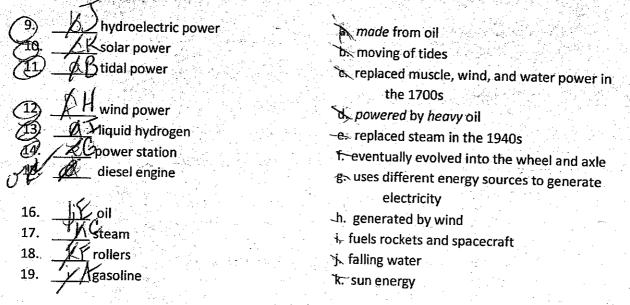


- Using rollers to move large, heavy objects reduces
  - (a.) the mechanical advantage of the object.
    - the amount of lubricant you will need to move it.
  - c. the amount of the object's surface area that is impacted by friction.
     d. the gravitational null of the earth allowing May Call
    - the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

# MATCHING



# USE THE WORD BANK for 19 and 20

			· · · · · · · · · · · · · · · · · · ·		<u></u>		An Deligne		
·	`pipes	chain	- <del>valv</del> e	e	<del>os</del> t (	wood	gear	boll	~] .
	-	<u>wheel</u>	wheels	<del>, rod-</del>	STA	all	large_		

- 20. A steam engine works by heating COL or WOW to cause water to boil for steam. The steam passes through <u>Wheels</u> and turns a OO which tur
- 21. The gear system of a bicycle uses two gears connected to a <u>wheet</u>. The pedaling turns a large <u>heat</u> the <u>big</u> gear turns a chain which turns a <u>5Mall</u> gear, and the small gear turns the <u>valve</u> <u>1i</u> bull</u></u></u></u>

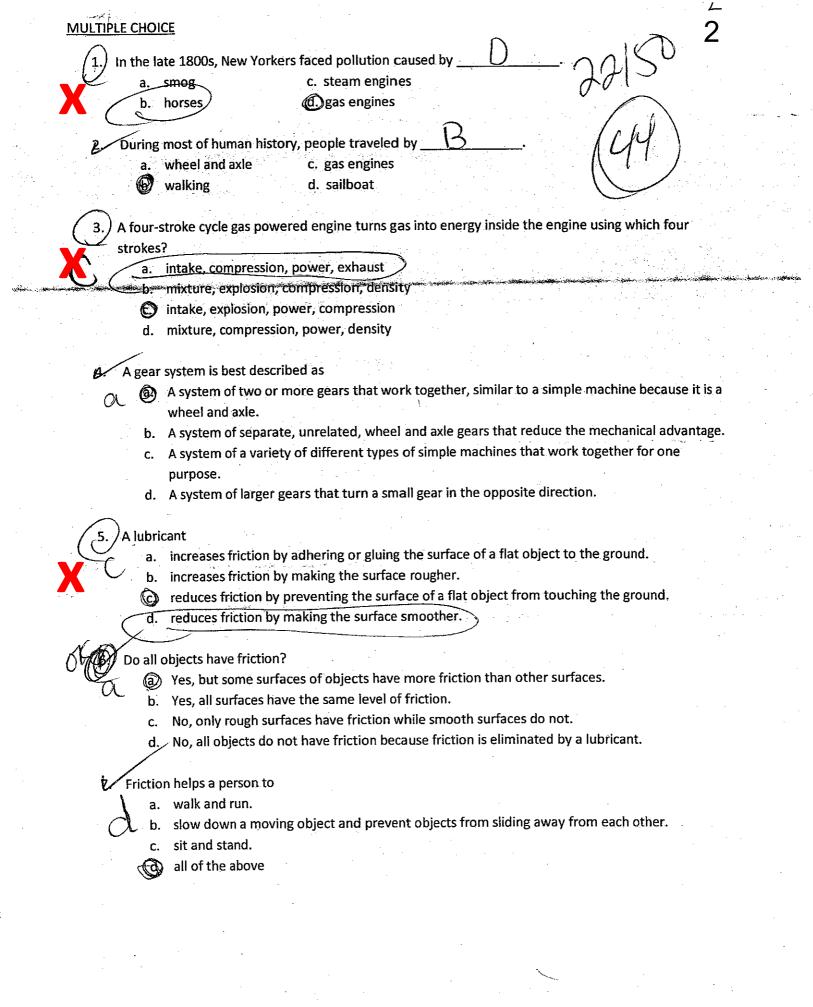
22. A center pole where the sail is attached is the MQSTThe part of the boat used for steering is the rodder (24.)A wheel that has notches along its circumference is a Acoten -25. What are three inventions the steam-powered engine led to? a. <u>Steam car</u> b. <u>Steam ship</u> c. <u>Steam engine</u> 26. What are three inventions the gas-powered engine led to? car а. c. eng 27, What were the six important advances in the history of transportation? poe domest animals sit when slow movingpas engue 28. What are the four ways people powered machines in ancient times? due out chine wheel + axle 1 16) بجالب وسير المغامرين

ANSWER:

29) Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear.

(30) Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.  $\underline{\mathcal{K}^{*}}$ 

(



- Using rollers to move large, heavy objects reduces 8.
  - (a) the mechanical advantage of the object.
  - b. the amount of lubricant you will need to move it.
  - 8 Υ.
- the amount of the object's surface area that is impacted by friction the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

iname

## MATCHING

Xa

A hydroelectric power 10 k solar power	A made from oil
1 tidal power 12 wind power 13 liquid hydrogen 14 power station 15 diesel engine	<ul> <li>moving of tides</li> <li>replaced muscle; wind, and water power in the 1700s</li> <li><i>powered</i> by <i>heavy</i> oil</li> <li>replaced steam in the 1940s</li> <li>eventually evolved into the wheel and axle</li> <li>uses different energy sources to generate</li> </ul>
$157 - C  \text{oil} \\ 177 - C  \text{steam} \\ 187 - f  \text{rollers} \\ 197 - Q  \text{gasoline} \\ 197 - Q  g$	electricity generated by wind fuels rockets and spacecraft falling water sun energy

# USE THE WORD BANK for 19 and 20

pipes	_chairr	Value	<u></u>		wood	g <del>ea -</del>	
	<del></del>	wheels rod	<del></del>	- <del>small-</del>	larg	<u>e</u>	
stear	eam engine wo m passes throu gear	rks by heating <u>(L)(</u> Igh <u>Dipes</u> ar 			o cause wate	r to <u>boil</u> rns a <u>rod</u>	for steam. The which turns
21) The g	$\frac{\lambda_{1}}{\lambda_{1}}$ the _	a bicycle uses two g Shall gear tu	gears conn rns a chair	ected to a			ling turns a large I the small gear

FILL IN THE DLAINN 22) A center pole where the sail is attached is the dieset Mast23. The part of the boat used for steering is the rudde 24. A wheel that has notches along its circumference is a teeth offer. 25). What are three inventions the steam-powered engine led to? thain COT b. a. 26.)What are three inventions the gas-powered engine led to? b. Dodt a. What were the six important advances in the history of transportation? the domesticated animal b. Sа. raft or duquat can be d. and enance sa What are the four ways people powered machines in ancient times? b. animal musibles a. Mon muskles d. с. \_

#### ANSWER:

Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. \_\_\_\_\_m\_\_\_

30 0

30) Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. Y + eeth 8 21

the late 1800s, New Yorkers faced pollution caused by

smog horses

b

d. gas engines

c. steam engines

During most of human history, people traveled by

wheel and axle walking

d. sailboat

c. gas engines

3. A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

- (a) intake, compression, power, exhaust
- mixture, explosion, compression, density b.
- intake, explosion, power, compression С.
- mixture, compression, power, density d.

A gear system is best described as

- A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.
- b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
- c. A system of a variety of different types of simple machines that work together for one purpose.

d. A system of larger gears that turn a small gear in the opposite direction.

#### Alubricant

- a. increases friction by adhering or gluing the surface of a flat object to the ground.
- b. increases friction by making the surface rougher.
- c. reduces friction by preventing the surface of a flat object from touching the ground.
- reduces friction by making the surface smoother. (d)

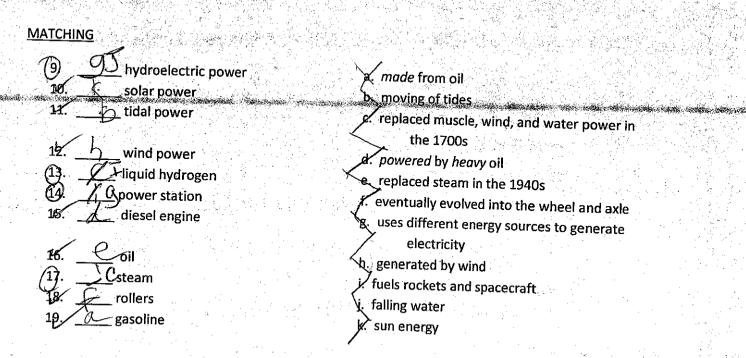
Do all objects have friction?

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Friction helps a person to

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- sit and stand. C.
- all of the above

- 8. Using rollers to move large, heavy objects reduces
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# USE THE WORD BANK for 19 and 20

pipes	спант	_valv	<u>'e</u>	_coal	اين جين حمالات استخون	wood-	gear-	-b <del>oil</del>
-wheel		heels-	rod		small	<del>∼-lar</del> į	<del>30</del>	a second
<u> </u>					57710744		<del>;8</del>	

20. A steam engine works by heating (200) or want to cause water to be the for steam. The steam passes through <math>p'pes and turns a (200) which turns

14. The gear system of a bicycle uses two gears connected to a <u>Chain</u> The pedaling turns a large <u>gear</u>, the <u>large</u> gear turns a chain which turns a <u>Spall</u> gear, and the small gear turns the <u>wheel</u>.

22 A center pole where the sail is attached is the <u>Mast</u> 23. The part of the boat used for steering is the  $\underline{r}$ 24. A wheel that has notches along its circumference is a  $\underline{ABCC}$ 25) What are three inventions the steam-powered, engine led to? Car ean train kanship 26. What are three inventions the gas-powered engine led to? b. 27. What were the six important advances in the history of transportation Animalse R nima Concep. a. Wa me steam engine aas d. INF 28. What are the four ways people powered machines in ancient times? animal power mandower ۴Ĺ. Wind

ANSWER:

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear.

39. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.  $\Lambda \pm \gamma$ 

1. In the late 1800s, New Yorkers faced pollution caused by

a. smog b. horses

b. walking

- c. steam engines
- d. gas engines
- 2. During most of human history, people traveled by
  - a. wheel and axle c. gas engines
    - d. sailboat

3. A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

- a/ intake, compression, power, exhaust
- b. mixture, explosion, compression, density
- c. intake, explosion, power, compression
- d. mixture, compression, power, density
- $\checkmark$  A gear system is best described as (
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- d. all of the above

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      - the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

# MATCHING

9. A hydroelectric power	
	a. made from oil
10. <u>K</u> solar power	b. moving of tides
$\mathcal{N} \stackrel{(11)}{\longrightarrow} tidal power$	c. replaced muscle, wind, and water power in
$\overline{\mathbf{h}}$	the 1700s
12. $     wind power $	d powered by heavy oil
13 liquid hydrogen	e. replaced steam in the 1940s
(14) power station	1. eventually evolved into the wheel and axle
U 15 diesel engine	g. uses different energy sources to generate
	electricity
	h. generated by wind
17 steam	ifuels rockets and spacecraft
18 rollers	j. falling water
19/ gasoline	k. sun energy

## USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	woød	gear	boil
wheel	wțieels	rod	small	large		

20. A steam engine works by heating Ool or Wood to cause water to Doil for steam. The steam passes through 400d and turns a Waive which turns a Fipes which turns a the Whees pipes

chain 21. The gear system of a bicycle uses two gears connected to a  $\frac{\partial \rho}{\partial t}$  at \_\_\_\_. The pedaling turns a large  $\geq Mall$  gear turns a chain which turns a <u>Chain</u> gear, and the small gear <u>ear</u>, the \_ large turns the <u>\</u> Small

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MULTIPLE CHOICE

... In the late 1800s, New Yorkers faced pollution caused by <u>horses</u>

- a. smog (b.) horses
- c. steam enginesd. gas engines

d. sailboat

During most of human history, people traveled by WOLK

a. wheel and axle c. gas engines

(b) walking

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(a) intake, compression, power, exhaust

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c. intake, explosion, power, compression

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### MATCHING

9. 10.	hydroelectric power ksolar power	a. made from oil
И.	<u> </u>	<ul> <li>moving of tides</li> <li>replaced muscle, wind, and water power in</li> </ul>
12.	H wind power	the 1700s
13/	T liquid hydrogen	d. powered by heavy oil
14	<u>6</u> power station	e. replaced steam in the 1940s
15.	D diesel engine	* eventually evolved into the wheel and axle
1.5.		g. uses different energy sources to generate
10/	E .	electricity
16.		A. generated by wind
17.	<u> </u>	i. fuels rockets and spacecraft
18.		it falling water
19.	_Agasoline	K. sun energy

#### USE THE WORD BANK for 19 and 20

pipes		chain	<del>48/</del> 7	æ	coal	-wood-	gear	 beil
	wheel		wheels-	-rod-	small	it	arge	· · · · · · · · · · · · · · · · · · ·

20. A steam engine works by heating  $\underline{coal}$  or  $\underline{Moad}$  to cause water to  $\underline{bail}$  for steam. The steam passes through  $\underline{ppes}$  and turns a  $\underline{Valve}$  which turns a  $\underline{rod}$  which turns the <u>wheels</u>.

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- steam car b. steam boat c. steam train

5

26. What are three inventions the gas-powered engine led to?

a. <u>car</u> b. <u>plane</u> c. <u>boat</u>

27. What were the six important advances in the history of transportation?

28. What are the four ways people powered machines in ancient times?

ANSWER:

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30 Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.  $\frac{321}{21}$ 

1 In the late 1800s, New Yorkers faced pollution caused by \_

smog horses c. steam enginesd. gas engines

c. gas engines

During most of human history, people traveled by

a. wheel and axle

d. sailboat

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

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	· · · ·		0.	THE FUCK	Name:	
					6	5
A	ан 199					•
8	Using	rollers to move large, heavy ob	iects reduce	сана (1996). с		
	(a.	the mechanical advantage of	the object			
X	b.	the amount of lubricant you	will need to r	nove it		
	( C.	the amount of the object's su	Irface area th	at is impacted by fit	lon	:
and and an and a second se Second second s	d.	the gravitational pull of the early and Snickers bars	arth allowing	Mrs. Collins to cut ha	ck on her intel	
		and Snickers bars			-k on her intake of caffei	ne.
MATCHIN	٧G					
9.	<u> </u>	hydroelectric power	<b>.</b>	made from oil		i X
_ 10/	<u>K</u> .	_solar.power_		moving of tides		
11	<u>b</u> .	_tidal power		replaced muscle, wind	and water normalise	i an
	A		~	the 1700s	, and water power in	
12.	<u> n</u>	wind power		powered by heavy oil		· .
13.		liquid hydrogen		replaced steam in the	1940s	
14.	y_	power station		eventually evolved into		
1 <u>0</u> -	<u> </u>	diesel engine	(g)	uses different energy	Sources to generate	

	14 solar power 14. D' tidal hower	🖗 moving of tides
	14	کر replaced muscle, wind, and water power in
	12. Wind nower	← the 1700s
7		d powered by heavy oil
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	14 power station	() eventually evolved into the wheel and axle
	15 diesel engine	g) uses different energy sources to generate
	1+ 0	electricity
	$16 - \frac{1}{2}$ oil	(h) generated by wind
	17 - C steam	i) fuels rockets and spacecraft
	18. <u>f</u> rollers	() falling water
	19. <u>Q</u> gasoline	(R) sun energy

# USE THE WORD BANK for 19 and 20

See Sector

bipes chair	valve	608	L W	død løer	- Uson
wheel	wheels	-1002-	small	lange	
20: A steam engine steam passes th the <u>ししhee</u> d	works by heating arough $\widehat{pipes}$		WOOD to a	cause water to $b_0$ which turns a $\underline{\Gamma}$	for steam. Th
22. The gear system 	nof a bicycle uses ne <u>large</u> gu els	s two gears cor ear turns a cha	nnected to a <u>(</u> in which turns	a so II	pedaling turns a large , and the small gear

 $\frac{1}{22}$ . A center pole where the sail is attached is the <u>Mast</u> 23. The part of the boat used for steering is the <u>fudder</u> 24. A wheel that has notches along its circumference is a  $\underline{Qeac}$ 25. What are three inventions the steam-powered engine led to? steam car train b. 26. What are three inventions the gas-powered engine led to? c. Shin plane a. CQC b. 27. What were the six important advances in the history of transportation? a. dugout canoie b. domesticating wheel e. steam engine r. gas engine boat d. 28. What are the four ways people powered machines in ancient times? a. man used Muscles. 1. Vind c.animal used d. Water Muscles. **ANSWER:** 29. )Calculate the gea( ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. /mm 8566 (30.) Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.  $\underline{X+ee}$ 4:1 952

6

Ý.

In the late 1800s, New Yorkers faced pollution caused by

smog a. horses

(b.)

- c. steam engines d. gas engines
- During most of human history, people traveled by
  - a. wheel and axle Ъ. walking

d. sailboat

c. gas engines

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# A lubricant

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Do all objects have friction?

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#### MATCHING

₽hydroelectric power	made from oil
-10 schar pomer ***	tides
11. $\underline{V}$ tidal power	Sreplaced muscle, wind, and water power in
12. <u>h.</u> wind power	the 1700s
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16. <u>e</u> oil	R generated by wind
17. <u>C.</u> steam	hels rockets and spacecraft
$18 - \frac{1}{2}$ rollers	falling water
10gasoline	k. sun energy

#### USE THE WORD BANK for 19 and 20

( <del>pipes</del>	- <del>Chai</del> n	-valve-	·	eeal we	od <del>gear</del>	-tiod:
	vetteel	Wheels.	POC.	amall	<b>WESS</b>	

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> Steam ship b. steam car Steam train а.

26-What are three inventions the gas-powered engine led to?

shin car Olan **C.** • • b.

27. What were the six important advances in the history of transportation?

gas angun Sail boat steam engine wheel b. a. e. demens canop/raft

28. What are the four ways people powered machines in ancient times?

man used muscle b. animal used muscles a. water wine d. с.

ANSWER:

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. \_\_\_\_\_?!

80. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 8:1

In the late 1800s, New Yorkers faced pollution caused by b(horses)

- 🖉 steam engines
  - ø. gas engines

During most of human history, people traveled by b(walking).

wheel and axlewalking

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ø. sailboat

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71 Friction helps a person to

a walk and run.

b. slow down a moving object and prevent objects from sliding away from each other.

- e. sit and stand.
- d all of the above

- Using rollers to move large, heavy objects reduces
  - a. the mechanical advantage of the object.
  - b. the amount of lubricant you will need to move it.
  - C the amount of the object's surface area that is impacted by friction.
  - the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

8

### MATCHING

9 hydroelectric power	A. made from oil
11. B tidal power	<ul> <li>K: moving of tides</li> <li>c. replaced muscle, wind, and water power-in</li> </ul>
12- <u>1</u> wind power	th <del>e 1700s</del> d' <del>powered by heavy oil</del>
12. <u>I</u> liquid hydrogen 14. <u>G</u> power station	er replaced steam in the 1940s
15. D diesel engine	<ul> <li>f: eventually evolved into the wheel and axle</li> <li>g: uses different energy sources to generate</li> </ul>
$\frac{16}{15}$ E oil	bgenerated-by-wind
$\frac{17}{18} - \frac{17}{18}$ rollers	i. fu <del>els rockets and spacecraft</del> i/ falling.water
19. A gasoline	K-Sun-enorgy

#### USE THE WORD BANK for 19 and 20

- <del>pipes-</del>	- <del>chain</del> -	- <del>val</del> t	/e-,	- <del>co</del> al-		wood.	gear	-boil
- <del>wh</del>	eel-	- <del>wheels</del> -	red		-small_	✓ − large	and the second	
/				<u> </u>				<u> </u>

**20.** A steam engine works by heating wood or <u>coal</u> to cause water to <u>bost</u> for steam. The steam passes through <u>pipes</u>, and turns a <u>Valve</u> which turns a <u>coal</u> which turns the <u>wheel</u>.

21. The gear system of a bicycle uses two gears connected to a <u><u>Chain</u></u>. The pedaling turns a large <u><u>gear</u> the <u>large</u> gear turns a chain which turns a <u>small</u> gear, and the small gear turns the <u>wheel</u>.</u>

22. A center pole where the sail is attached is the Mast23. The part of the boat used for steering is the  $\underline{-rudder}$ . 24 A wheel that has notches along its circumference is a \_\_\_\_\_\_ 25. What are three inventions the steam-powered engine led to? Steam train b. steam car a steam

26. What are three inventions the gas-powered engine led to?

a. <u>Car</u> b. <u>plane</u> c. <u>ship</u>

27: What were the six important advances in the history of transportation?

oft/duaset bottomuticating avimal's wheels steam enginer Adas engine hoat ð,

8

boat

8:1

12

28. What are the four ways people powered machines in ancient times?

WATCH INNUG al Б. man power animal ₩.

ANSWER:

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. 7:1

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.

1. In the late 1800s, New Yorkers faced pollution caused by \_\_\_\_\_\_\_

a. smog

ß

horses

c. steam engines

d. gas engines

d. sailboat

. / During most of human history, people traveled by

- a. wheel and axle c. gas engines
- 🚯 walking

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

- intake, compression, power, exhaust
- b. mixture, explosion, compression, density
- c. intake, explosion, power, compression
- d. mixture, compression, power, density
- . A gear system is best described as
  - A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.
  - b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
  - c. A system of a variety of different types of simple machines that work together for one purpose.

d. A system of larger gears that turn a small gear in the opposite direction.

# 5./ A lubricant

- a. increases friction by adhering or gluing the surface of a flat object to the ground.
- b. increases friction by making the surface rougher.
- c. reduces friction by preventing the surface of a flat object from touching the ground.
- reduces friction by making the surface smoother.

#### 6. Do all objects have friction?

- Yes, but some surfaces of objects have more friction than other surfaces.
- b. Yes, all surfaces have the same level of friction.
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9

# MATCHING

9. <u>J</u> hydroelectric power	Made from oil
10: <u>/</u>	<b>6</b> moving of tides
$112 - b_{t}$ tidal power	g replaced muscle, wind, and water power in
	the 1700s
12. <u> </u>	powered by heavy oil
13/ liquid hydrogen	g replaced steam in the 1940s
14 power station	Deventually evolved into the wheel and axle
15. <u>A</u> diesel engine	uses different energy sources to generate
Construction of the second	electricity
16 / (2 ) oil	generated by wind
$17/ \frac{17}{10}$ steam	fuels rockets and spacecraft
$18./\underline{f_{i}}$ rollers	falling water
19./_Q, gasoline	Sun energy

# USE THE WORD BANK for 19 and 20

pipes.	chain	- 42	alve	-689+	væed.	gear	bjeril
wbe	ar	wheels	1994 1994	Small	ange		
~	n engine passes th Wheel	works by he rough		or <u>W00</u> tu urnsa <u>v</u> alve	o cause water し which turi	to <u>boil</u> ns a <u>Cos</u>	_ for steam. The which turns
21. The get de turns th	<u>&amp;/</u> , th			s connected to a a chain which tu			ing turns a large the small gear

22. A center pole where the sail is attached is the Mast rulder 28. The part of the boat used for steering is the \_\_\_\_\_ 24. A wheel that has notches along its circumference is a \_\_\_\_\_\_ 25. What are three inventions the steam-powered engine led to? c. Steam train b. Steam car Steam boat What are three inventions the gas-powered engine led to? olane car boat b. Ċ. а. 27. What were the six important advances in the history of transportation? a. Talf or dug out canoe b. \_ domesticating animals whee/ Steam train Doat Steam endine f. e. 28. What are the four ways people powered machines in ancient times? Man-used muscle b. animal-used muscle a. d. \_\_\_\_ Nind water ANSWER 29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm 856 diameter gear. \_\_\_\_\_\_ Gear Ratio = 56 51

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.

 $q \overline{72}$ Gear Ratio =  $\frac{72}{a}$ 

. In the late 1800s, New Yorkers faced pollution caused by

smog horses

walking

a.

c. steam enginesd. gas engines

During most of human history, people traveled by \_

wheel and axle c. gas engines

d. sailboat

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

a. intake, compression, power, exhaust

b/mixture, explosion, compression, density

- c. intake, explosion, power, compression
- d. mixture, compression, power, density

A gear, system is best described as

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10

aueson

- b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
- c. A system of a variety of different types of simple machines that work together for one purpose.

d. A system of larger gears that turn a small gear in the opposite direction.

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  - d. the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

#### MATCHING

9 ) hydroelectric power	a. <i>made</i> from oil
$\frac{10}{10} = \frac{10}{10}$ solar power 10 = 10 = 10 tidal power	b: moving of tides c. replaced muscle, wind, and water power in
12 - h wind power	the 1700s d. <i>powered</i> by <i>heavy</i> oil
$13 - \underline{T}$ liquid hydrogen $14 - \underline{G}$ power station	e. replaced steam in the 1940s f. eventually evolved into the wheel and axle
15 diesel engine	g. uses different energy sources to generate electricity
16 oil 17. ( / steam	h. generated by wind
18. <u>f</u> rollers	i. fuels rockets and spacecraft j. falling water
19 gasoline	k. sun energy

# USE THE WORD BANK for 19 and 20

pipes	chai	n valv	ve coal		wood	gear	k - 11
	wheel	wheels	rod	small	large	500	boil
	team passes t		$\frac{\log Ca_{01}}{S}$ or and turns a	word	to cause water t Ł which turn	o <u>boil</u>	for steam. T
L. LI	ne <u>La Ine</u>	* ·····			-	·	

22. Accenter pole where the sail is attached is the Mast 23. The part of the boat used for steering is the  $\sqrt{2}$ 24. A wheel that has notches along its circumference is a Cylad 25. What are three inventions the steam-powered engine led to? b. Steantrains\_ c. Sternerc steambrate 26. What are three inventions the gas-powered engine led to? a. <u>Cov</u> 27: What were the six important advances in the history of transportation?/ nume tob. domination chingle. 1 MOD a. acolino V  $f \leq 1$ e. 28. What are the four ways people powered machines in ancient times? a. Man USedmiscle b. amimakusedmuscly

١O

ANSWER:

c. wind

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear.

d. \_

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 32

In the late 1800s, New Yorkers faced pollution caused by

smog horses

ħ.

d. gas engines

c. steam engines

- During most of human history, people traveled by
  - a. wheel and axle b.) walking
- d. sailboat

c. gas engines

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

a.) intake, compression, power, exhaust

- b. mixture, explosion, compression, density
- c. intake, explosion, power, compression
- d. mixture, compression, power, density

gear system is best described as

(a) A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.

11

- b. A system of separate; unrelated, wheel and axle gears that reduce the mechanical advantage.
- c. A system of a variety of different types of simple machines that work together for one purpose.

A. A system of larger gears that turn a small gear in the opposite direction.

# A lubricant

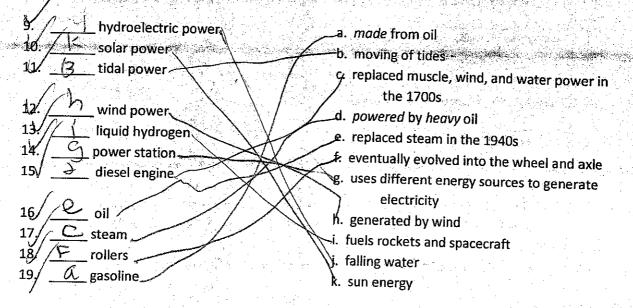
- a. increases friction by adhering or gluing the surface of a flat object to the ground.
- b. increases friction by making the surface rougher.
- c. reduces friction by preventing the surface of a flat object from touching the ground.
- d. reduces friction by making the surface smoother.
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  - Yes, but some surfaces of objects have more friction than other surfaces.
  - Yes, all surfaces have the same level of friction.
  - c. /No, only rough surfaces have friction while smooth surfaces do not.
  - $\vec{a}$ . No, all objects do not have friction because friction is eliminated by a lubricant.

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  - d. the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

#### MATCHING



# USE THE WORD BANK for 19 and 20

pipes	chain	val	ve	coal	wood	g	ear	boil
wheel	W	/heels	rod	sm	nail	large	•	

- 20. A steam engine works by heating  $coul_{and}$  or wood to cause water to 6011 for steam. The steam passes through PPes and turns a Pote which turns a Wildelve which turns the <u>wheel</u>.
- 21. The gear system of a bicycle uses two gears connected to a <u>Chain</u>. The pedaling turns a large <u>dect</u>, the <u>Small gear</u> turns a chain which turns a <u>large</u> gear, and the small gear turns the <u>wheel</u>

22. A center pole where the sail is attached is the MaSF? rudder 23. The part of the boat used for steering is the  $\_ fote$ 24) A wheel that has notches along its circumference is a <u>Oidmerer</u>. Ofen 25. What are three inventions the steam-powered engine led to? planez plance trains LBOAHL plane 26. What are three inventions the gas-powered engine led to? - Con b. boat traina a. Sa.7bout gas engme Steam Cugine 27. What were the six important advances in the history of transportation? a. rattor can noo b. wheel and Axle c. WON12 f. d. Vanimals e. plane ( OVCS 28. What are the four ways people powered machines in ancient times? a. <u>Man-muscles</u> b. <u>Whater</u> c. <u>animal-muscles</u> d. <u>Winf</u>

11

#### ANSWER:

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm

diameter gear.  $(6^{L})$ 

72,8

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear

h In the late 1800s, New Yorkers faced pollution caused by

a. smog

ക്ര

- horses
- c. steam enginesd. gas engines

During most of human history, people traveled by Walking

- a. wheel and axle c. gas engines
- b. walking
- d. sailboat

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

- (a) intake, compression, power, exhaust
- b. mixture, explosion, compression, density
- c. intake, explosion, power, compression
- d. mixture, compression, power, density

#### A gear system is best described as

(a) A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.

12

- b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
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d. A system of larger gears that turn a small gear in the opposite direction.

#### 5. A lubricant

- a. increases friction by adhering or gluing the surface of a flat object to the ground.
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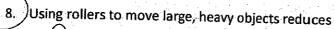
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#### Friction helps a person to

- a. walk and run.
- b. slow down a moving object and prevent objects from sliding away from each other.
- c. sit and stand.
- d.) all of the above

Name:



- (a) the mechanical advantage of the object.
- b. the amount of lubricant you will need to move it.
- c. the amount of the object's surface area that is impacted by friction.
- d. the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

# MATCHING

10. solar power a. made from oil b. moving of tides	
14	i s
the 1700s.	
12 wind power d, powered by heavy oil	
18 liquid hydrogen	
14. 9 power station k eventually evolved into the wheel and avia	
15. $A$ diesel engine g, uses different energy sources to generate	
electricity	
16 oil	
$\frac{10}{10}$ steam i fuels rockets and spacecraft	
18 rollers	
19gasoline k, sun energy	

# USE THE WORD BANK for 19 and 20

<del>pes - cha</del>	<del>unva</del> l	ve€0	at	9 <del>0d</del>	-gear-	- <del>liod</del> -
wheel	wheels	rod	- <del>small-</del>	_large		
20. A steam engin steam passes the <u>Whee</u>	ne works by hear through <u>pip</u> 2/5.	ting $(OA)$ o <u>es</u> and turn	r <u>~ 600</u> to c sa <u>V(A   V e</u>	ause water to _ which turns	boil i	for steam.
a. The gear syste	em of a bicycle u the $\underline{araje}$	ses two gears co _ gear turns a ch	onnected to a	Chain smal	. The pedalin	

22) A center pole where the sail is attached is the pulley. MaSt 23. The part of the host used for **FILL IN THE BLANK** +axle rudder -Steanbort -A wheel that has notches along its circumference is a  $\underline{alav}$ 24 25). What are three inventions the steam-powered engine led to? b. UN15 1115 Oï a. c. 26. What are three inventions the gas-powered engine led to? anes Space 1.10+ Shins а. 27) What were the six important advances in the history of transportation? b. Space crate argan - raft ordegout conce Min5 a. -domesticated lanes SullOUT D ธกา d. f. | What are the four ways people powered machines in ancient times? Steamengine -wheel -gar engine wind b. animals. WATPY d.

14

ANSWER:

29 Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. \_\_\_/,

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Ar In the late 1800s, New Yorkers faced pollution caused by \_\_\_\_\_

a. smog

c. steam engines

d. sailboat

b. horses d. gas engines

During most of human history, people traveled by

- a. wheel and axle \_\_\_\_\_c. gas engines
  - b. walking

3. A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

- (a) intake, compression, power, exhaust
- b. mixture, explosion, compression, density
- c. intake, explosion, power, compression
- d. mixture, compression, power, density

### A. A gear system is best described as

- (a) A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.
- b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
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### A lubricant

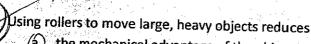
- a. increases friction by adhering or gluing the surface of a flat object to the ground.
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- b. slow down a moving object and prevent objects from sliding away from each other.
- c. sit and stand.
- (d) all of the above



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# MATCHING

0 10	hydroelectric power	á. made from oil
11D	tidal power	<ul> <li>b. moving of tides</li> <li>c. replaced muscle, wind, and water power in</li> </ul>
12// 13/ 14/0	wind power liquid hydrogen power station	the 1700s <b>6.</b> powered by heavy oil <b>7.</b> replaced steam in the 1940s
1 <u>8 d</u>	diesel engine	<ul> <li>f. eventually evolved into the wheel and axle</li> <li>g. uses different energy sources to generate electricity</li> </ul>
16. <u>e</u> 17. <u>c</u> 18. <u>f</u>	oil steam rollers	<ul> <li>In generated by wind</li> <li>✓ fuels rockets and spacecraft</li> <li>✓ falling water</li> </ul>
19. <u>a</u>	gasoline	ksun energy

# USE THE WORD BANK for 19 and 20

, pipes-	chain	Val	ve	Coal		- <del>woo</del> d		gear	b <del>oil</del>	].
-144	heel	wheels	-rod		small		large			

20. A steam engine works by heating <u>Coal</u> or <u>Wood</u> to cause water to <u>boil</u> for steam. The steam passes through <u>pipes</u> and turns a <u>value</u> which turns a <u>fod</u> which turns the <u>wheel</u>

21. The gear system of a bicycle uses two gears connected to a 2na. The pedaling turns a large

22. A center pole where the sail is attached is the \_\_\_\_\_\_

- 231/The part of the boat used for steering is the  $\underline{(uhler)}$
- 24. A wheel that has notches along its circumference is a  $\underline{q} \underline{eol}$
- 25. What are three inventions the steam-powered engine led to?

a. <u>Steam Cars</u> b. <u>steam ships</u> c. Steam plains

26) What are three inventions the gas-powered engine led to?

gas car b. gas ships c. gas train plane а.

27. What were the six important advances in the history of transportation?

1 dougout (b) wind sail boate water domesticated animal ø Strampraine q. Masterpine.

28. What'are the four ways people powered machines in ancient times?

at wind	b. manused muscels
a water	d. Laminal used muscels

#### ANSWER:

29.

Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. 7mm

9172

BQ. Galculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. Steeth gear

8"

- 1. In the late 1800s, New Yorkers faced pollution caused by
  - c. steam engines d. gas engines
  - During most of human history, people traveled by
    - a. wheel and axle walking

smog horses

> c. gas engines d. sailboat

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    - the amount of the object's surface area that is impacted by friction.
    - the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

14

# MATCHING

X

And the second s	a. made from oil
10: K solar power	moving of tides
11 tidal power	<ul><li>replaced muscle, wind, and water power in</li></ul>
12/ h	the 1700s
12/ h wind power	Dowered by heavy oil
13/ liquid hydrogen	replaced steam in the 1940s
14. G power station	A eventually evolved into the wheel and axle
15/ diesel engine	uses different energy sources to generate
	electricity
16. <u>e</u> oil	ø. generated by wind
17. C steam	fuels rockets and spacecraft
18. <u>t</u> rollers	6 falling water
19. <u>Q</u> gasoline	da. sun energy

# USE THE WORD BANK for 19 and 20

wheels wheels small large 20. A steam engine works by heating <u>Wood</u> or <u>coal</u> to cause water to <u>boil</u> steam passes through <u>pipes</u> and turns a <u>Valve</u> which turns a <u>rod</u> the <u>Wheel</u>	1 <del>0011</del>	c <del>oal wood</del> gear	pipes chain valve
steam passes through pipes and turns a Valve which turns a Made		small large	wheels rod
	for steam. The which turns	and or <u>coal</u> to cause water to <u>boil</u> to turns a <u>Valve</u> which turns a <u>rod</u>	steam passes through pipes and to
	ig turns a large he small gear	ms a choire which is a set of the pedulin	the gear turns a

mas 20. A center pole where the sail is attached is the 23) The part of the boat used for steering is the (1)24. A wheel that has notches along its circumference is a \_\_\_\_\_ qear 25. What are three inventions the steam-powered engine led to? cars rain 15. What are three inventions the gas-powered engine led to? olone CO а. 27. What were the six important advances in the history of transportation? or dug out be demesticated animals wheel and exel ratt engine SGI What are the four ways people powered machines in ancient times? b. \_ animals muscles a. wind Water d.

ANSWER:

29.

Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. 22

30) Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear.  $\beta$ 

In the late 1800s, New Yorkers faced pollution caused by

- a. smog b. horses
- d. gas engines

c. steam engines

d. sailboat

During most of human history, people traveled by  $\pm \mathbf{K}$ c. gas engines

- wheel and axle a.
- b. walking

A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?

a. intake, compression, power, exhaust

- mixture, explosion, compression, density b.
- intake, explosion, power, compression C.
- mixture, compression, power, density d.

gear system is best described as

a A system of two or more gears that work together, similar to a simple machine because it is a wheel and axle.)

15

- b. A system of separate, unrelated, wheel and axle gears that reduce the mechanical advantage.
- c. A system of a variety of different types of simple machines that work together for one purpose.

d. A system of larger gears that turn a small gear in the opposite direction.

5 A lubricant

- a. increases friction by adhering or gluing the surface of a flat object to the ground.
- b. increases friction by making the surface rougher.
- c. reduces friction by preventing the surface of a flat object from touching the ground.
- d. reduces friction by making the surface smoother.

5. Do all objects have friction?

a. (Yes, but some surfaces of objects have more friction than other surfaces,

- b. Yes, all surfaces have the same level of friction.
- No, only rough surfaces have friction while smooth surfaces do not. C.
- d. No, all objects do not have friction because friction is eliminated by a lubricant.

Friction helps a person to

- a. walk and run.
- b. slow down a moving object and prevent objects from sliding away from each other.
- sit and stand.
- d. all of the above

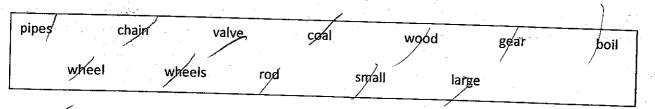
8. Using rollers to move large, heavy objects reduces

- a. the mechanical advantage of the object.)
- b. the amount of lubricant you will need to move it.
- c\_\_the amount of the object's surface area that is impacted by friction.
- d. the gravitational pull of the earth allowing Mrs. Collins to cut back on her intake of caffeine and Snickers bars

### MATCHING

hydroelectric power	a. <i>made</i> from oil
10. K solar power	b. moving of tides
U tidal power	c. replaced muscle, wind, and water power in
	the 1700s
12. h wind power	d. powered by heavy oil
18 liquid hydrogen	e. replaced steam in the 1940s
142, $2$ power station	f. eventually evolved into the wheel and axle
15. diesel engine	g. uses different energy sources to generate
	electricity
	h. generated by wind
177. <u>C</u> steam	i. fuels rockets and spacecraft
18. <u>+</u> rollers	j. falling water
19gasoline	k. sun energy

## USE THE WORD BANK for 19 and 20



20. A steam engine works by heating <u>coal</u> or <u>wood</u> to cause water to <u>boil</u> for steam. The steam passes through <u>pipes</u> and turns a <u>value</u> which turns a <u>cocl</u> which turns the <u>wheel</u>.

21. The gear system of a bicycle uses two gears connected to a <u>Chain</u>. The pedaling turns a large <u>gear</u> the <u>large</u> gear turns a chain which turns a <u>Small</u> gear, and the small gear turns the <u>wheel</u>.

15

(22) A center pole where the sail is attached is the  $\int \int$ (23) The part of the boat used for steering is the  $__ (\mu c)$ er. 24) A wheel that has notches along its circumference is a \_ CU lpha25. What are three inventions the steam-powered engine led to? b. Steam train c. Steamcar a. Steam Ship 26-What are three inventions the gas-powered engine led to? Ship OLADA Car b. What were the six important advances in the history of transportation? b. demestarading c. the wheel a. Raft dug out

d. sail boat e gas engine 1. steam engine

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28. What are the four ways people powered machines in ancient times?

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pipes	chain	valve	valve		,	wood	gear	boil	boil	
wheel	whe	els	red		<del>sm</del> all	lar	ge			
	engine works Isses through Whitee	by heating	g_ <u></u> 22 and 1	Lor <u>d</u> turns a <u>c</u>	Nal	cause wat	er to <u>lord</u> urns a	for steam.		
	<b>.</b>									

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