

SLOW MARBLE ROLL

GRADES K-12

MATERIALS

- Marble or ball
- Flat surface (e.g. table, board, etc.)
- Variety of household items
- Optional: stopwatch or phone timer



ACTIVITY

- Tilt the surface by placing objects under one edge.
- Roll the marble or ball across the surface. Then, place various objects to slow the marble down and make it take as long as possible to cross the surface.

CREATE

Allow for many iterations and alterations as the child attempts different ideas.

OBSERVE

See how the marble is affected by different objects, surfaces, or the angle of slope of the surface. How slow can the marble roll before stopping?

PLAY

Allow the child to experiment with different items, placement, and surfaces to see how to make the marble roll as slowly as possible.

KEY CONCEPTS

Science Concepts

- Momentum
- Friction
- Speed over time
- Gravity's effects on objects.
- Cause and effect

Math Concepts

- Slope
- Angles
- Measuring time and distance.
- Averages, statistics

QUESTIONS TO ASK

- What kinds of things do you find useful for changing the path of the marble?
- What kinds of things do not work?
- Are there other ways to slow the marble down?
- What would you do differently if you wanted the marble to roll fast?

THINGS TO NOTICE

- Child's playfulness, engagement, and persistence.
- Is the child able to modify or abandon ideas that are not working to their satisfaction?
- When a path is created, in what ways does the learner seek to improve their creation?

RESOURCES

- [Video instructions](#)
- [AIMS HANDS ONline Webinar](#)