

Technology Ag Mag - Vocabulary

Word Meanings - Suffixes

Directions: Choose a root word from the Root Word Bank and a suffix from the Suffix Word Bank to create a word to fit the definition.

ROOT WORD BANK	
candid-	kind-
cour-	pho-
diction-	port-
docu-	teach-
hypno-	vac-

SUFFIX WORD BANK	
-able	-er
-age	-ia
-ancy	-ment
-ary	-ness
-ate	-osis

1. _____ means "able to be carried."
2. _____ means "book connected with words."
3. _____ means "one who teaches."
4. _____ means "induced sleep."
5. _____ means "having the spirit to overcome fear."
6. _____ means "an empty room or position."
7. _____ means "a person nominated for an office or position."
8. _____ means "an illogical fear of something."
9. _____ means "an official paper usually shown in proof or evidence of something."
10. _____ means "the quality of being kind or nice."

Technology Ag Mag - Math - Using Exponents

Directions: Choose the best answer.

1

What is 33 written as a product of prime numbers?

- A $3 + 11$
- B $3^2 + 11^2$
- C 3×11
- D $3 \times 3 \times 11$

2

Which of these is another way to write 52?

- A $5^2 + 3^3$
- B $5^2 + 13$
- C $3^2 + 20$
- D $5 \times 3 \times 4$

3

A standard tractor weighs 10,900 pounds. What is this number in scientific notation?

- A 1.09×10^4
- B 1.9×10^9
- C 1.90×10^6
- D 1.09×10^5

4

Which of the following is 6.49×10^{10} in standard form?

- A 60,000,004.90
- B 64,900,000,000
- C 64,900,000
- D 64,900

Technology Ag Mag - Math - Using Exponents

Directions: Choose the best answer.

5

Which of these is another way to write $7 \times 7 \times 7 \times 7 \times 7 \times 7$?

- A 7^3
- B 7^5
- C 7×7^3
- D 7^6

6

$64 =$ _____

- A 4×4
- B 4^4
- C 4^3
- D 4×12

7

Which of the following is the scientific form of 3,254,000?

- A 3.254×10^6
- B 3.25×10^4
- C 3254×10^6
- D 32.54×10^4

8

Another way to write 5^3 is _____?

- A 15
- B 25×3
- C 125
- D 5×15

Technology Ag Mag - Reading Passage

Taken from *Machines Magic Kit* by FCAE

John Deere

John Deere was born on February 7, 1804, in Vermont. He received only a very simple early education because of his family's lack of money. At 17, he started an apprenticeship to become a blacksmith, and by 1825, he began his career as a journeyman blacksmith, working on a variety of blacksmithing jobs, including manufacturing a wide variety of farm machinery.

Local farmers complained to John about the troubles they were having plowing the thick, sticky, rich soils in the Midwest. The plows they were using were made of cast-iron and were built for use in the light, sandy soils of Vermont, where Deere was originally from. The heavy prairie soil in Illinois stuck to their plows. For the plow to do its job, farmers had to frequently stop to scrape the soil from the plow.

John thought that a highly polished plow with the proper shape would clean itself as the farmer plowed. He used a broken steel saw blade to fashion the first plow and tested it on a farm near his home in Grand Detour, IL. It was a success and soon became the talk of the agricultural community. Today, John Deere employs approximately 47,000 people, making it one of the most prominent global manufacturers of a wide variety of machinery and equipment.

Cyrus McCormick

Cyrus McCormick was born on February 15, 1809, in Virginia. Cyrus received a great start in his mechanical endeavors from his father, who was also an inventor. He started working on the family farm at an early age.

By the age of 15, Cyrus was already working on agricultural inventions and invented a cradle for harvesting grain. Cyrus' father had been working on a horse-drawn reaper (a machine for cutting grain) and decided to hand it over to Cyrus. By 1831, Cyrus had built, field-tested, remodeled, and successfully demonstrated the world's first horse-drawn mechanical reaper.

For the next twelve years, Cyrus and his family made and sold reapers from their farm in Virginia. During that time, they sold fewer than one hundred machines because farmers were unconvinced about the usefulness of the machine. However, by 1841, farmers had finally come to realize the greatness of the reaper. Business improved so much that the company known as McCormick Harvesting Machine Company was born, and the business was forced to move to Chicago. By 1858, the company was the largest farm equipment maker in the U.S. with assets over one million dollars. The McCormick company eventually merged with other companies and currently is known as Case IH, a leading manufacturer of machinery and equipment.

Technology Ag Mag - Reading Passage

Directions: Read each question and choose the best answer.

1

What caused John Deere to want to improve upon the plow in 1825?

- A His own personal experience using plows.
- B His customer's complaints about soil sticking to the plow blades.
- C He just got the idea one day.
- D His dad had the idea and passed it on to him.

2

What caused Cyrus McCormick to want to invent the reaper in 1831?

- A His own personal experience using plows.
- B His customer's complaints about soil sticking to the plow blades.
- C He just got the idea one day.
- D His dad had the idea and passed it on to him.

3

A _____ is a machine used for cutting grain.

- A Plow
- B Cultivator
- C Reaper
- D Planter

4

Why did McCormick have to move his business from Vermont to Chicago?

- A Business improved so much, he needed to move to a factory.
- B His wife was from Chicago.
- C He was originally from Chicago.
- D None of the above.

Technology Ag Mag - Reading Passage

Directions: Read each question and choose the best answer.

5

Who invented their machine first?

- A John Deere
- B Cyrus McCormick
- C They both invented them the same year.
- D It is unknown who invented their machine first.

6

Why was the sale of the reaper so unsuccessful for 12 years after its invention?

- A McCormick didn't release it to the public.
- B Farmers were not convinced about its usefulness
- C It was too expensive.
- D Sales were very successful during the first 12 years.

7

How are John Deere and Cyrus McCormick's stories similar?

- A They both had wonderful educations.
- B They both learned from their fathers how to invent.
- C They both worked as blacksmiths.
- D They both ended up in Illinois, where farming was important.

Extended Response—TECHNOLOGY

The work that used to be done by horses and other farm animals is now being done by machinery. How do the improvements in technology on the farm improve production? Think about your own experiences with technology as well as information from the Technology Ag Mag in forming your answer.