



Next Generation Science Standards (NGSS) High School Physical Science

ETS1-3 Engineering Design

- Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Science and Engineering Practices

- Using Mathematics and Computational Thinking

Disciplinary Core Ideas

- ETS1.B: Developing Possible Solutions

Cross Cutting Concepts

- Systems and System Models

Middle School Physical Sciences

MS-PS2 Motion and Stability: Forces and Interactions

- MS-PS2-2. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object

Science and Engineering Practices

- Planning and Carrying out Investigations Engaging in Argument from Evidence

Disciplinary Core Ideas

- PS2.A: Forces and Motion

Cross Cutting Concepts

- Systems and System Models



21st Century Skills

- Work Creativity with Others: 1.A.3, 1.B.1, 1.B.2, 1.B.4
- Reason Effectively: 2.A.1
- Use Systems Thinking: 2.B.1
- Make Judgements and Decisions: 2.C.1, 2.C.3, 2.C.4, 2.C.5
- Solve Problems: 2.D.1, 2.D.2
- Communicate Clearly: 3.A.2, 3.A.3, 3.A.5
- Collaborate with Others: 3.B.1, 3.B.2, 3.B.3
- Use and Manage Information: 4.B.2
- Apply Technology Effectively: 6.A.1
- Adapt to Change: 7.A.1
- Be Flexible: 7.B.1, 7.B.2
- Manage Goals and Time: 8.A.3
- Work Independently: 8.B.1
- Interact Effectively with Others: 9.A.1, 9.A.2
- Work Effectively in Diverse Teams: 9.B.1
- Manage Projects: 10.A.1
- Produce Results: 10.B.1.B, 10.B.1.E, 10.B.1.F
- Guide and Lead Others: 11.A.1