**Energy Chapter 3**

**Simple machines**

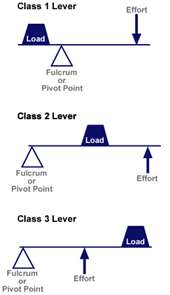
[](http://images.search.yahoo.com/images/view;_ylt=A0PDoS_7eidP5VIAIfeJzbkF;_ylu=X3oDMTA3cnMybzJvBHNsawNpbWc-?back=http://images.search.yahoo.com/search/images?p=pictures+simple+machines&n=30&ei=utf-8&tab=organic&ri=7&w=1340&h=1181&imgurl=www.irc.vbschools.com/ForTheWeb/Science/images/SimpleMachines.jpg&rurl=http://www.irc.vbschools.com/fortheweb/science/pages/simplemachines_jpg.htm&size=147+KB&name=Previous+|+Science+Home+|+Next+|+Subjects&p=pictures+simple+machines&oid=34641ab67b0b192ed9e44720aa336fff&fr2=&fr=&tt=Previous+%7C+Science+Home+%7C+Next+%7C+Subjects&b=0&ni=36&no=7&tab=organic&ts=&sigr=12b23nkk7&sigb=136rgulh4&sigi=121eklho2&.crumb=oRJdnVE3N2L)

**-involve applications of work, energy, and the conservation of energy**

**Lab p42-43-ruler**

**Lab 44-scissors**

**Lever with rock(lever system)**

[](http://images.search.yahoo.com/images/view;_ylt=A0PDoS_aeidPMC4AONWJzbkF;_ylu=X3oDMTA3cnMybzJvBHNsawNpbWc-?back=http://images.search.yahoo.com/search/images?p=pictures+simple+machines+levers+classes&n=30&ei=utf-8&tab=organic&ri=23&w=259&h=448&imgurl=www.pbs.org/wgbh/nova/teachers/activities/images/27ms_sle2treb_levers.gif&rurl=http://www.pbs.org/wgbh/nova/teachers/activities/27ms_sle2treb.html&size=7.9+KB&name=Diagram+of+three+classes+of+levers&p=pictures+simple+machines+levers+classes&oid=ad841ad2789a2518147343efc883aa1d&fr2=&fr=&tt=Diagram+of+three+classes+of+levers&b=0&ni=36&no=23&tab=organic&ts=&sigr=123bccpqc&sigb=13mbm6urk&sigi=129ljqq90&.crumb=oRJdnVE3N2L)

**Work done on system=work done by system**

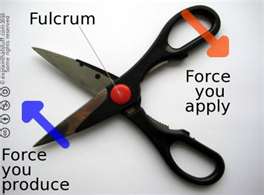
**F1d1=F2d2**

**Look at page 46 figure 3.9**

**Try it again and compare the Forces and distances and you should notice that they will equal on each side**

**You will have a trade-off between force and distance, which is the basis for the operation of all the machines**

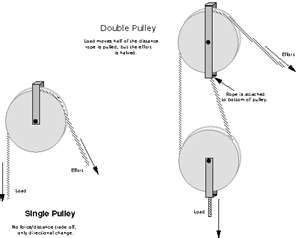
**Scissors**

[](http://images.search.yahoo.com/images/view;_ylt=A0PDoS.leidPV2wA4d.JzbkF;_ylu=X3oDMTA3cnMybzJvBHNsawNpbWc-?back=http://images.search.yahoo.com/search/images?p=pictures+simple+machines+levers&n=30&ei=utf-8&tab=organic&ri=41&w=400&h=296&imgurl=cdn3.explainthatstuff.com/scissors.jpg&rurl=http://www.explainthatstuff.com/toolsmachines.html&size=17+KB&name=How+tools+and+simple+machines+work:+A+simple+introduction+from+Explain+...&p=pictures+simple+machines+levers&oid=943424a60e73d21e879c6f8d3c7e9baf&fr2=&fr=&tt=How+tools+and+simple+machines+work%3A+A+simple+introduction+from+Explain+...&b=31&ni=36&no=41&tab=organic&ts=&sigr=11iosnpv5&sigb=13epe0b8u&sigi=116n6r966&.crumb=oRJdnVE3N2L)

**(two levers that move in opposite direction)**

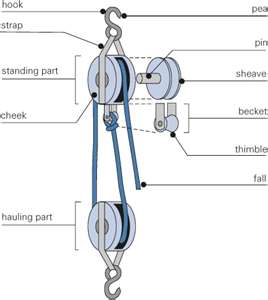
**Lab p50-51**

**Pulleys**

[](http://images.search.yahoo.com/images/view;_ylt=A0PDoS_GeydPCk4AYiaJzbkF;_ylu=X3oDMTA3cnMybzJvBHNsawNpbWc-?back=http://images.search.yahoo.com/search/images?p=picture+pulley++simple+machines&n=30&ei=utf-8&tab=organic&ri=3&w=511&h=407&imgurl=www.mechlook.com/wp-content/uploads/2009/08/machine_simple-machine_pulley.gif&rurl=http://www.mechlook.com/2009/08/machines/&size=5.7+KB&name=machine_simple+machine_pulley&p=picture+pulley++simple+machines&oid=fc2547dce5809e2651bc3c19472b6ba7&fr2=&fr=&tt=machine_simple+machine_pulley&b=0&ni=36&no=3&tab=organic&ts=&sigr=119ic2mfe&sigb=13dsavmeg&sigi=12dso0b43&.crumb=oRJdnVE3N2L)

**Lab-build a block and tackle p53**

**Block and tackle**

[](http://images.search.yahoo.com/images/view;_ylt=A0PDoS.BeydPoBsAvr6JzbkF;_ylu=X3oDMTA3cnMybzJvBHNsawNpbWc-?back=http://images.search.yahoo.com/search/images?p=picture+block+and+tackle+simple+machines&n=30&ei=utf-8&tab=organic&ri=7&w=420&h=470&imgurl=bemidji.k12.mn.us/~kmcmartin/S01848C83-01848C83.12/block%20&amp;%20tackle%20pulley.jpg&rurl=http://bemidji.k12.mn.us/~kmcmartin/?OpenItemURL=S01848C83-01848C83&size=54.3+KB&name=block+&amp;+tackle+pulley.jpg&p=picture+block+and+tackle+simple+machines&oid=3e3cbc7693f8d68826c5aecacf9272c6&fr2=&fr=&tt=block+%26amp%3B+tackle+pulley.jpg&b=0&ni=36&no=7&tab=organic&ts=&sigr=123h7kol6&sigb=13motbf01&sigi=12m7qgueh&.crumb=oRJdnVE3N2L)

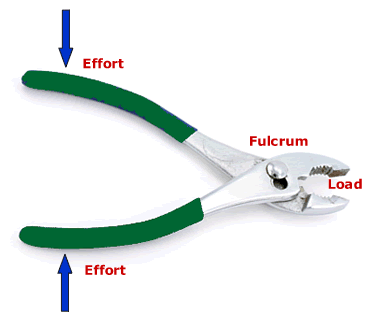
**Efficiency**

**Efficiency=work out x 100**

**Work in**

**Lab p56 fingernail clippers**

**List other objects you may want to use with kids to demonstrate levers:**

[](http://rds.yahoo.com/_ylt=A0PDoS9peidP3EcAMWOjzbkF;_ylu=X3oDMTBpcGszamw0BHNlYwNmcC1pbWcEc2xrA2ltZw--/SIG=12gun1v5d/EXP=1328016105/**http:/www.schoolforchampions.com/science/machines_lever.htm)