




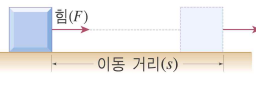
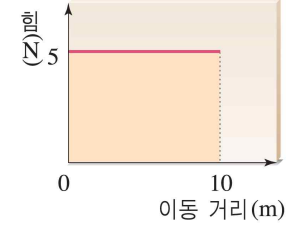

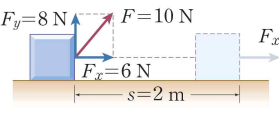
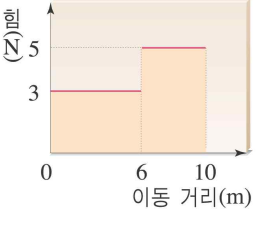
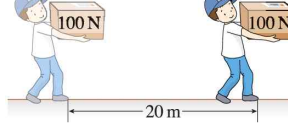
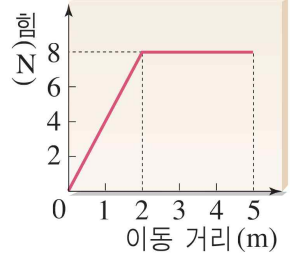
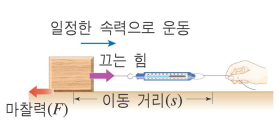
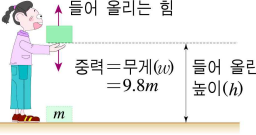
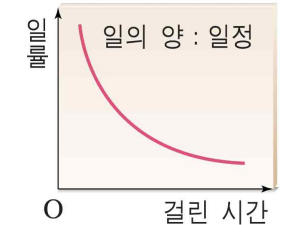
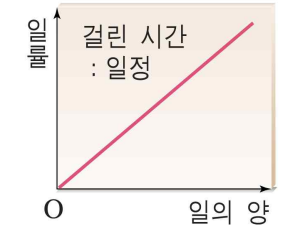
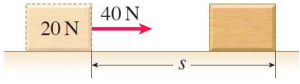
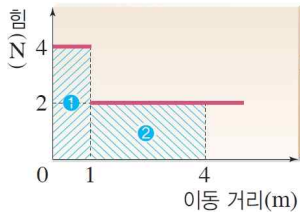
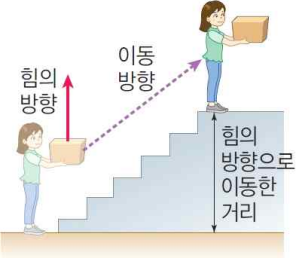
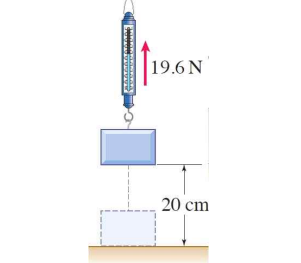
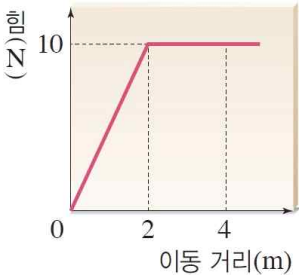
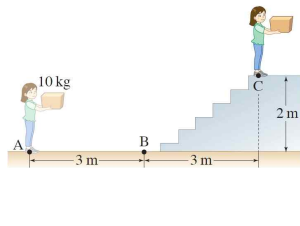
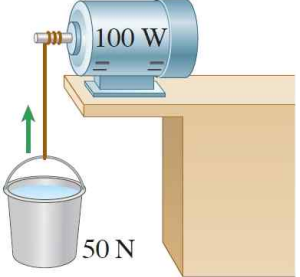
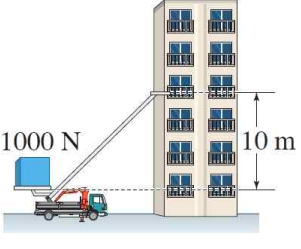
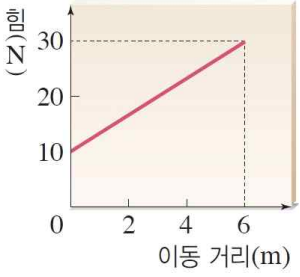
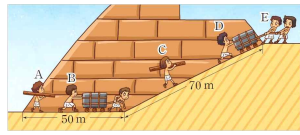
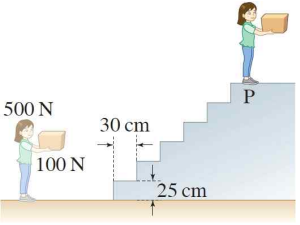
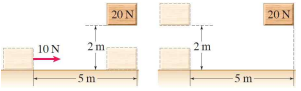
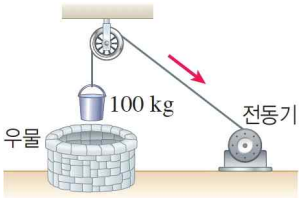
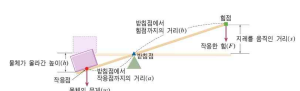
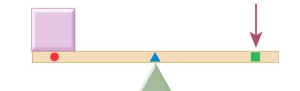
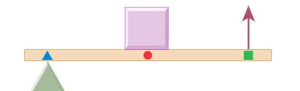
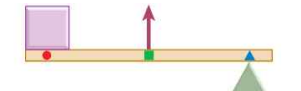


VI 일과 에너지 전환

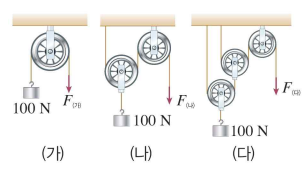
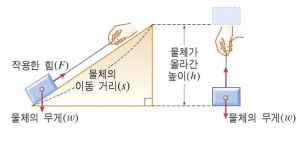


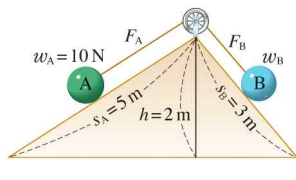
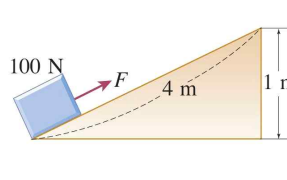
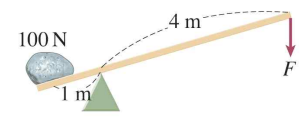
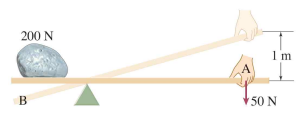
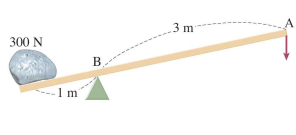
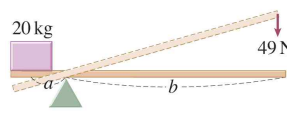
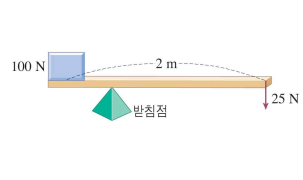
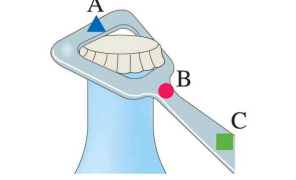
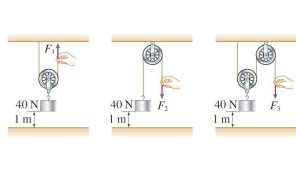
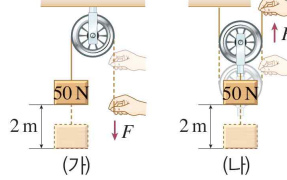
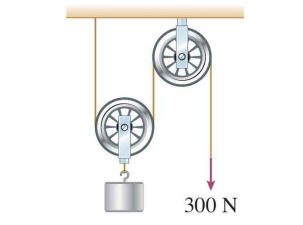
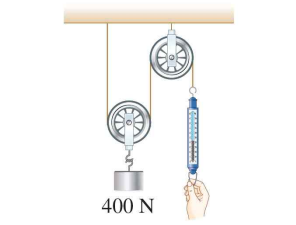
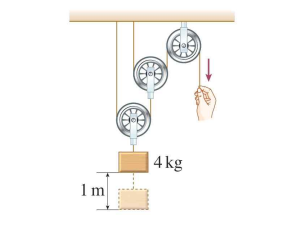
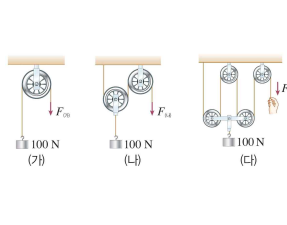
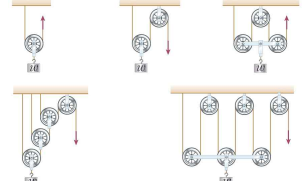
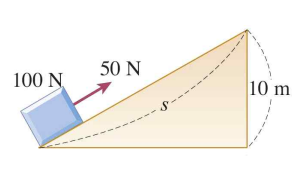
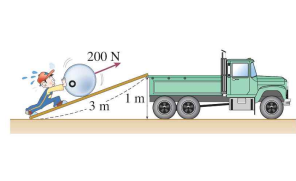
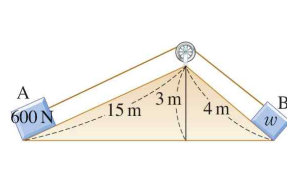
01. 일과 일률			
6-01-01(일)	6-01-02(일)	6-01-03(스케이트)	6-01-04(역기,가방들기)
			
6-01-05(가방 들고 걷기,인공위성)	6-01-06(일의양)	6-01-07(이동거리-힘그 래프)	6-01-08(등속직선운동)
			
6-01-09(힘이비스듬히작 용할때)	6-01-10(이동거리-힘그 래프)	6-01-11(일의양)	6-01-12(이동거리-힘그 래프)
			
6-01-13(마찰력에대한일)	6-01-14(중력에대한일)	6-01-15(걸린시간-일률 그래프)	6-01-16(일의양-일률그 래프)
			

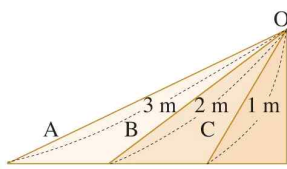
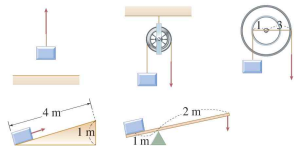
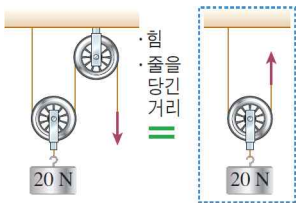

6-01-17(일률비교)	6-01-18(일률비교)	6-01-19(질량과무게)	6-01-20(계단을올라갈때일률)								
6-01-21(마찰력에대한일)	6-01-22(중력에대한일)	6-01-23(일률)	6-01-24(이동거리-힘그래프)								
			<table border="1"> <caption>Graph Data</caption> <thead> <tr> <th>이동 거리 (m)</th> <th>힘 (N)</th> </tr> </thead> <tbody> <tr> <td>0 - 2</td> <td>5</td> </tr> <tr> <td>2 - 5</td> <td>10</td> </tr> </tbody> </table>	이동 거리 (m)	힘 (N)	0 - 2	5	2 - 5	10		
이동 거리 (m)	힘 (N)										
0 - 2	5										
2 - 5	10										
6-01-25(마찰력에대한일)	6-01-26(중력에대한일)	6-01-27(일의양비교)	6-01-28(책 수직)								
6-01-29(책 수평)	6-01-30(일의양)	6-01-31(계단을올때일의양)	6-01-32(일의양)								
6-01-33(일률)	6-01-34(이동거리-힘그래프)	6-01-35(계단을올때일률)	6-01-36(마찰력에대한일)								
	<table border="1"> <caption>Graph Data</caption> <thead> <tr> <th>이동 거리 (m)</th> <th>힘 (N)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>10</td> </tr> <tr> <td>4</td> <td>20</td> </tr> <tr> <td>6</td> <td>30</td> </tr> </tbody> </table>	이동 거리 (m)	힘 (N)	2	10	4	20	6	30		
이동 거리 (m)	힘 (N)										
2	10										
4	20										
6	30										

6-01-37(일의 양)	6-01-38(일률)	6-01-39(이동거리-힘 그래프)	6-01-40(시간-일의 양 그래프)
			
6-01-41(일률)	6-01-42(수평, 수직으로 한 일)	6-01-43(인공위성에 한 일)	6-01-44(물체에 한 일)
			
6-01-45(상자에 한 일)	6-01-46(수평, 수직으로 한 일)	6-01-47(공중정원)	6-01-48(일의 예)
			
6-01-49(일의 예)	6-01-50(일의 예)	6-01-51(일이 아닌 예)	6-01-52(일이 아닌 예)
			
6-01-53(일)	6-01-54(힘-이동거리 그래프)	6-01-55(힘-이동거리 그래프)	6-01-56(등속 원운동)
			

6-01-57(일)	6-01-58(힘-이동거리 그래프)	6-01-59(계단을 오를 때의 일)	6-01-60(중력에 대한 일)
			
6-01-61(힘-이동거리 그래프)	6-01-62(계단을 오를 때의 일)	6-01-63(전동기의 일률)	6-01-64(사다리차의 일률)
			
6-01-65(힘-이동거리 그래프)	6-01-66(피라미드)	6-01-67(계단을 오를 때의 일)	6-01-68(마찰력과 중력에 대한 일)
			
6-01-69(전동기의 일률)			
			
02. 도구와 일의 원리			
6-02-01(지레의원리)	6-02-02(1종지레)	6-02-03(2종지레)	6-02-04(3종지레)
			

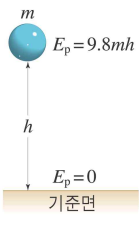

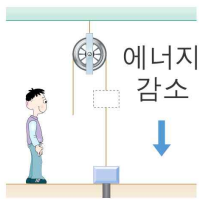

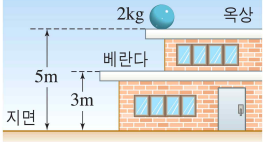
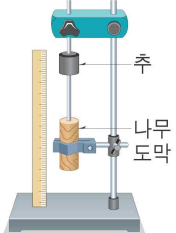
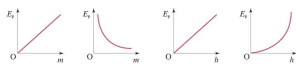
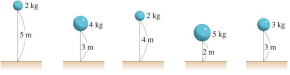
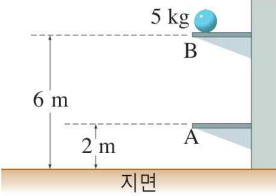
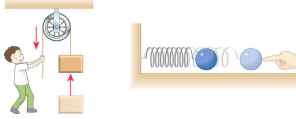
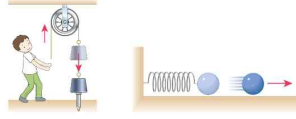
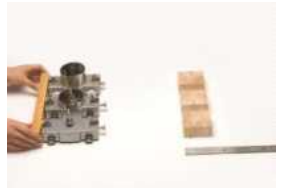



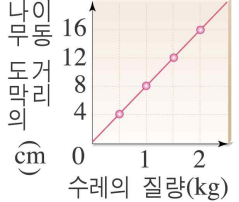
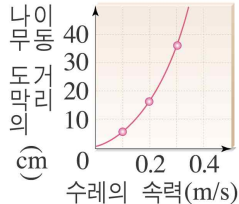
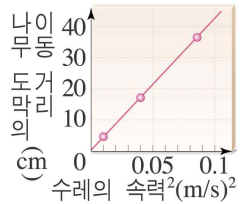

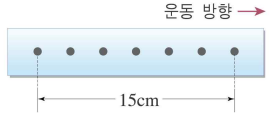
6-02-05(펜치)	6-02-06(가위)	6-02-09(핀셋)	6-02-10(낚싯대)
			
6-02-11(지레)	6-02-12(병따개)	6-02-13(지레)	6-02-14(지레)
			
6-02-15(지레)	6-02-16(낚싯대 원리)	6-02-17(받침점의이동에 따른 변화)	6-02-18(고정도르래)
		 <p>받침점이 작용점에 가까울수록 a가 짧아지고 b가 길어지므로 힘이 적게 든다.</p>	
6-02-19(움직도르래)	6-02-20(복합도르래)	6-02-21(복합도르래)	6-02-22(복합도르래)
			
6-02-23(움직도르래의 무게주어질때)	6-02-24(고정도르래)	6-02-25(움직도르래)	6-02-26(복합도르래)
			




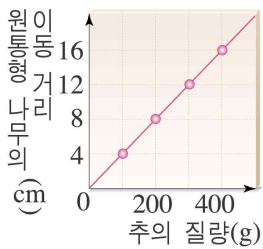
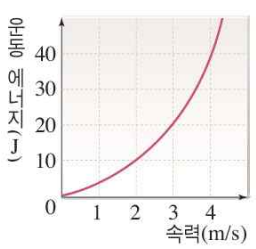
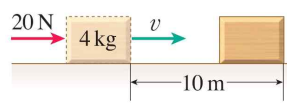
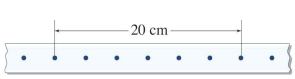


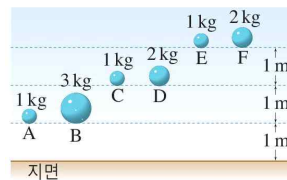
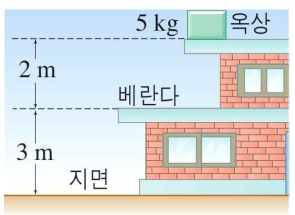
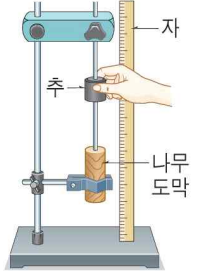
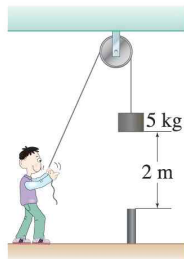
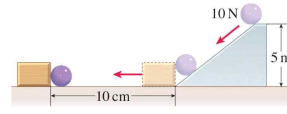
<p>6-02-27(복합도르래)</p>  <p>(가) (나) (다)</p>	<p>6-02-28(빗면의원리)</p>  <p>작용한 힘(F) 물체의 이동 거리(s) 물체가 올라간 높이(h) 물체의 무게(w)</p>	<p>6-02-29(나사못)</p> 	<p>6-02-30(병뚜껑)</p> 
<p>6-02-31(일의원리)</p> 	<p>6-02-32(빗면)</p> 	<p>6-02-33(빗면)</p>  <p>$w_A = 10\text{ N}$ F_A F_B w_B $s_A = 5\text{ m}$ $h = 2\text{ m}$ $s_B = 3\text{ m}$</p>	<p>6-02-34(빗면)</p>  <p>100 N F 4 m 1 m</p>
<p>6-02-35(지레)</p>  <p>100 N 4 m 1 m F</p>	<p>6-02-36(지레)</p>  <p>200 N 1 m 1 m 50 N</p>	<p>6-02-37(지레)</p>  <p>300 N 1 m 3 m F</p>	<p>6-02-38(지레)</p>  <p>20 kg 49 N a b</p>
<p>6-02-39(지레)</p>  <p>100 N 2 m 25 N 반침점</p>	<p>6-02-40(병따개)</p>  <p>A B C</p>	<p>6-02-41(도르래)</p>  <p>F_1 40 N 1 m F_2 40 N 1 m F_3 40 N 1 m</p>	<p>6-02-42(도르래)</p>  <p>50 N 2 m F 50 N 2 m F (가) (나)</p>
<p>6-02-43(복합도르래)</p>  <p>300 N</p>	<p>6-02-44(복합도르래)</p>  <p>400 N</p>	<p>6-02-45(복합도르래)</p>  <p>4 kg 1 m</p>	<p>6-02-46(복합도르래)</p>  <p>100 N F_0 100 N F_1 100 N F_n (가) (나) (다)</p>
<p>6-02-47(도르래)</p> 	<p>6-02-48(빗면)</p>  <p>100 N 50 N 10 m s</p>	<p>6-02-49(빗면)</p>  <p>200 N 3 m 1 m</p>	<p>6-02-50(빗면)</p>  <p>600 N 15 m 3 m 4 m B w</p>

6-02-51(빗면)	6-02-52(빗면)	6-02-53(지레)	6-02-54(지레)
			
6-02-55(고정도르래)	6-02-56(거중기)	6-02-57(빗면)	6-02-58(여러가지도구)
			
6-02-59(여러가지도구)	6-02-60(움직도르래)	6-02-61(지레실험)	6-02-62(지레실험)
			
6-02-63(지레실험)	6-02-64(도르래실험)	6-02-65(도르래실험)	6-02-66(도르래실험)
			
6-02-67(지레이용)	6-02-68(여러가지도구)	6-02-69(고인돌)	6-02-70(지레)
			

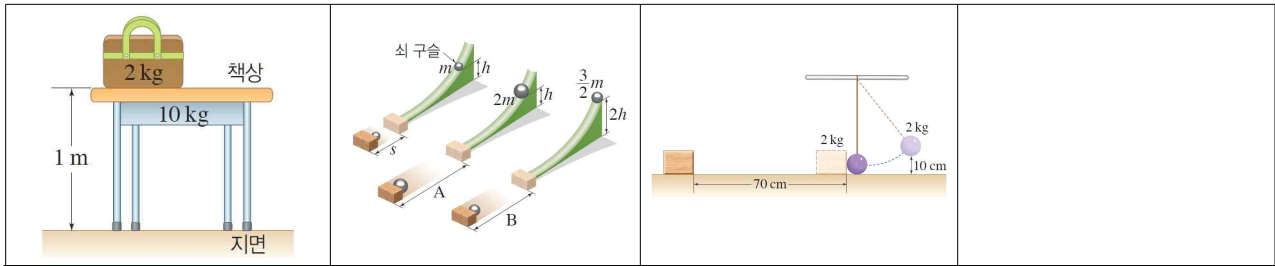
<p>6-02-71(지레)</p> 	<p>6-02-72(지레)</p> 	<p>6-02-73(호두 까개)</p> 	<p>6-02-74(도르래)</p> 
<p>6-02-75(움직도르래)</p> 	<p>6-02-76(축바퀴)</p> 	<p>6-02-77(빗면)</p> 	<p>6-02-78(산길)</p> 
<p>6-02-79(지레실험)</p> 	<p>6-02-80(지레실험)</p> 	<p>6-02-81(지레실험)</p> 	<p>6-02-82(지레실험)</p> 
<p>6-02-83(핀셋)</p> 	<p>6-02-84(복합도르래)</p> 	<p>6-02-85(복합도르래)</p> 	<p>6-02-86(복합도르래)</p> 
<p>6-02-87(축바퀴)</p> 			

03. 운동 에너지와 위치 에너지			
6-03-01(운동에너지와 질량)	6-03-02(운동에너지와 속도)	6-03-03(운동에너지와 질량 및 속도)	6-03-04(운동에너지의 크기)
6-03-05(운동에너지-일전환)	6-03-06(일-운동에너지 전환)	6-03-07(운동에너지와 속도)	6-03-08(운동에너지 측정)
6-03-09(제동거리)	6-03-10(볼링공)	6-03-11(운동에너지관계 그래프)	6-03-12(공의운동에너지)
6-03-13(운동에너지-일전환)	6-03-14(위치에너지와 질량)	6-03-15(위치에너지와 높이)	6-03-16(위치에너지와 질량 및 높이)
6-03-17(중력에 의한 위치 에너지)	6-03-18(일-위치에너지 전환)	6-03-19(위치에너지-일 전환)	6-03-20(탄성력에 의한 위치 에너지)

			
6-03-21(기준면)	6-03-22(중력에의한위치에너지측정)	6-03-23(중력에의한위치에너지관계그래프)	6-03-24(중력에의한위치에너지)
			
6-03-25(기준면)	6-03-26(에너지전환1)	6-03-27(에너지전환2)	6-03-28(운동에너지측정)
			
6-03-29(운동에너지측정)	6-03-30(운동에너지측정)	6-03-31(운동에너지측정)	6-03-32(질량과이동거리)
			
6-03-33(속력과이동거리)	6-03-34(속력제곱과이동거리)	6-03-35(시간기록계)	6-03-36(종이테이프)
			
6-03-37(중력에의위치에너지측정)	6-03-38(중력에의위치에너지측정)	6-03-39(중력에의위치에너지측정)	6-03-40(중력에의위치에너지측정)

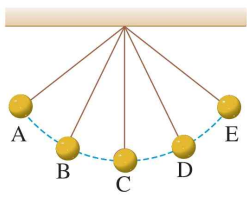
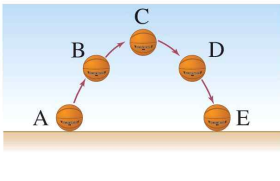
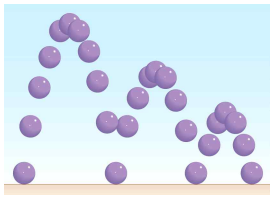
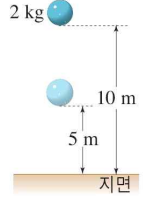
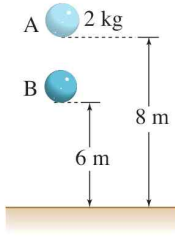
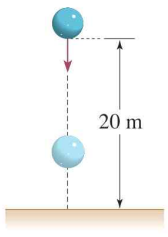
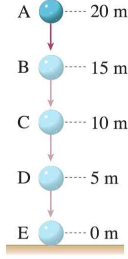
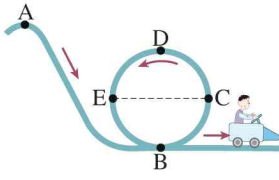
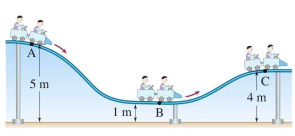
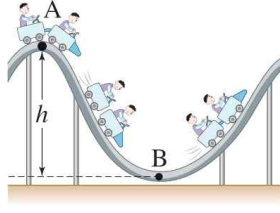
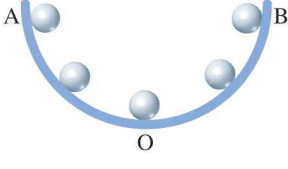
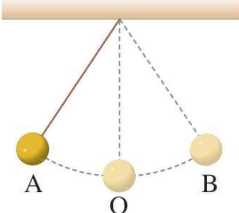
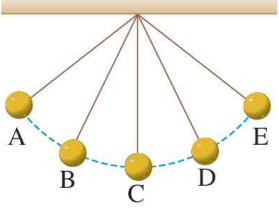
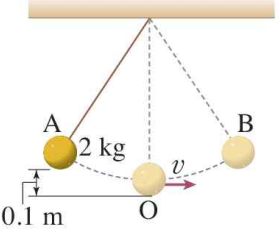
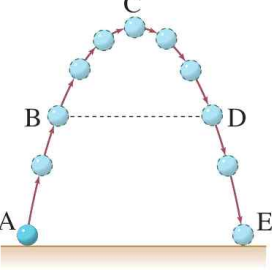
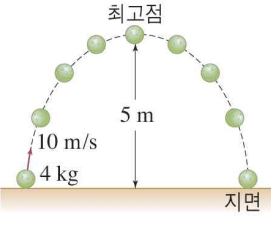
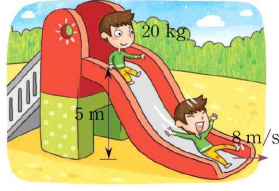
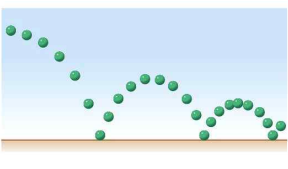
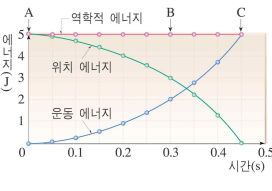
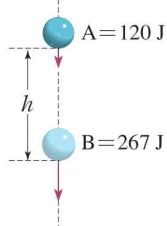
			
6-03-41(질량과이동거리)	6-03-42(낙하높이와이동거리)	6-03-43(속력-운동에너지그래프)	6-03-44(일-운동에너지전환)
			
6-03-45(종이테이프)	6-03-46(운동에너지측정)	6-03-47(운동에너지-일전환)	6-03-48(중력에의한위치에너지)
			
6-03-49(기준면)	6-03-50(중력에의한위치에너지측정)	6-03-51(위치에너지-일전환)	6-03-52(위치에너지-일전환)
			
6-03-53(위치에너지-일전환)	6-03-54(탄성력에의한위치에너지크기)	6-03-55(이동거리-힘그래프)	6-03-56(운동에너지측정)

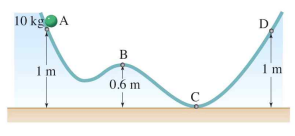
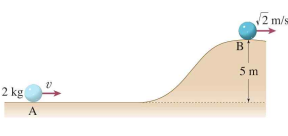
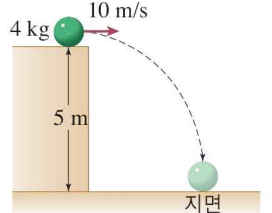
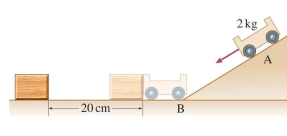
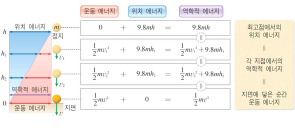
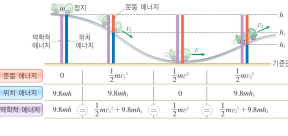
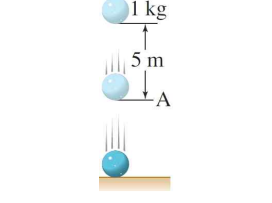
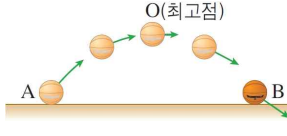
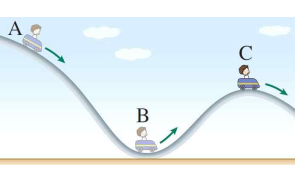
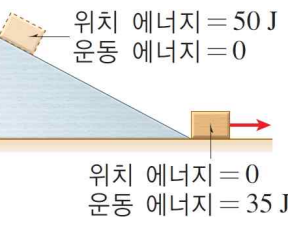
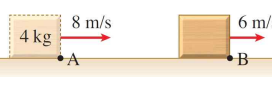
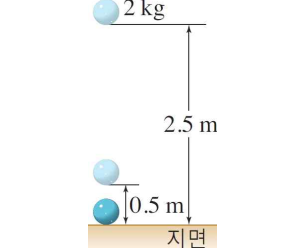
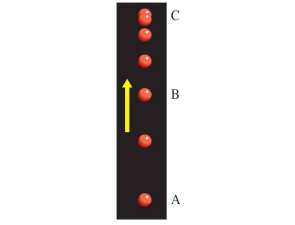
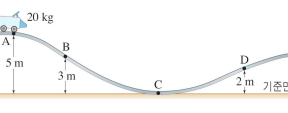
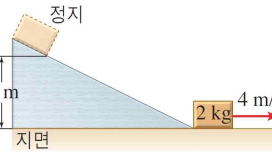
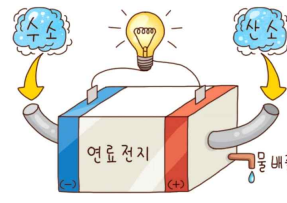
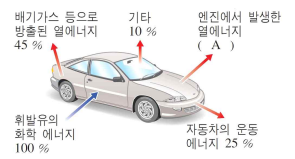
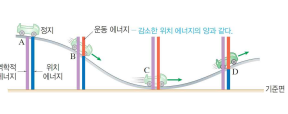
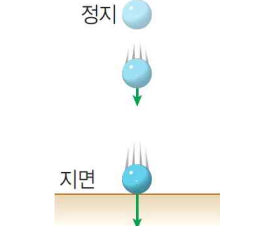
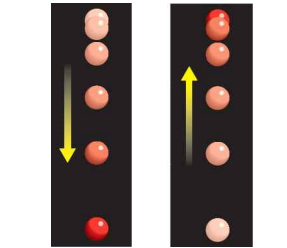
<p>6-03-57(중력에 의한 위치 에너지 측정)</p>	<p>6-03-58(위치에너지-일 전환)</p>	<p>6-03-59(운동에너지-일 전환)</p>	<p>6-03-60(운동 에너지 측정 실험)</p>
<p>6-03-61(중력에 의한 위치 에너지)</p>	<p>6-03-62(위치에너지-일 전환)</p>	<p>6-03-63(운동 에너지와 속도)</p>	<p>6-03-64(운동 에너지 측정 실험)</p>
<p>6-03-65(운동 에너지와 속도)</p>	<p>6-03-66(운동에너지-일 전환)</p>	<p>6-03-67(에너지 그래프)</p>	<p>6-03-68(위치에너지-일 전환)</p>
<p>6-03-69(운동에너지-일 전환)</p>	<p>6-03-70(운동에너지 그래프)</p>	<p>6-03-71(제동 거리)</p>	<p>6-03-72(중력에 의한 위치 에너지)</p>
<p>6-03-73(기준면에 따른 중력에 의한 위치 에너지)</p>	<p>6-03-74(중력에 의한 위치 에너지)</p>	<p>6-03-75(중력에 의한 위치 에너지)</p>	



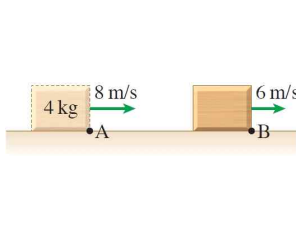
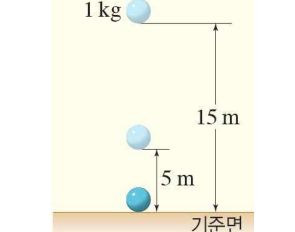
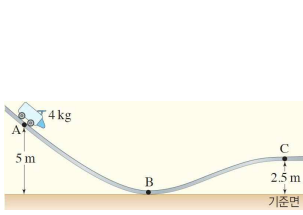
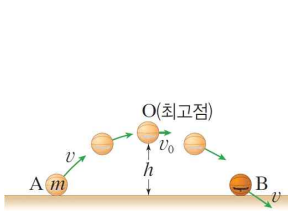
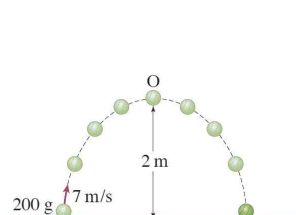
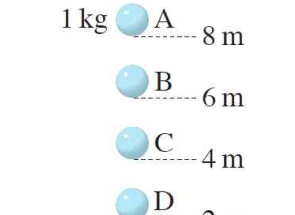
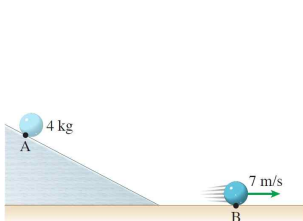
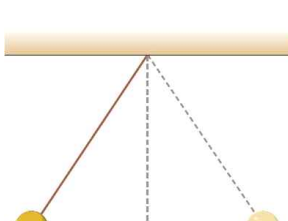
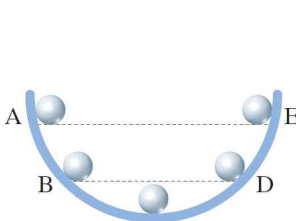
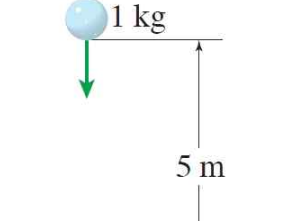


04. 에너지 전환과 보존

6-04-01(역학적에너지전환)	6-04-02(낙하하는물체의에너지변화)	6-04-03(낙하하는물체의운동)	6-04-04(낙하하는물체의운동에너지)
6-04-05(롤러코스터의운동)	6-04-06(낙하하는물체의운동)	6-04-07(낙하하는물체의운동)	6-04-08(롤러코스터의운동)
6-04-09(반원형그릇안구슬의운동)	6-04-10(진자의운동)	6-04-11(용수철에매달린물체의운동)	6-04-12(포물선운동)
6-04-13(바닥에튀는공)	6-04-14(진자의운동)	6-04-15(열에너지)	6-04-16(반원형그릇안구슬의운동)
6-04-17(진자의운동)	6-04-18(포물선운동)	6-04-19(바닥에튀는공)	6-04-20(낙하하는물체의

			<p>운동)</p> 
<p>6-04-21(낙하하는물체의 운동)</p>	<p>6-04-22(낙하하는물체의 운동)</p>	<p>6-04-23(낙하하는물체의 운동)</p>	<p>6-04-24(롤러코스터의 운동)</p>
			
<p>6-04-25(롤러코스터의 운동)</p>	<p>6-04-26(롤러코스터의 운동)</p>	<p>6-04-27(반원형그릇안구슬의 운동)</p>	<p>6-04-28(진자의 운동)</p>
			
<p>6-04-29(진자의 운동)</p>	<p>6-04-30(진자의 운동)</p>	<p>6-04-31(포물선 운동)</p>	<p>6-04-32(포물선 운동)</p>
			
<p>6-04-33(열에너지)</p>	<p>6-04-34(바닥에 튕기는 공)</p>	<p>6-04-35(역학적 에너지 보존)</p>	<p>6-04-36(낙하하는 물체의 운동)</p>
			

6-04-37(롤러코스터의 운동)	6-04-38(역학적에너지 보존)	6-04-39(역학적에너지보존)	6-04-40(열에너지)
			
6-04-41(낙하하는물체의 에너지변화)	6-04-42(롤러코스터의 운동)	6-04-43(낙하하는물체)	6-04-44(포물선운동)
			
6-04-45(롤러코스터의 운동)	6-04-46(빗면에서에너지보존)	6-04-47(수평면에서에너지보존)	6-04-48(낙하하는물체)
			
6-04-49(던져올린물체)	6-04-50(롤러코스터의 운동)	6-04-51(빗면에서에너지보존)	6-04-52(연료전지)
			
6-04-53(자동차에서에너지보존)	6-04-54(롤러코스터)	6-04-55(자유 낙하)	6-04-56(역학적 에너지 전환)
			
6-04-57(태양광발전)	6-04-58(풍력발전)	6-04-59(에너지보존)	6-04-60(자유 낙하)

			
6-04-61(롤러코스터)	6-04-62(포물선 운동)	6-04-63(포물선 운동)	6-04-64(자유 낙하)
			
6-04-65(빗면에서 역학적 에너지)	6-04-66(진자)	6-04-67(반원형 그릇)	6-04-68(자유 낙하)
			
6-04-69(롤러코스터)			
