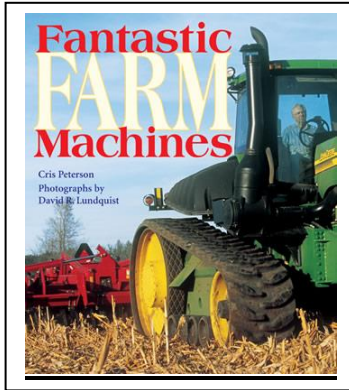


Fantastic Farm Machines Teacher's Guide



Answer Key and Wisconsin Model Academic Standards for 4th grade students

Fantastic Farm Machines- Crossword

Across: 1- Tractor; 4- Irrigation pivot; 6-Skid steer; 7- Soil finisher; 8- Chisel plow; 9- Grain drill; 10- Crop sprayer

Down: 2- Corn planter; 3- Combine; 5- Mower conditioner; 6- Spreader

English	A.4.4	D.4.1	F.4.1				
Social Studies	B.4.1	G.4.1	G.4.2	G.4.3	G.4.4	G.4.5	H.4.1

Fantastic Farm Machines- Word Search

English	D.4.1	E.4.1	F.4.1
---------	-------	-------	-------

Fantastic Farm Machines- Worksheet

Matching: 1- D; 2- E; 3- A; 4- J; 5- I; 6- B; 7- H; 8- G; 9- C; 10- F

Definitions: *Haylage*- damp hay that is cut into small pieces, looks like grass clippings, can be dumped in gigantic piles, later it is packed down and covered with white plastic to be saved for winter feeding. *Manure*- waste product from animals like cows, pigs and horses, spread onto fields and enriches the soil and helps crops to grow.

Science	G.4.4	G.4.5			
English	A.4.2	A.4.4	B.4.1	B.4.2	B.4.3

Fantastic Farm Machines- Brands of Machinery

Some of the brands shown in the book include: John Deere, Case International, Ag Gator, Van Dale and Case.

Machinery companies have gone through major changes of ownership by purchasing each other so it may be a little confusing finding some of the bands in the book on the Internet. Also certain models of equipment may be taken out of production as new ones are developed. Use the following links to assist in your search. Most have a section that talks about the company history, careers, and will offer links to visit the various types of equipment they make.

- http://www.deere.com/en_US/deerecom/usa_canada.html
- <http://www.caseih.com/index.aspx>
- http://www.agcocorp.com/products/products_brand.aspx

- Van Dale- may have a hard time finding websites for this manure spreader
- <http://www.cnh.com/wps/portal/cnhportal>

Science	G.4.1	G.4.5					
English	A.4.2	A.4.4	B.4.1	B.4.2	B.4.3	E.4.1	F.4.1

Fantastic Farm Machines- Model Farm Equipment

Answers will vary depending on the pieces of equipment brought in.

Science	C.4.3	C.4.8	G.4.4	G.4.5	H.4.1	
English	A.4.4	C.4.1	C.4.2	C.4.3	E.4.1	F.4.1

Additional activities, websites and discussion points

Websites to visit: This is just a partial listing of various brands of equipment websites and not an endorsement of any particular one. There are many more to be explored by searching “farm equipment” or “farm machinery”.

www.kidsfarm.com/equipment.htm

www.deere.com

www.caseih.com

www.fabco.com

www.gehl.com

www.agcocorp.com

www.antiquefarming.com/history.html

www.mccormickusa.com

www.kuhnknight.com

Other websites with information about machinery and equipment:

- www.agclassroom.org/gan - Growing a Nation – Classroom Resources, Instructional Unit, Prosperity & Challenges, Lesson 3, 1950-1969
- www.cfaitc.org (click on Lesson Plans, Grades 2-5, Simple and Complex Machines Used in Agriculture)
- <http://inventors.about.com/library/inventors/blfarm1.htm> - About Inventors.com
- http://www.agintheclassroom.org/060605/Teachers/Printable/agmags/ag_mags.html - Illinois Ag Mag - Technology
- <http://www.need.org/needpdf/Biodiesel.pdf> - *Transportation and Biofuels*- Biodiesel curriculum for 4-12 grades.
- www.agclassroom.org – click on National Resource Directory
- www.farmcity.org – *Tractor Power* booklet available from National Farm City Council, Inc
- <http://www.mda.state.mn.us/kids/maitc/bookbundle/>- Minnesota Agriculture in the Classroom – Book Bundle Reader Guide- *Fantastic Farm Machines*-

Other supplemental activities and discussion points

1. If there are students from a farm, what types of machines and equipment do they have on their farm? How are the machines used? Are they allowed to operate any of the machines or equipment? If so, what safety rules must they follow?
2. There are some historical pictures in the book, how has equipment and machinery changed over the years?
3. Invite a farmer (or a panel of farmers) to come into the classroom to discuss the machines and equipment they have on their farm.
4. If possible, could some machinery be brought to school for an "equipment fair" so students can learn about them, see the size of some equipment, and understand the safety rules associated with them.
5. If you have an equipment dealer in the area, could a field trip to the dealership be arranged? In addition to the tour, have the staff discuss their jobs, possible career areas, and their responsibilities.
6. After identifying the various pieces of equipment, discuss safety rules when around farm equipment. A farmer or equipment dealer would be an excellent presenter. You can also check out farm safety information at <http://www.fs4jk.org/>, <http://fyi.uwex.edu/agsafety/>, <http://www.marshfieldclinic.org/NCCRAHS/>, and other Internet sources.
7. The book shows many types of technology and computers used on farm equipment and machinery. Discuss how farmers used computers, GPS and other forms of technology.
8. To include math into the discussion, research into the cost of some of the farm equipment and machinery could be done. There are many on-line machinery sales websites or an equipment dealer would be a good resource. Depending on the grade level, simple problems with figuring interest, payments and inventory could be done.
9. One section discusses irrigation. Do we use irrigation in Wisconsin? Where and on what types of crops and soils? Have students ever seen an irrigation system in use?
10. Contact your county Farm Bureau (www.wfbf.com) to see what other Ag in the Classroom or safety activities they offer that could be included in your classroom.

About the author, Cris Peterson

Source: book jacket and www.boydsmillpress.com

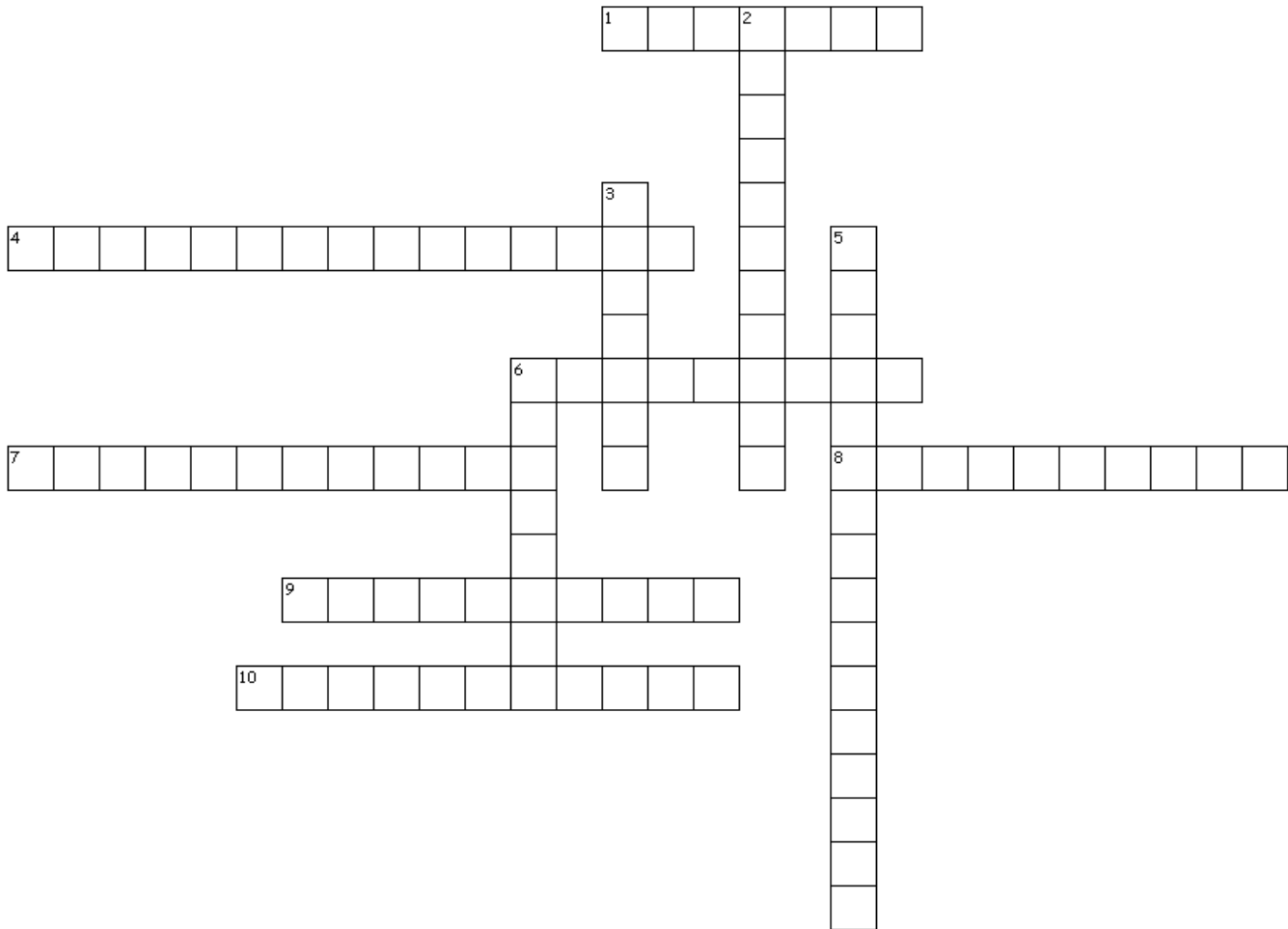
Since 1989, Cris Peterson has been writing Huckleberry Bookshelf, a weekly children's book review as well as a family literacy column that is nationally syndicated with Universal Press Syndicate. It appears in papers nationwide, including the St. Paul Pioneer Press, the Dallas Morning News, the Milwaukee Journal, and the Omaha World-Herald. She is the author of several children's books and was named 2004 National Dairy Woman of the Year at the World Dairy Expo to honor her writing and her leadership in the agricultural business.

A native of Minneapolis, she is a University of Minnesota honors graduate with a BS in history and geography. Familiar with the harried and hectic schedule of a working parent, Cris focuses most of her time, energy, and writing on kids, cows, and history. She is a full-time dairy farmer with her husband, Gary. They farm one thousand acres in Grantsburg, Wisconsin, milk five hundred cows, and keep busy with their three children. Cris often contributes material to Highlights for Children. Her first story published in the magazine received the Pewter Plate Award for author of the month in October 1989. She has also written articles and features for various magazines and newspapers, including Cricket, the Atlanta Constitution, the Chicago Tribune, the Milwaukee Journal, the Des Moines Register, and Country Today. A frequent speaker about writing, reading, history, and farming, Cris has written Extra Cheese, Please! a book that features photographs of the Peterson's own dairy operation and tells the story of cheese's journey from cow to pizza. Harvest Year is the title of her second photo essay.

Fantastic Farm Machines Crossword

Name _____

Word list- chisel plow, combine, corn planter, crop sprayer, grain drill, irrigation pivot, mower conditioner, skid steer, soil finisher, spreader and tractor.



Across

1. Most important machine on the farm
4. Sprays thousand of gallons of water onto a circle of plants
6. Used for hauling, cleaning and lifting. A very handy machine
7. Cuts up clods of soil and smoothes out the seedbed
8. Turns over the soil
9. Plants wheat, oats, soybeans and other crops
10. Will roll through rows of plants and apply sprays for insects and weeds

Down

2. Will plant the seeds in rows and packing wheel covers the seeds with soil
3. Will harvest corn, wheat, oats and other crops by cutting, removing the husk and keeping the grain
5. Cuts, crushes and piles the hay
6. Will help spread manure on the surface or by digging it into the fields

Fantastic Farm Machines Worksheet

Matching: Use the words below to match the machine to its use or purpose

- ___ 1. Turns the soil over to the sunshine as it prepares the soil for planting
- ___ 2. Computer in its cab controls the amount of spray applied
- ___ 3. Probably the most important machine on the farm- used for a variety of tasks
- ___ 4. Cuts, crushes and piles hay all in one pass
- ___ 5. Sprays thousands of gallons of water onto a circle of plants
- ___ 6. Chops hay into small pieces and blows it into a truck or wagon
- ___ 7. Plants small seeds such as wheat, oats, soybeans using metal plates
- ___ 8. Large machine that will remove the grain from the stalk and blow waste on ground
- ___ 9. Will plant kernals into rows by dropping the seed and a packing wheel covers it with dirt
- ___ 10. Cuts up clods of soil and smooths out the seedbed

- A. Tractor
- B. Chopper
- C. Corn planter
- D. Chisel plow
- E. Crop sprayer
- F. Soil finisher
- G. Combine
- H. Grain drill
- I. Irrigation pivot
- J. Mower-conditioner

Definitions: Write

a short definition of the following words found in the book

- Haylage

- Manure

Comparisons: Select two machines that you read about in the book. Compare what their jobs are. Does it need to be pulled by a tractor? Is it used strictly for crop production or does it have something to do with animals (i.e. care or feeding)?

_____ -

_____ -

Fantastic Farm Machines – Brands of Machinery

As you read the book, do you see the different colors and company names on the pieces of equipment? Make a list of the different brands of machinery shown in the book:

Pick one of the brands of machinery and search the Internet for the company's website:

- Brand chosen: _____
- Company's website address: _____
- Where is the company located: _____
- What other types of equipment do they make?
- Are there any equipment dealers located close to you? _____
Where? _____
- If there are model numbers listed on the machinery, look up that model number and see what that piece of equipment is used for and any other information given about it:
- Is there any information about careers and jobs related to that company? Do any interest you?
- What else did you learn about the company from its website?

Fantastic Farm Machines – Model Farm Equipment

Assemble a collection of toy farm/model farm equipment. Ask student's if they have model (toy) farm equipment at home or have a guest speaker (i.e. area farmers) bring some into class.

1. Identify what the pieces of equipment are.
2. What brand of equipment is it?
3. What is the piece of equipment used for?
4. What crops is it used for? Or is it equipment used in animal care?
5. Can you think of some safety rules that would be important to consider when using the piece of equipment?
6. If you have several pieces of equipment used to raise one type of crop, identify the correct order they would be used in from seed preparation to harvest. (i.e. plow, disk or soil finisher, corn planter, cultivator, sprayer, combine, stalk chopper, chisel plow).
7. What else do you know about the various pieces of equipment? Have you ever used any of them?

Fantastic Farm Machines Word Search

Find the words listed below that are used in "Fantastic Farm Machines".

Q R Q R R S S O F K G N R A P K C T C T E A F P X
K E P A E S O Y B E A N S I H R V I O T N W R X N
F D Y C N P V I P E R J T P O H C V R N I T U K W
T A M K O U P L L W Z O P P X K I A N X B A Q E V
E O Q P I U Y O L F Q T S V Q P C Q P B M K V R M
K L B A T Q X U H I I P H T N T H S L J O G R N X
B I Q K I O V K I C R N L O O M U G A L C K O E Q
M N U V D O T I O A V D I R Y W V Q N A P V G L Z
B I M T N Y I O Y B O T N S V A C P T U E A Q Z Q
V M G X O E U E D C A Z T I H U B S E G L M V F Q
H U F K C C R K O G O F S G A E O S R Y E D L L Q
U P R I R J N Q I Y T M Y T M R R N A P C U U M R
S Q U D E Z I R F X W F P L V D G H L M T A E H W
K M G T W L R W H E E L S U I F U D Y M N I K D X
K Q H C O I D I U M Y S A S T Y K F L C S E C G H
L H Y V M D H S Y I S S K J V E S Y G U R N W O Z
T Y M M T P S I S G M S G S J T R D M E W R O Q I
M A N U R E S P R E A D E R E F S O E Y T I L V I
F D M C W P E G B G R K V R O D H T A E R C P P N
Z H W Q D P F G M X A M C Y R U S I I T S H A P T
Y W F Q B E J I V L Z A F F P D C O K S S E R K T
R E T N A L P W O L P L E S I H C R O W S S Y L V
N R S B V Y L L K G P Z D K N T A P O Q O T Y Z I
E T T O Z Y N S S R Z O S T C B M R H W F G K E M
C F B E J T S P V F U F D J L F H S J W K K J R T

ACRE
CHISEL PLOW
CHOPPER
COMBINE
COMPUTER
CORN PLANTER
CROPS PRAYER
DISKS
ENRICHES
FIELDS
GRAIN DRILL
HAYLAGE
HUSK
IRRIGATION PIVOT
KERNEL

MANURE SPREADER
MINI LOADER
MOWER CONDITIONER
OATS
PLANTER
PLOW
ROWS
SEEDS
SKID STEER
SOIL FINISHER
SOYBEANS
TRACTOR
WHEAT
WHEELS