### Lesson

- Provide each group with samples of cloth, tin foil and wax paper.
  - How does each sample feel?
  - Which is smoothest? Roughest?
- Have students cover the bottom of pennies with materials:
  - Trace penny, cut out, glue on bottom
- Explain activity to students:
  - Place penny at end of table
  - Raise until penny slides
  - Measure height when raised
- Show a guide demo
- Hand out work sheet, showing students where to record height
- Students perform experiment

### Reminders


### Supplies Needed

- Cookie sheet
- Sheet of ice
- Various types of cloth
- Tin foil
- Wax paper
- Markers
- Pennies
- Scissors
- White glue

### Homework


### Notes

*Need to prepare ice prior to class

1ce d1d not work, use a book
Lesson: 4-13  Unit: Movement  Topic: Friction & Sled

Lesson

- Review experiment
- Have students answer questions on the back of the worksheet from previous class
- Discuss "Friction" — when surfaces rub they get caught on one another
  — even though look flat, they are not
- Explain activity — use information learned last class to build a sled
- Students build and play with sleds
  — frame with popsicle sticks
  — cover runners with material

Reminders

Supplies Needed

- Work sheets
- Various types of cloth
- White glue
- Cookie sheets with rice
- Tin foil
- Popsicle sticks
- Wax paper
- Scissors

Homework

Notes
**Lesson**

- "When you have difficulty doing something, what can you do to get the job done?" → use a tool (machine)
- Put a couple of tools on each desk
  - What is the name of the tool?
  - How is it used?
  - When would you use it?
  - How does it work?
  - How does it make work easier?
- What is work? → The energy needed to do a job.
- Hand out worksheet and explain
- Students work on worksheet.

**Reminders**

- Have students play
  - Rotate to each desk
  - Then discuss
  - Put ideas on board

**Supplies Needed**

- Worksheet
- Toolbox with large variety of tools

**Homework**

**Notes**
Lesson:

- Tell students that today's lesson would go backwards.
  - First they will do a worksheet
  - Then we will talk about the lesson
- Hand out worksheet and explain what to do.
- Give students ~ 15 minutes (max) to finish
- Inform students that they have just learned about the 6 simple machines
- Discuss (taking student input) each of the 6 simple machines
- Show an example of each
- Discuss penny slide activity in regards to inclined plane

Reminders:

Supplies Needed:

Worksheet

Homework:

Notes:
**Lesson**

- "What would you say if I told you that I think any one of you could pick me up?" - play it up
- Use ruler to show half brick lifting full brick = compare to fulcrum
- Discuss the fact that it is a lever (a bar used to help move something)
- Discuss parts of a lever (arm, fulcrum, load, effort)
- There are 3 types of levers → seesaw, trampoline = class 1
  - wheelbarrow = class 2
  - hockey stick = class 3
- Hand out work sheet

**Reminders**

**Supplies Needed**
- Meter stick
- Trampoline
- Work sheet
- Bricks

**Homework**

**Notes**
Lesson:
- Today we will talk about two more "simple machines."
- A wedge is a tool with a slanted surface that ends at a thin edge.
- Show example (tool or knife etc)
- Wedges are used to separate or push things apart.
- Discuss examples (cutting wood, using a knife, prying frozen hamburgers)
- A pulley is a simple machine that uses a rope or cable that goes through a grooved wheel.
- Pulleys can make it very easy to lift something.
- Example - use string to make pulley system and lift something
- Worksheet

Reminders

Supplies Needed

- Worksheet
- Broom
- Apole
- String
- Weights

Homework

Notes
Lesson: 4-18  Unit: Movement  Topic: Screw / Wheel & Axle

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| - Explain that an "Inclined Plane" is a simple machine and we have already done some work with inclined planes → penny slide, so we don't need a worksheet.  
- An inclined plane is any slanted surface → makes it easier to move (ramp).  
- "What is a screw?" → take answer.  
- "What if I told you that was only one type?" → discuss screw vs any threaded surface is → jar, etc.  
- Screws need to be turned to work.  

- The last simple machine is the "wheel & axle."  
- Practically reduces friction, making it easier to move things.  
- Sometimes axle is turned (as in a car), other times the wheels are turned to make axle move → raising bucket in a well. |

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**Lesson**

- Explain to students that they have now learned about all 6 types of simple machines.
- Review each one quickly.
- Inform students that the work they are doing, starting today, is going to be marked for their report card, so take their time and be sure to answer carefully.
- Hand out and explain activity.

**Reminders**

**Supplies Needed**

- Simple machine booklets.

**Homework**

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| - Students are to continue work on their simple machine booklets  
  - If finished students should verify that all other previous work is complete, if not finish it  
  - If all done → read. |

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