Title: Technology I – launching marshmallows
Grade Level: 3
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Benchmarks & Objective:

- ST-1: Describe how technology can extend human abilities
- ST-4: Use a simple design process to solve a problem (identify a problem and identify possible solutions to the problem)
- ST-5: Describe possible solutions to problems

Materials:

- Metal coat hangers
- Marshmallows
- Measuring tape
- Masking tape
- Science journals

Target Concept:

To use the given materials to launch a marshmallow a set distance.

Initial Introduction:

Explain to the students that technology is used to solve problems of practical importance. Continue to explain that a problem may be simple or very complex and that either case there are various solutions.

Procedure:
1. Break the class into groups of 2-3
2. Give each group one hanger and one marshmallow
3. Use the measuring tape to walk-off 10 feet and then use the masking tape to mark the beginning and end
4. Tell the students that they are to launch the marshmallow, from the floor, using the hanger and nothing else.
    a. Have the students describe the solution process and draw and pictures in their journals
5. Once everyone is finished let each group demonstrate their design by launching the marshmallow
    a. Keep track of how far each group launches their mallow
6. Have the students describe any differences between designs and try to explain how those differences resulted in differences in launch distance

Target Observations:

- There are various solutions to a problem and that the process of solving a problem isn't necessarily easy.

Final Target Concept:

The students should have learned that technology and brainstorming can be used to solve problems.

Summary & Discussion:

Discuss with the students each of the designs and how the design gave different launch distances. Continue to tell the students that even though the problem was simple and not of practical use, the process of designing a solution is the same. Finally, go through the actual steps of the design process (identify a need or problem, research to learn about the problem, design product or solution, build and test the technology and make revisions, test and evaluate final product, accept or reject design – if reject go back to build stage) and ask the students to share their own experiences for each of these steps.