4	Time:

Total time for 4 runs: _____

Average time (divide total by 4): _____

Use a stopwatch to time how fast your marbles fall. Record your results from four runs, and then average the times. Compare your results with a friend's.

Try setting up your structure on stairs or a tabletop and chair to an even higher run.

Use the splitter piece to create two options for each marble run, see which side is fastest. Do the marbles go down one side more than the other?

Image 5.1: Close-up of glow-in-the-dark marbles.



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Image 5.2: Excerpt from the included Learning Guide.

6. MAINTENANCE

- **Cleaning:** Wipe plastic pieces with a soft, damp cloth as needed. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** After use, disassemble the marble run and store all pieces, including the marbles, in the provided storage bag. This helps prevent loss and keeps the components organized.

EASY TO PACK & STORE



Image 6.1: Storage of marble run components in the drawstring bag.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Marble run is unstable or collapses.	Pieces are not securely connected; insufficient base support.	Ensure all connections are firm. Build on a flat, stable surface. Add more base pieces or widen the base for better stability.
Marbles are not glowing in the dark.	Marbles have not been sufficiently charged with light.	Expose marbles to a bright light source (e.g., lamp, sunlight) for several minutes to charge their glow.
Pieces do not fit together.	Incorrect orientation of pieces; debris in connectors.	Check that pieces are aligned correctly. Ensure connectors are clear of any obstructions.

8. SPECIFICATIONS

- **Product Dimensions:** 14.02 x 4.02 x 10 inches
- **Item Weight:** 15.5 ounces
- **Item Model Number:** NGMRGID80
- **Manufacturer Recommended Age:** 8 years and up
- **Batteries:** 3 LR41 batteries required (included)
- **Language:** English
- **Manufacturer:** JMW Sales, Inc.

9. CUSTOMER SUPPORT

For further assistance, questions, or to report missing/damaged parts, please contact Blue Marble customer support. Refer to the product packaging for specific contact details or visit the official Blue Marble website.

Warranty Information: Specific warranty details are typically provided with the product packaging or on the manufacturer's official website. Please retain your proof of purchase for any warranty claims.