Lesson 2: Farm Mechanic Shop

Grade Level: Kindergarten

Time: 60 minutes

Subjects: ELA, Science, Agriculture

Overview: This lesson is Lesson 2 of 5 in the *Jobs Farmers Do* unit within the *Growing Readers* micro-curriculum, based on a series of books written by Kansas author Dan Yunk. Building on Lesson 1's introduction to the many jobs farmers do. Students read a short decodable text, using sight-word recognition and sound blending, before becoming farm mechanics themselves, diagnosing and repairing a broken cardboard tractor or wagon in small groups. After testing their repairs, students move into shared writing, building a complete, expanded sentence together using a sentence frame modeled on chart paper. They use the frame to complete a recording sheet and write an informative piece that names what broke and how they fixed it. A Word Bank supports words that are not yet easily decoded, with attention to phonetic spelling, letter formation, spacing, and ending punctuation.

Skillset: Activating prior knowledge across lessons, reading a decodable text, asking questions to define a problem, testing and revising a repair, recalling information from a hands-on investigation, expanding complete sentences in shared writing, composing an informative piece with word bank support, spelling words phonetically, and applying print conventions like letter formation, spacing, and punctuation.

Kansas Academic Standards
Kansas ELA Standards
RF.K.4 Read decodable texts that support instruction.
W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
W.K.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
W.K.10.e Produce and expand complete sentences in shared language activities.
W.K.11.d Spell simple words phonetically, drawing on knowledge of letter-sound relationships.

Kansas Science Standards
K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

National Agriculture Literacy Outcomes
Science, Technology, Engineering, and Mathematics
T4.K-2.b Recognize and identify examples of simple tools and machines used in agricultural settings (e.g., levers, screws, pulley, wedge, auger, grinder, gears, etc.).

Objectives

English Language Arts Objectives

Students will be able to:

- Read a short decodable text about a farm machine that needs fixing with teacher support.
- Recall information from the investigation to answer questions.
- Produce and expand a complete sentence about a repair in a shared writing activity.
- Compose an informative piece naming what broke and how it was fixed, using drawing, dictating, and writing.
- Spell simple words phonetically, drawing on knowledge of letter-sound relationships.

Science Objectives

Students will be able to:

- Ask questions, make observations, and gather information to define a simple problem with a piece of broken equipment.
- Test whether a repair solves the problem, and try a new approach if it does not.

Agriculture Objectives

Students will be able to:

- Identify simple tools and mechanical parts, like a wheel, a cab, and a pin, used on farm equipment.
- Explain how farmers must be able to diagnose and repair problems with their equipment to keep their farm operating.

Materials Needed

Whole Class:

- Chart paper for shared writing
- Markers
- Decodable text — companion document, displayed where all students can see it, read together before the investigation begins

Farm Mechanic Shop Investigation (per small group of 3–4 students):

- 1 of 4 simple cardboard tractor templates, each prepared with a different problem: a loose wheel, a rig that has come unhooked from its wagon, a cab that tips, or a missing pin
- Cardboard circles for wheels
- Brass paper fasteners/brads (a small metal fastener with a round, flat head and two thin prongs that push through a hole and bend apart to hold two pieces together, sometimes called a paper fastener; useful here for attaching a wheel so it can still spin)
- Craft sticks
- Drinking straws
- Tape
- String or yarn
- Paper clips
- Small pieces of cardboard
- Small tray of "repair parts"
- Optional child-safe toy wrench or screwdriver for pretend mechanic play

(Note: See the separate Teacher Preparation instructions below for preparing a cardboard tractor or wagon with one problem for each group before the lesson begins.)

Writing:

- Farm Mechanic Shop recording sheet — companion document (one per student)
- Word Bank — companion document
- Pencils
- Crayons, if desired

Lesson Procedures

1. Connecting to What We Know. Explain to students: "In our last lesson, we learned that farmers have many different jobs, and one of the jobs Grandpa told us about was being a good mechanic. He told us farmers have to be good mechanics in order to keep their equipment operating, because when something breaks, farmers need to know how to fix it. Today, you are going to become farm mechanics yourselves!"
    a. Ask students:
        - "What do you remember about farmers being mechanics from our last lesson?"
        - "Have you ever seen something broken get fixed, like a toy or a bike? What happened?"
2. Reading Our Decodable Text. Explain to students: "Before we start fixing things, let's read this text together." Display the text where all students can see it.
    a. Explain to students: "Let's find the words in this text that we already know how to read. Can you point to the word 'the'? What about 'is'? What about 'we'? Those are words we see all the time, sight words we can read quickly without sounding them out."
        - Point to 'the', 'is', and 'we', and have students read them chorally as a class.
    b. Explain to students: "There are more words in this text we can sound out together. Let's stretch out rig: /r/ (first finger), /i/ (second finger), /g/ (third finger). Now blend it: rig. Now let's stretch out bent: /b/ (first finger), /e/ (second finger), /n/ (third finger), /t/ (fourth finger). Blend it: bent."
    c. Read the whole text together as a class: "The rig is broken. The rod is bent. The pin fell out. We can fix it. Put the pin in. The rig can now run."
    d. Explain to students: "That is exactly the job you are going to do today, just like a real farm mechanic!"
3. Farm Mechanic Shop Investigation. Divide students into small groups.
    a. Give each group one prepared broken tractor and a repair tray.
    b. Explain to students: "Today you are going to be farm mechanics, just like the farmers in our book. Your job is to figure out what is wrong with your equipment and fix it."
    c. Have students first inspect the equipment without fixing it.
        - Ask students:
            - "What is wrong?"
            - "What part needs to be fixed?"
            - "Which repair piece might help?"
    d. Go through the repair tray and name the items for students. Let students choose a repair part and make the repair.
    e. After the repair, students test the equipment: if the problem involves the wheel, students roll the tractor; if the problem involves the rig, students gently pull the wagon to check that it stays hooked on; if the problem involves the cab, students

check that it stays up and does not tip; if the problem involves the pin, students gently shake or pull to make sure it holds.
    - If the repair does not work, students inspect the equipment again and try a different solution.

f. When finished, have each group explain what broke, what they used to fix it, and how they knew the repair worked.
g. To give more students a turn at making a repair, rotate the tractors and wagons between groups, and repeat the inspection, repair, and testing steps above with the new equipment.

4. Writing and Expanding About My Repair. Gather students where they can see chart paper clearly.
    a. Explain to students: "Now we are going to write about what we fixed, so other people can know what was wrong and how we solved it, just like real farm mechanics keep track of their repairs."
        - Write on chart paper: *'We fixed the tractor.'*
        - Ask students:
            - "Does that explain what we did?"
            - "If another farmer read this, would they know everything that happened?"
            - Guide students to notice that the sentence tells us something happened, but leaves out what a real farm mechanic would need to know, so it isn't enough for good record-keeping.
    b. Explain to students: "Let's practice making our sentence bigger and add more information, just like real mechanics explaining a repair."
        - Ask students:
            - "What part of the tractor did we fix?"
        - Add the response to the sentence: "We fixed the tractor's wheel."
        - Ask students: "What did we use to fix it?"
        - Add the response to the sentence: "We fixed the tractor's wheel with a brad."
    c. Explain to students: "See how our sentence grew bigger and told us more information? We started with a short sentence and added details to make it a complete, expanded sentence. This is exactly what we are going to do on our recording sheet."
    d. Ask a few groups to orally expand a sentence about their own repair, starting with 'We fixed the ___*'* and adding details about what part and what they used. Point to the word bank as needed for the part and material names.
    e. Explain to students: "Now it's time to write about our repair together."
    On chart paper, write the sentence frame: The ___ was broken. I fixed it with a ___.
        - Read the sentence frame aloud, pointing to each word: "The... was broken. I fixed it with a ..."
    f. Model completing and writing the sentence on chart paper, thinking aloud sound by sound for each key word, and pointing to the Word Bank picture for any word that is not easily sounded out:
        - "The wheel was broken. The wheel is the part that was broken. Let me stretch out the sounds: /w/ (first finger), /ee/ (second finger), /l/ (third finger). Let me write the letters that match: wh...ee...l. Wheel."

- "I fixed it with a brad. Brad is what I used to fix it. I can find brad in our word bank to help me spell it: b...r...a...d. Brad."
- Read the completed sentence aloud together, tracking each word with your finger: "The wheel was broken. I fixed it with a brad."

g. Ask students:
- "What was broken in my sentence?"
- "What did I use to fix it?"

h. Give students a brief reminder: "When you write your own sentence, look back at our chart paper to help you form your letters, leave a space between your words, and end with a period."

5. Independent Writing. Distribute the Farm Mechanic Shop recording sheet.
   a. Explain to students: "First, using our sentence frame on the chart paper as your model, write your own sentence about your repair. Sound out each word yourself first, and check the word bank for any tricky words, just like we practiced together. Then, draw a picture of your repair in the space below."
   b. Students complete the recording sheet independently, with dictation available only for students who need additional support (see differentiation note below).
      - Circulate and support:
        - Prompt for recall: "What was broken on your equipment? What did you use to fix it?"
        - Prompt for phonetic spelling: "Say the word slowly. What is the first sound you hear? What letter matches that sound? Is that word in our word bank?"
        - Prompt for letter formation and spacing: "Look at our chart paper. How did we form that letter? Where do we leave a space?"
        - Prompt for expanding sentences: "Can you tell me more? What part broke? What did you use?"

        (Note: Students who need additional support may use a pre-written sentence frame and fill in the blanks, dictate their sentence while the teacher or a classroom helper scribes, or complete the sheet using only a drawing with the teacher labeling each part. Students ready for a challenge can write a second sentence describing how they tested their repair.)
6. Closing Discussion and Kansas Connection. Gather students together with their completed recording sheets.
   a. Ask students:
      - "What was broken on your equipment, and how did you fix it?"
      - "What is one question you asked, or one thing you noticed, while you were figuring out the problem?"
      - How did you know your repair worked?
   b. Kansas Connection. Explain to students: "Just like you did today, Kansas farmers and ranchers often have to fix their own equipment - tractors, wagons, and other machines that help them do their work. When equipment has a problem, they may inspect it, figure out what is wrong, make a repair, and test it to see if the repair worked. Whether you live on a farm, in a small town, or in a city, the next time something you use breaks, like a toy or a bike, you can think like a mechanic: figure out what's wrong, try a fix, and test it to see if it worked."

c. Ask students:
    - "Think about becoming a mechanic today. What is one thing you could tell your family tonight about how you figured out a problem and fixed it?"

Assessment: Teacher observation during the decodable text reading, the investigation, shared writing, and independent writing provides the main evidence of student understanding. Watch for whether students can read the decodable text with support, ask questions to define a simple problem, and test a repair, trying a new approach if needed. Note whether they recall information from the investigation, expand a complete sentence, and compose an informative piece naming what broke and how it was fixed. Also note their phonetic spelling and print conventions, such as letter formation, spacing, and ending punctuation. The repaired equipment and completed recording sheet serve as the primary artifacts for this lesson.

Supplemental Activities: Display the repaired tractors and wagons alongside the completed recording sheets under a title such as *"Farm Mechanics at Work!"* For students ready for an additional creative challenge, set up a tractor-building center using the same craft materials (cardboard, brads, straws, string) where students can design and build their own original tractor or wagon from scratch, rather than repairing one, as an extension activity.

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Teacher Preparation Instructions

Materials (for one tractor and wagon)



- Small cardboard box (tractor body)
- Small paper cup or smaller box (cab)
- Shallow small cardboard box or folded tray (wagon)
- Cardboard circles (wheels)
- Brass paper fasteners (brads)
- Craft sticks
- Drinking straws
- Tape
- Tape
- Scissors
- Hole punch or pencil
- String or yarn

How to Make the Tractor



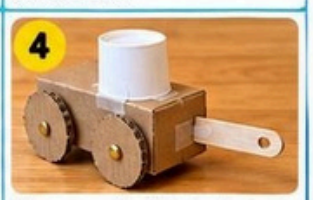
1. Cut or use a small cardboard box for the tractor body.



2. Tape a small paper cup or smaller box on top/back for the cab.



3. Cut four cardboard circles for wheels, punch center holes, and attach them to the sides with brass brads so the wheels can turn.



4. Tape a craft stick to the back as a hitch and punch a hole near the end.

How to Make the Wagon



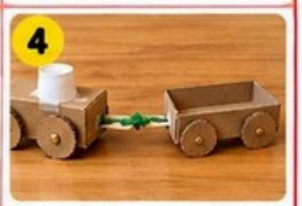
1. Use a shallow small cardboard box or folded cardboard tray for the wagon.



2. Cut two cardboard circles for wheels and attach them with brass brads so they turn.



3. Tape a craft stick or sturdy cardboard strip to the front as a hitch.



4. Connect the wagon hitch to the tractor hitch with a short piece of yarn or string through the holes.

Finished Example: Tractor and Wagon (Ready to Use)

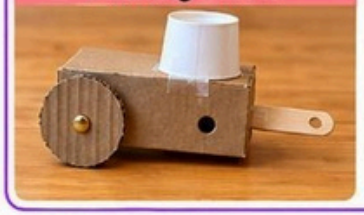


A Simple Version That Works Great!

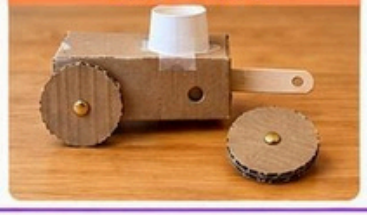
- Easy to make
- Inexpensive
- Easy for kindergarten students to repair
- Works well for simple mechanic play

Examples of "Broken" Tractors and Wagons for the Repair Activity

Missing Wheel



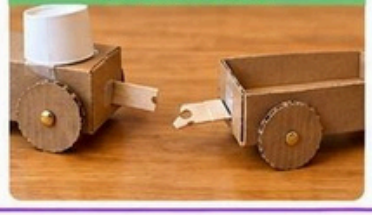
Loose Wheel



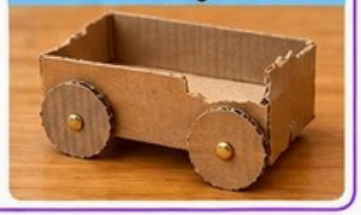
Wheel Will Not Turn



Broken Hitch



Broken Wagon Side



The rig is broken.

The rod is bent.

The pin fell out.

We can fix it.

Put the pin in.

The rig can now run.

Name: _____

Farm Mechanic Shop Recording Sheet

Part 1: My Repair

Write about your repair.

Part 1: My Picture

Draw your repair.

- ☐ I used my best letters.
- ☐ I left a space between my words.
- ☐ I ended my sentence with a period.

Word Bank

 wheel	 brad
 string	 paperclip
 craft stick	 straw
 cardboard	