



# Grade 8 Science

## Unit 3: Fluids



### Pressure Applications

When we first took a look at hydraulics and pneumatics we briefly discussed a few examples of systems that use pressure to produce the desired outcome. Today you will be researching systems like that, human technology that uses the principals of fluid pressure. Your goal is to show/explain to the class how the technology works, and how hydraulics/pneumatics are being used.

Timeline:

Today	Choose a technology
	Research your chosen technology
Next Class	Finish research
	Prepare a presentation using Google slides
4 Periods from now	Present your presentation to the class

This task will be done in pairs or groups of three (I will expect more from a group of three).

# Pressure Applications

## Outline:

Your presentation is to communicate the following information:

- State what technology you are presenting
- Explain the purpose of the technology (what is it used for)
- Does it use hydraulic or pneumatic principles
- State what the input is (do you apply a force to it, do you turn something, squeeze something, pull a trigger, etc)
- State what the output is (do parts come together, move apart, does something turn, is something elongated, etc)
- Explain how this technology makes something easier/better
- Discuss any environmental, or other, impacts that this technology may have (e.g., if it leaks, it could pollute a stream, it makes it easier to cut down more trees, it does the job faster, so fewer people are needed - less jobs)
- Add any other interesting/important information you feel will fit
- Include pictures/drawings to support your information

# Pressure Applications

Here is an example of a project put together by a pair of grade 8 students. This slide show covers all of the content required of this assignment.



[click image](#)



# Pressure Applications

We will use the remainder of the period to work on this task. When you have a pair/group, please write your initials on the board. Once you have decided on a technology, please add that beside your initials. When the timer goes, please return the computers. Name your file:

"Pressure Applications - Technology Name - Group Member Names"

Initials	Technology
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____



- Name of Technology
- Purpose
- Hydraulic or Pneumatic
- Input
- Output
- How is it Better
- Environmental Impacts
- Other Info
- Pictures

# Pressure Applications

We will continue to work on this next period. If you do not feel you did enough research, you may continue to work on this outside of class.

We will present the information four periods from now.





# Pressure Applications

## Examples:

All of the technologies below use fluid pressure in their function:

- Excavator
- Dentist Chair
- Fork Lift
- Car Jack
- Jack Hammer
- Exercise Equipment
- Nail Gun
- Dump Truck
- Door Damper (the thing that stops it from slamming)
- Car Brakes
- Gas Pump
- Power Steering
- Bucket Lift