

Standards in MESA
Cornhole Catapult - HS

Science

HS.PS3.A: Transference of Energy

HS.PS3.B: Conservation of Energy and Energy Transfer

HS.PS3.3: Design, evaluate, and/or refine a solution to a complex real world problem based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations

Mathematics

A1.MP1 - Make sense of problems and persevere in solving them.

A1.MP3 - Construct viable arguments and critique the reasoning of others

A1.MP7 - Look for and make use of structure

G.G-MG.A.1: Use geometric shapes, their measures, and their properties to describe objects utilizing real-world context

G.G-MG.A.3: Apply geometric methods to solve design problems utilizing real-world context

G.G-GMD.A.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems utilizing real-world context.

A1.N-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. Include problem-solving opportunities utilizing real-world context.

A1.A-CED.A.3: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.

ELA

9-12.W.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content

9-12.W.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

9-12.W.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation

9-12.SL.4: Present information, findings, and supporting evidence in an organized, developed style appropriate to purpose, audience, and task, allowing listeners to follow the speaker's line of reasoning, message, and any alternative perspectives.

Middle School

Science

MS-PS2-1: Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

MS-PS2.A: Forces and Motion

MS-PS3.B: Conservation of Energy and Energy Transfer

Mathematics

A1.MP1 - Make sense of problems and persevere in solving them.

A1.MP3 - Construct viable arguments and critique the reasoning of others

A1.MP7 - Look for and make use of structure

6.RP.A.3: Use ratio and rate reasoning to solve mathematical problems and problems in real-world context

7.G.B.6: Solve mathematical problems and problems in a realworld context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Solve mathematical problems and problems in real world context involving volume and surface area of three dimensional objects composed of cubes and right prisms

8.G.C.9: Understand and use formulas for volumes of cones, cylinders and spheres and use them to solve real-world context and mathematical problems.

8.SP.A.1: Construct and interpret scatter plots for bivariate measurement data to investigate and describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

ELA

6-8.W.2:Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

6-8.W.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience

6-8.SL.4: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes;