MULTIPLE CHOICE

X = incorrect

1

1. In the late 1800s, New Yorkers faced pollution caused by a.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

X

14/32

32

2. During most of human history, people traveled by b.
   a. wheel and axle
   b. walking
   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

Student number in upper right corner of each page.

Teacher assigned percentage correct grade circled for each student. A bonus or extra credit was possible.

4. 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.
   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.

X

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.

X

6. 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.
   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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

Science TEST, Things That Move Name: _____ 1

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

9. J hydroelectric power
10. K solar power
11. B tidal power
12. H wind power
13. I liquid hydrogen
14. C power station
15. D diesel engine

16. E oil
17. G steam
18. F rollers
19. A gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	gear	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through wheels and turns a rod which turns a gear which turns the pipes. pipes valve rod wheels

21. The gear system of a bicycle uses two gears connected to a wheel. chain The pedaling turns a large gear, the big gear turns a chain which turns a small gear, and the small gear turns the valve wheel

FILL IN THE BLANK

22. A center pole where the sail is attached is the Mast.
23. The part of the boat used for steering is the rudder.
24. A wheel that has notches along its circumference is a ~~notch~~ gear.
25. What are three inventions the steam-powered engine led to?
    a. steam car b. steam ship c. steam engine
26. What are three inventions the gas-powered engine led to?
    a. car b. ship c. ~~engine~~ plane
27. What were the six important advances in the history of transportation?
    a. raft or dugout canoe b. domesticated animals c. wheel
    d. sailboat e. steam engine f. gas engine
28. What are the four ways people powered machines in ancient times?
    a. ~~dug out canoe~~ wind b. ~~wheel + axle~~ water
    c. man power d. animal power

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. 8 : 1

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by ___D___.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by ___B___.
   a. wheel and axle
   b. walking
   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

4. 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.
   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.

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   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

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

9. GJ hydroelectric power
10. K solar power
11. JB tidal power
12. hi wind power
13. BI liquid hydrogen
14. AG power station
15. ID diesel engine
16. e oil
17. C steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating wood or coal to cause water to boil for steam. The steam passes through pipes and turns a wheel which turns a rod which turns the gear.

21. The gear system of a bicycle uses two gears connected to a valve. The pedaling turns a large chain, the small gear turns a chain which turns a large gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the ~~chest~~ mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a ~~teeth gear~~.

25. What are three inventions the steam-powered engine led to?

a. train b. car c. _____

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

a. boat b. car c. _____

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

a. Walk b. Stand c. ~~Fun~~ domesticated animal

d. ~~gas~~ engine e. sail boat f. raft or dugout canoe

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

a. man muscles b. animal muscles

c. wind d. water

ANSWER:

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

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

MULTIPLE CHOICE

3

32.5/50

65

1. In the late 1800s, New Yorkers faced pollution caused by _____.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by _____.
   a. wheel and axle
   b. walking
   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

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   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
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   b. increases friction by making the surface rougher.
   c. reduces friction by preventing the surface of a flat object from touching the ground.
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   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

X

7. 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

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

9. gj hydroelectric power
10. k solar power
11. b tidal power
12. h wind power
13. d liquid hydrogen
14. i a power station
15. l diesel engine
16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a rod which turns a valve which turns the wheels.

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

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rutter.

24. A wheel that has notches along its circumference is a gear gear.

25. What are three inventions the steam-powered engine led to?
a. steam train oil b. steam ship gass c. steam car diesal

26. What are three inventions the gas-powered engine led to?
a. Ship b. Car c. plane ?

27. What were the six important advances in the history of transportation?
a. raft or dugout wall canoe b. domesticated run animals c. animals wheel OK
d. wigand sailboat e. steam engine sun f. wind gas engine -5

28. What are the four ways people powered machines in ancient times?
a. manpower b. animal power
c. wind d. water

ANSWER:

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

8 56 7

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 8 to 1

9 72 8

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by b.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

33/50

2. During most of human history, people traveled by b.
   a. wheel and axle
   b. walking
   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

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

7. 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

X

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

9. g hydroelectric power
10. k solar power
11. j tidal power
12. h wind power
13. b liquid hydrogen
14. i power station
15. e diesel engine
16. d oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating Coal or Wood to cause water to boil for steam. The steam passes through pipes and turns a Valve which turns a pipes which turns the wheels.

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

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.
23. The part of the boat used for steering is the rudder.
24. A wheel that has notches along its circumference is a Chain gear.
25. What are three inventions the steam-powered engine led to?
    a. Car b. Ship c. train
26. What are three inventions the gas-powered engine led to?
    a. Ship b. Car c. plane
27. What were the six important advances in the history of transportation?
    a. dug out canoo b. animals c. Ship
    d. Wheel e. gas engine f. Steam engine
28. What are the four ways people powered machines in ancient times?
    a. human muscle b. animal muscle
    c. Wind d. Ship water

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. 8:1

4/11/14

5

50/50 = 10

Amazing

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by horses.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by walking.
   a. wheel and axle
   b. walking
   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

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

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   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

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

9. J hydroelectric power
10. K solar power
11. B tidal power
12. H wind power
13. I liquid hydrogen
14. G power station
15. D diesel engine
16. E oil
17. C steam
18. F rollers
19. A gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheels.

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

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. steam car b. steam boat c. steam train

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

a. car b. plane c. boat

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

a. raft or canoe b. domesticating animal c. wheel

d. sail boat e. gas engine f. steam engine

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

a. man used muscle b. water

c. animal used muscle d. wind

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. 8:1

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by b.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by b.
   a. wheel and axle
   b. walking
   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
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   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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

6 50/50 100 Well done.

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

9. J hydroelectric power
10. K solar power
11. b tidal power
12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine
16. e oil
17. C steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheel.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the large gear turns a chain which turns a small gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. steam car b. train c. ship

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

a. car b. plane c. ship

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

a. dugout canoe or boat b. domesticating animals c. wheel

d. sail boat e. steam engine f. gas engine

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

a. man used muscles b. wind

c. animal used muscles. d. water

ANSWER:

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

7:1

$$8\overline{)56}\quad 7$$

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 8 teeth / gear

8:1

$$9\overline{)72}\quad 8$$

MULTIPLE CHOICE

50/50 = 100 Amazing!

1. In the late 1800s, New Yorkers faced pollution caused by _____.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

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

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   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

X

7. 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

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   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

9. g. hydroelectric power
10. j. solar power
11. b. tidal power
12. h. wind power
13. i. liquid hydrogen
14. g. power station
15. d. diesel engine
16. e. oil
17. c. steam
18. f. rollers
19. a. gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating wood or coal to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheel.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the large gear turns a chain which turns a small gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. steam ship b. steam car c. steam train

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

a. ship b. car c. plane

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

a. wheel b. sail boat c. steam engine

d. canoe/raft e. demensticating animals f. oil gas engine

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

a. man used muscle b. animal used muscle

c. wind d. water

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. 8:1

MULTIPLE CHOICE

8

1. In the late 1800s, New Yorkers faced pollution caused by b(horses).
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by b(walking).
   a. wheel and axle
   b. walking
   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

4. 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.
   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.

6. 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.
   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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

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

9. J hydroelectric power
10. K solar power
11. B tidal power

12. H wind power
13. I liquid hydrogen
14. G power station
15. D diesel engine

16. E oil
17. C steam
18. F rollers
19. A gasoline

a. made from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. powered by heavy oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating wood or coal to cause water to boil for steam. The steam passes through pipes, and turns a valve which turns a rod which turns the wheel.

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

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. steam train b. steam car c. steam boat

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

a. car b. plane c. ship

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

a. raft/dugout canoe b. domesticating animals c. wheels

d. sailboat e. steam engine f. gas engine

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

a. wind b. water

c. animals d. man power

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. 8:1

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by horses.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by walking.
   a. wheel and axle
   b. walking
   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

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

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   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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

52/80 = (154)

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

9. j hydroelectric power
10. k solar power
11. b tidal power
12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine
16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheel.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the large gear turns a chain which turns a small gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

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25. What are three inventions the steam-powered engine led to?

a. Steam boat b. Steam car c. Steam train

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

a. boat b. car c. plane

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

a. raft or dug out canoe b. domesticating animals c. wheel

d. boat e. steam engine f. Steam train

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

a. Man-used muscle b. animal-used muscle

c. water d. Wind

ANSWER:

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

$8\overline{)56}^{7}$

$\text{Gear Ratio} = \frac{56}{8}$

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

$9\overline{)72}$

$\text{Gear Ratio} = \frac{72}{9}$

10

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by _____.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

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

51/50
102
awesome!

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

4. 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.
   c. A system of a variety of different types of simple machines that work together for one purpose.
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5. A lubricant
   a. increases friction by adhering or gluing the surface of a flat object to the ground.
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   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

9. J hydroelectric power
10. K solar power
11. B tidal power
12. h wind power
13. I liquid hydrogen
14. G power station
15. d diesel engine
16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheels.

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

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.
23. The part of the boat used for steering is the rudder.
24. A wheel that has notches along its circumference is a gear.
25. What are three inventions the steam-powered engine led to?
   a. Steamboats b. Steamtrains c. Stemcars
26. What are three inventions the gas-powered engine led to?
   a. car b. Ship c. plane
27. What were the six important advances in the history of transportation?
   a. dugout canoe raft b. dominating animals c. wheel
   d. Steam e. gasoline f. Sail boat
28. What are the four ways people powered machines in ancient times?
   a. Man used muscle b. animals used muscle
   c. wind d. water

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. 8:1

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by _____.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

38/50

76

2. During most of human history, people traveled by _____.
   a. wheel and axle
   b. walking
   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

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   c. A system of a variety of different types of simple machines that work together for one purpose.
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   c. sit and stand.
   d. all of the above

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   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

9. j hydroelectric power
10. k solar power
11. b tidal power
12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine
16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

pipes	chain	valve	coal	wood	gear	boil
wheel	wheels	rod	small	large		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a rode which turns a wheel which turns the wheel.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the small gear turns a chain which turns a lard gear, and the small gear turns the wheel.

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rote ? rudder

24. A wheel that has notches along its circumference is a diameter. gear

25. What are three inventions the steam-powered engine led to?

a. - c planes steamcar b. boat c. trains

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

a. - car b. boat c. traing plane

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

a. raft or cannoo b. wheel and Axle c. Wall

d. animals e. plane f. cars

Sailboat
gas engine
steam engine

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

a. man - muscles b. whater

c. animal - muscles d. wind

ANSWER:

29. Calculate the gear ratio of a gear system with a 56 mm diameter gear and a 8 mm diameter gear. 64

$\frac{56}{8} = \frac{7}{1}$ 7:1

56 + 8

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 81

$\frac{72}{9} = \frac{8}{1}$

72 · 9 = 81

8:1

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by horses.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

42/50
84

2. During most of human history, people traveled by walking.
   a. wheel and axle
   b. walking
   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

4. 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.
   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
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   b. increases friction by making the surface rougher.
   c. reduces friction by preventing the surface of a flat object from touching the ground.
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6. 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.
   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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: 12

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

X

MATCHING

9. j hydroelectric power
10. k solar power
11. b tidal power

12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine

16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheels.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the large gear turns a chain which turns a small gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the pulley. mast
23. The part of the boat used for steering is the wheel + axle rudder
24. A wheel that has notches along its circumference is a gear.
25. What are three inventions the steam-powered engine led to?
    a. trains b. cars c. oil - steamboat
26. What are three inventions the gas-powered engine led to?
    a. space craft b. ships c. planes - car
27. What were the six important advances in the history of transportation?
    a. trains b. space craft c. cars - raft or dugout canoe
    d. ships ✓ sailboats f. ✓ planes - domesticated animals
28. What are the four ways people powered machines in ancient times?
    a. ✓ wind b. animals ✓ ok
    c. ✓ water d. muscles ✓ ok

- Steam engine
- wheel
- gas engine

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. 8:1

MULTIPLE CHOICE

46/50
92 Good Job!

1. In the late 1800s, New Yorkers faced pollution caused by ___b___.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by ___b___.
   a. wheel and axle
   b. walking
   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
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   c. sit and stand.
   d. all of the above

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   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

9. j hydroelectric power
10. k solar power
11. D tidal power
12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine
16. e oil
17. c steam
18. f rollers
19. a gasoline

a. *made* from oil
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g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating coal or wood to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheel.

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FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. steam cars b. steam ships c. steam plains

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

a. gas car b. gas ships c. ~~gas train~~ plane

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

a. raft/dougout (b) wind sail boat c. water domesticated animal

d. ~~steam engine~~ canoe e. wheel f. ~~gas engine~~

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

a. wind b. man used muscels

c. water d. animal 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 7:1

$8\overline{)56}^{7}$

-1

30. Calculate the gear ratio of a gear system with a 72 teeth gear and a 9 teeth gear. 8teeth gear

8:1

$9\overline{)72}^{8}$

MULTIPLE CHOICE

1. In the late 1800s, New Yorkers faced pollution caused by _____.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

47/50
94

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

3. A four-stroke cycle gas powered engine turns gas into energy inside the engine using which four strokes?
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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. j hydroelectric power
10. K solar power
11. b tidal power
12. h wind power
13. i liquid hydrogen
14. G power station
15. d diesel engine
16. e oil
17. g steam
18. f rollers
19. a gasoline

a. *made* from oil
b. moving of tides
c. replaced muscle, wind, and water power in the 1700s
d. *powered* by *heavy* oil
e. replaced steam in the 1940s
f. eventually evolved into the wheel and axle
g. uses different energy sources to generate electricity
h. generated by wind
i. fuels rockets and spacecraft
j. falling water
k. sun energy

USE THE WORD BANK for 19 and 20

~~pipes~~	~~chain~~	~~valve~~	~~coal~~	~~wood~~	~~gear~~	~~boil~~
~~wheel~~	~~wheels~~	~~rod~~	~~small~~	~~large~~		

20. A steam engine works by heating Wood or coal to cause water to boil for steam. The steam passes through pipes and turns a valve which turns a rod which turns the wheel.

21. The gear system of a bicycle uses two gears connected to a chain. The pedaling turns a large gear, the large gear turns a chain which turns a small gear, and the small gear turns the wheels.

FILL IN THE BLANK

22. A center pole where the sail is attached is the mast.

23. The part of the boat used for steering is the rudder.

24. A wheel that has notches along its circumference is a gear.

25. What are three inventions the steam-powered engine led to?

a. cars b. boat c. train

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

a. ships b. cars c. & plane

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

a. raft or dug out b. demesticated animals c. wheel and axel
Kanu

d. steam engine e. gas engine f. sail boat

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

a. muscles b. animals

c. water d. wind

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. 8:1

MULTIPLE CHOICE

48/50
96
Good Job.

1. In the late 1800s, New Yorkers faced pollution caused by B.
   a. smog
   b. horses
   c. steam engines
   d. gas engines

2. During most of human history, people traveled by B.
   a. wheel and axle
   b. walking
   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

4. 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.
   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.

6. 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.
   c. No, only rough surfaces have friction while smooth surfaces do not.
   d. No, all objects do not have friction because friction is eliminated by a lubricant.

7. 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

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

X

MATCHING

9. j hydroelectric power
10. k solar power
11. b tidal power

12. h wind power
13. i liquid hydrogen
14. g power station
15. d diesel engine

16. e oil
17. c steam
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49/50 = 98 Wow!

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wheel	wheels	red	small	large		

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26. What are three inventions the gas-powered engine led to?
a. boats b. planes c. cars

27. What were the six important advances in the history of transportation?
a. intelligent apes b. domesticating animals c. wheels
d. sailboats e. gas engine f. steam engine

28. What are the four ways people powered machines in ancient times?
a. man/muscle b. animals/muscle
c. wind d. water

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