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5th-grade teacher
Cambridgeport School

Garden lesson:

***Simple
Machines***

citysprouts



**The
Cambridgeport
Learning
Garden**

A photograph of a raised garden bed. The bed is made of grey wood and contains several green plants, including what appears to be a tomato plant with a yellow support stake. A blue wooden marker is placed in the soil. In the foreground, a white sign with purple and green text is propped up. The background shows a chain-link fence and more greenery.

The Cambridgeport Learning Garden

Flowers & Vegetables
growing Here!
Please respect them
and DONOT pull them
out of the garden bed.

citysprouts
Public School gardens
for teaching and learning

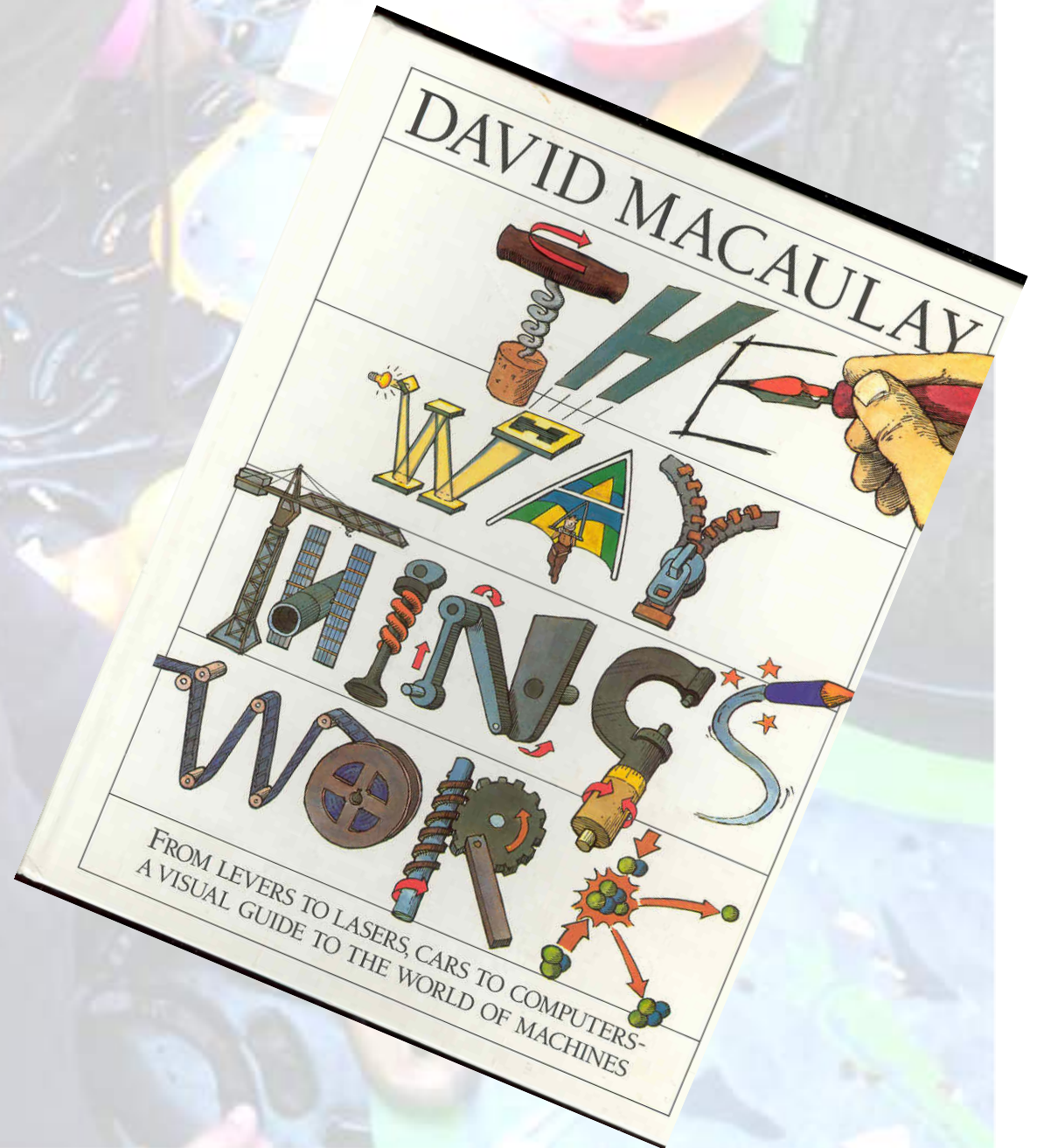


Learning Goals

- Students will understand how different simple machines do *work*.
- They will identify the simple machines in the apple chopper and cider press (wedge, wheel and axle, lever, inclined plane, and screw).

Materials

- *The Way Things Work* by David Macaulay
- Science journals
- CPS Science Grade 5 PowerPoint presentation on simple machines



Sample Page from CPS PowerPoint: Inclined Plane

- Makes it easier to move objects upward, but you have to go further horizontally
- **Examples:** highway or sidewalk ramp, stairs, inclined conveyor belts, switchback roads or trails



Activities

The garden coordinator sets up the cider press.





Activities

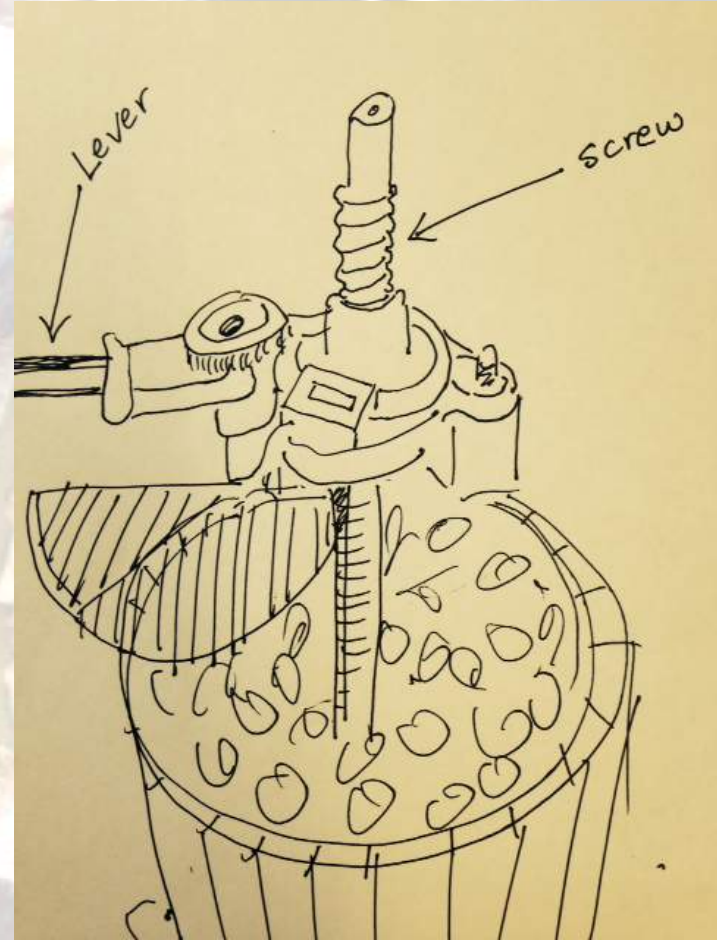
- 5th graders partner with Kindergarten buddies.
- Students move from station to station, eventually helping at each step of the process.



Activities

**Children enjoy
their cider.**

Activities

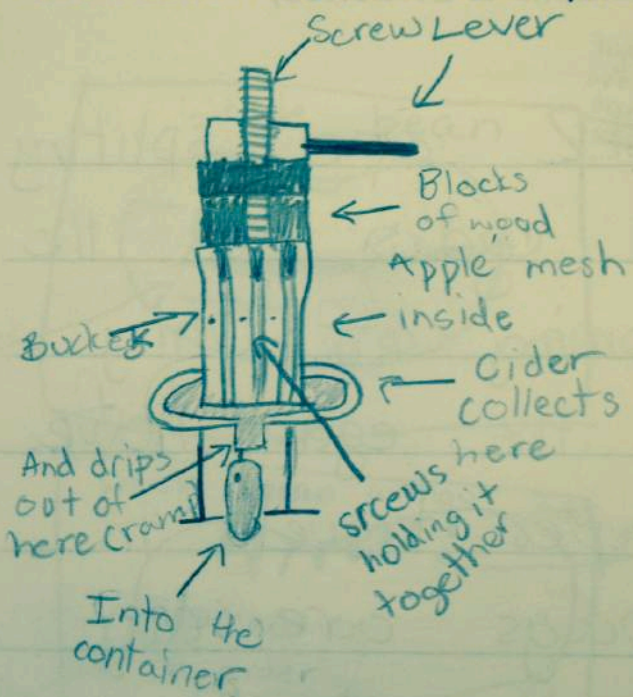


Students identify and draw the simple machines in the cider press.

Student Drawing & Journal Entry

TITLE: Apple press

Data Collection, Charts, Graphs, & Scient



"This project helped me learn about physics. I think it helped me learn more than if we just had written notes. Drawing the parts of the cider press helped me to really understand the simple machines."

--Ellie, 5th grade student

You	put	the	apple	mesh
you	put	the	blocks	of

Optional Activity

A close-up photograph of a hand holding a metal kitchen strainer over a bowl of food. The strainer is a simple machine with a handle and a mesh basket. The background is slightly blurred, showing a kitchen setting with a red bowl and other items.

Students analyze kitchen implements to practice “finding” and drawing simple machines.

Outcomes

- **Students were invested in learning about simple machines because they would be using the machines in the next class. They had real work to do, and simple machines were clearly visible and crucial to the process.**
- **Students enjoyed being responsible for the making of the cider and for helping their kindergarten buddies.**
- **They understood each of the different simple machines and saw how they provided a mechanical advantage.**
- **The cider pressing allowed our study of simple machines to turn into hands-on, meaningful work--with a treat of fresh pressed cider to drink at the end!**

Recommendations

- **Spend two classes introducing the concepts and one or two classes on follow up:**
 - **1st class reading based,**
 - **2nd class looking for simple machines in kitchen implements.**
 - **3rd class cider pressing**
 - **4th class makes a slide show of photos and drawings.**