

FORCES AND MACHINES



1 Use the words to complete the text about forces.

temporarily - move - changes - break - direction - shape - permanently

Forces cause them to move, change shape, or break.

Some objects change their shape and do not return to their initial shape.

Other objects change their shape _____ and return to their initial shape. Rigid objects _____ when sufficient force is applied.

Forces can also make objects start to move, change direction or stop.

2 Solve the problem.

A motorist drives 100 kilometres in one hour. How many kilometres will he drive in three hours if he maintains the same speed?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210

3 Calculate the speeds. Then, answer the questions.

a. Andrea drives 400 km to the seaside. It takes her five hours.

What is her average speed? _____

b. David takes two hours to drive to his dad's house. The distance is 180 km.

What is his average speed? _____

- How can they know their speed at a particular moment?

- What two forces slow down moving cars?

l a l



4

Read these definitions of machine components and write the names.

cover - mechanism - sensors - engine - gears - springs



- a. These allow a machine to detect information: _____
- b. This produces movement by transforming chemical energy into mechanical energy: _____
- c. This outer part protects the machine: _____
- d. Several operating parts that work together: _____
- e. These are wheels with teeth: _____
- f. These are coils that store and release energy: _____

5

Cross out (X) the odd one out. Then, write *modern structure*, *home*, *free time* or *communication*.

a. animation	exercise machine	refrigerator	motion gaming	_____
b. tower	telephone	the Internet	social networks	_____
c. pillar	beam	foundation	animation	_____
d. dishwasher	bridge	thermostat	refrigerator	_____

6

Unscramble the words and write the names of eight machine components. Then, tick (✓) the ones that may work together in a mechanism.

- a. ehwle: _____
- b. torom: _____
- c. xela: _____
- d. neesrc: _____

- e. cetsurunt: _____
- f. nicah: _____
- g. tidarcino: _____
- h. revle: _____

7

Circle the advances in modern life and classify them.

bridge radio exercise machine dishwasher electronic mail animation tower dual flush toilet

modern structure	home	free time	communication