Community Spotlight

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Beanbag Toss (Grades 6-8) (Version 1.0)
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Module Description:
The classroom lesson presents students with the task of developing a fair—yet challenging—beanbag toss game. The game must be fair enough to attract players, and challenging enough to keep them invested. Students use the resources at their disposal to design a carnival game, and use data to set an appropriate level of challenge by changing player accuracy. Students may brainstorm one of many different modeling problems:

- How big should the target be?
- How far should a player stand from the target?
- What kind of obstacles should be in the way?

The activity involves possible mathematical tools drawn from data collection, probabilities, and distribution.

In addition to a student worksheet, this resource contains information for instructors, including a list of learning goals with relevant Common Core Standards and a detailed lesson plan.

This activity was developed with NSF funding (Grant STEM-C-1441024).

Teaching Setting:
This activity was designed for grades 6-8.

QUBES Citation:

Visit Resource
Related Materials and Opportunities:

This resource was created by members of the Math Modeling Hub (MMHub). MMHub is an online community and resource repository for the teaching and learning of mathematical modeling at all grade levels. It is being collaboratively organized by COMAP, NCTM, and SIAM - three substantial mathematics professional societies with interests in modeling education. MMHub recently launched its beta testing phase and is actively seeking users and feedback around their modeling teaching materials. Browse other MMHub resources, which are designed for pre-K through graduate students, or visit their Getting Started page to learn how you can get involved.

The authors of this resource also designed beanbag toss activities for students in grades 3-5 and K-2. It’s never too early to introduce mathematical modeling to your students!

If you are interested in incorporating mathematical modeling into your classroom, you may find it useful to reference the Guidelines for Assessment and Instruction in Mathematical Modeling Education (GAIMME) Report, which describes what mathematical modeling is and provides guidance on how to teach it to students at different grade levels. Learn more about the GAIMME Report and download it here.