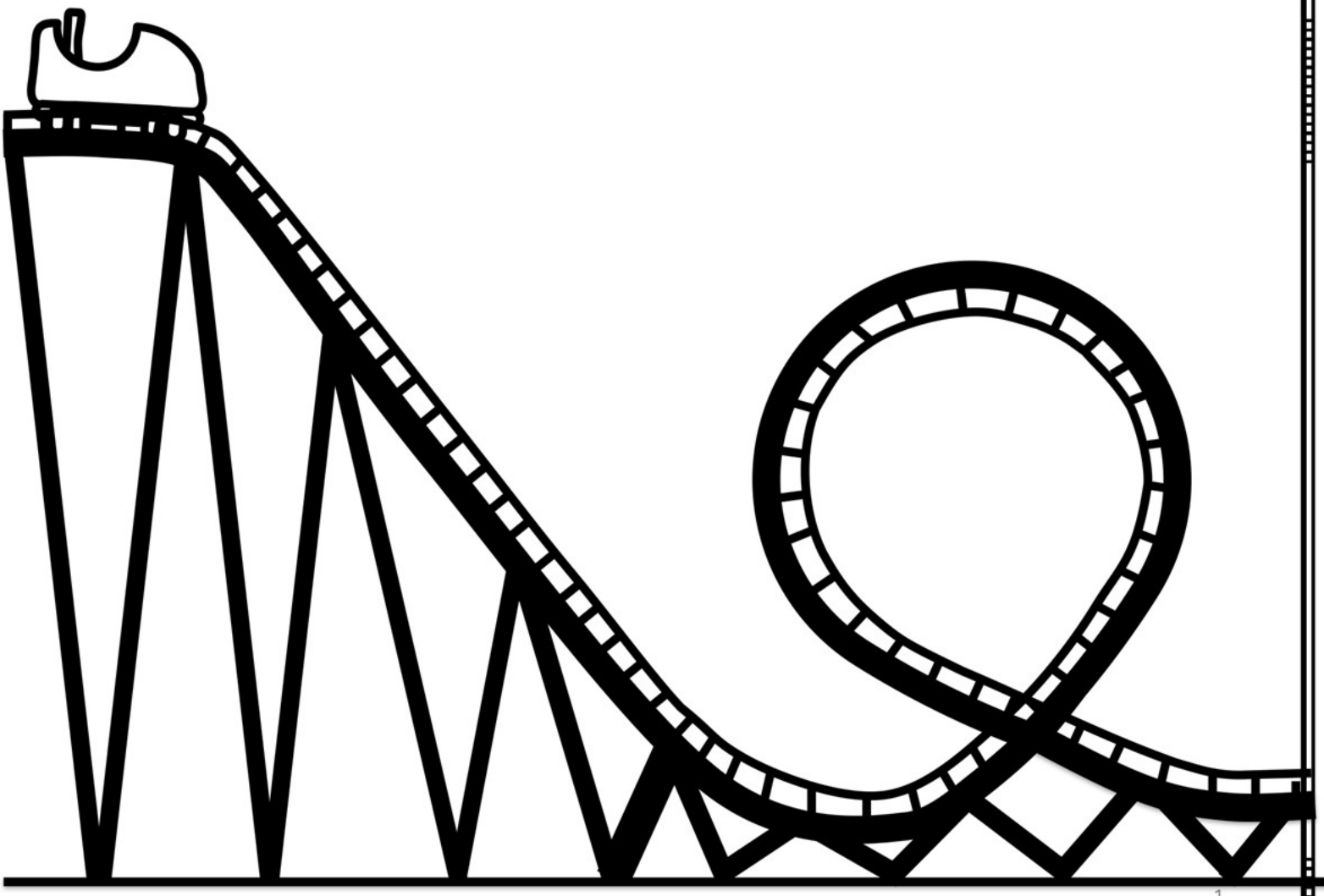
Student Worksheet

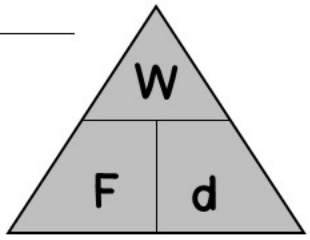


Name: _____ Date: _____

Period: _____

Work = Fd

Work



Directions: Fill out everything for each problem. Write neatly!

Is work being done? Yes or no? (Circle One)

1) You push and push against a wall and become very tired. Yes or no?
2) You throw a paper airplane Yes or no?
3) You hold your books while you walk to class. Yes or no?
4) You use breaks to slow down while riding your bike. Yes or no?

Match the units (answer may be used more than once)

_____ 5) Work
_____ 6) Energy
_____ 7) Force
_____ 8) Distance

A) Meters
B) Newtons
C) Joules

1) You run forward, pulling a sled behind you with a force of 250 N. If you expend 2,500 Joules, how many meters did you run?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

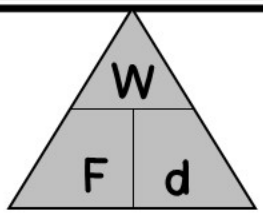
2) It took a 36,000 Newton force to make a car move 1,500 meters. How many Joules of work is performed to make the car move?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

3) You decide to sell cookies around your neighborhood. You pull a wagon fully loaded with cookies and travel 1500 meters around your neighborhood. How much force did you use if you performed 151,000 Joules of work?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

Work = Fd



Directions: Fill out everything for each problem. Write neatly!

4) The winning Tug O' War team pulls with 5,500 Newtons of force. They pull the other team 6.5 meters in order to win. How much work did they perform?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

5) You climb a ladder that is 2.0 meters high and use the force of 1200 Newtons. How much work did you do?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

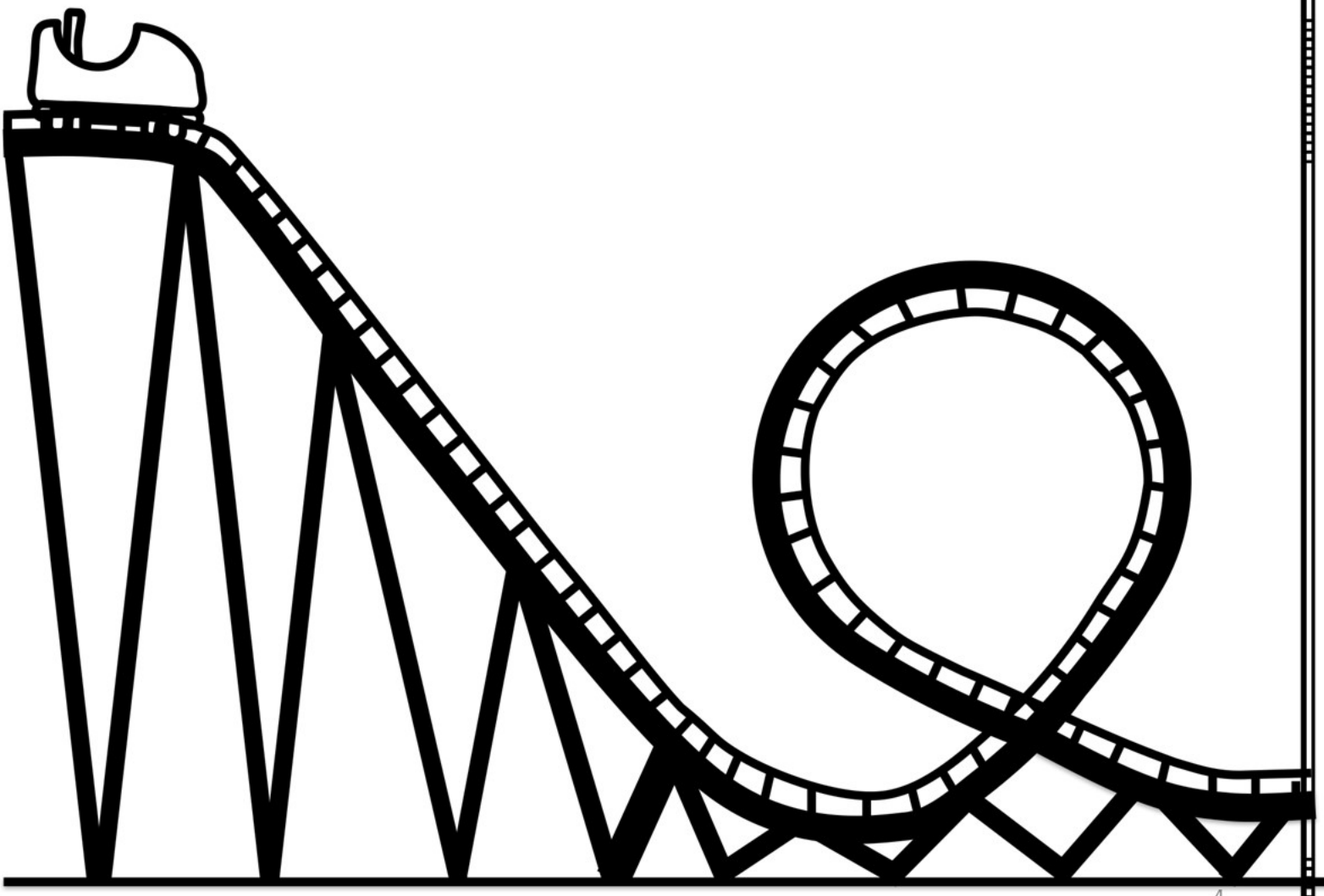
6) A zombie horde is running toward you. You push the zombie horde with a school bus. The school bus moves the horde back 250 meters and uses 1,250,000 Joules. How much force was generated by the bus?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

7) An elevator lifts a load of passengers with a force of 156,000 N and does 2,550,000 Joules of work. How many meters did the elevator transport passengers?

Define Variables	Write equation and show work	Answer w/ units
W = F = d =		

Answer Key

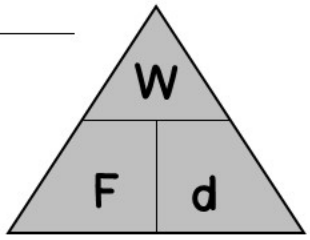


Name: _____ Date: _____

Period: _____

Work = Fd

Work



Directions: Fill out everything for each problem. Write neatly!

Is work being done? Yes or no? (Circle One)

1) You push and push against a wall and become very tired. Yes or no?
2) You throw a paper airplane Yes or no?
3) You hold your books while you walk to class. Yes or no?
4) You use breaks to slow down while riding your bike. Yes or no?

Match the units (answer may be used more than once)

C	5) Work	A) Meters
C	6) Energy	B) Newtons
B	7) Force	C) Joules
A	8) Distance	

1) You run forward, pulling a sled behind you with a force of 250 N. If you expend 2,500 Joules, how many meters did you run?

Define Variables	Write equation and show work	Answer w/ units
W = 2,500 J F = 250 N d = ?	W = Fd 2,500 = (250) d d = 10 m	d = 10 m

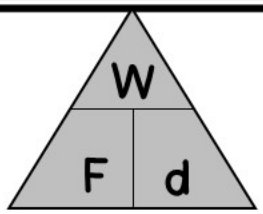
2) It took a 36,000 Newton force to make a car move 1,500 meters. How many Joules of work is performed to make the car move?

Define Variables	Write equation and show work	Answer w/ units
W = ? F = 36,000 N d = 1,500 m	W = Fd W = (36,000)(1,500) W = 54,000,00 J	J = 54,000,000 J

3) You decide to sell cookies around your neighborhood. You pull a wagon fully loaded with cookies and travel 1500 meters around your neighborhood. How much force did you use if you performed 151,000 Joules of work?

Define Variables	Write equation and show work	Answer w/ units
W = 151,000 J F = ? d = 1500 m	W = Fd 151,000 = (F) (1500) F = 100.6666667 N	F = 100 N

Work = Fd



Directions: Fill out everything for each problem. Write neatly!

4) The winning Tug O' War team pulls with 5,500 Newtons of force. They pull the other team 6.5 meters in order to win. How much work did they perform?

Define Variables	Write equation and show work	Answer w/ units
W = ? F = 5,500 N d = 6.5 m	W = Fd W = (5,500)(6.5) W = 37,750 J	W = 35,750 J

5) You climb a ladder that is 2.0 meters high and use the force of 1200 Newtons. How much work did you do?

Define Variables	Write equation and show work	Answer w/ units
W = ? F = 1200 N d = 2.0 m	W = Fd W = (1200)(2.0) W = 2400 N	W = 2400 N

6) A zombie horde is running toward you. You push the zombie horde with a school bus. The school bus moves the horde back 250 meters and uses 1,250,000 Joules. How much force was generated by the bus?

Define Variables	Write equation and show work	Answer w/ units
W = 1,250,000 J F = ? d = 250 m	W = Fd 1,250,000 = F(250) F = 5,000 N	F = 5,000 N

7) An elevator lifts a load of passengers with a force of 156,000 N and does 2,550,000 Joules of work. How many meters did the elevator transport passengers?

Define Variables	Write equation and show work	Answer w/ units
W = 2,550,000 J F = 156,000 N d = ?	W = Fd 2,550,000 = (156,000)(d) d = 16.346 m	d = 16.3 m