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At Work**

*To advance the integration of LifeKnowledge through local teachers.*

**May 2007**

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## LifeKnowledge AT WORK Newsletter Designed for Local Teachers

LifeKnowledge AT WORK is a newsletter created by the National FFA Organization to advance the integration of LifeKnowledge in local agricultural education classrooms across America. Designed with local teachers in mind, LifeKnowledge AT WORK is a free electronic newsletter featuring tips from teachers, education experts, leadership gurus and a host of other resources.

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### LifeKnowledge Featured Articles

#### Bridging Classroom and FFA Activities with LK

Ag teacher Matt Kreifels of Blair, Neb., offers insight on how to use LK to make a connection between classroom and FFA activities. [Click here to read article](#)

#### Summertime Leadership Development for Your Students

New Mexico teacher Gary Leger provides insight on the importance and benefits of student leadership development during the summer. [Click here to read article](#)

#### Keeping Your Leadership Development Alive!

Ag teacher Britina Robinson of Texas talks about the importance of continual leadership development to help teachers stay current. [Click here to read article](#)

### Featured Lesson

#### Featured Lesson Plan – Healthy Eating

Agriculture teacher and FFA advisor Carmen Webb from Cameron, Mo., shares an animal science lesson that combines healthy eating with understanding the monogastric system in animals. Carmen integrates the LifeKnowledge precept of Physical Growth into her lesson.

[Click here to read article](#)

### LK in Action

#### Retreat Planning

Are you planning a retreat for your chapter or new chapter officers? Are you at your wit's end trying to figure out what to plan for the retreat or what content and activities to include? Do not fret. We have identified a few LifeKnowledge lessons that can help cover some topics you might include in your retreat agenda. [Click here to read article](#)

#### Hot Tips

#### eLearning – Professional Development Workshops for Educators

Do you wish you could attend professional development workshops without leaving your school and still earn credit or professional development units?

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#### LifeKnowledge News

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## Profile: Murray State University: LifeKnowledge Builds a Bridge for Future Ag Ed Teachers

[Click here to read article.](#)

### Bridging Classroom and FFA Activities with LK

By Matt Kreifels, Agriculture Teacher, Blair High School, Blair, Neb.



Bridging classroom content into FFA activities is one of the more challenging aspects of being an agriculture teacher and FFA advisor. FFA activities and fundraisers all too often become a survival test for the advisor, moving us into a “just get it done” mentality. This is when we must be careful not to overlook these activities as invaluable learning opportunities. Instead of another task on our already crammed schedule, we need to approach the activity from the perspective of purposeful learning. For example, instead of just making money, what else can our students learn from running a concession stand? Using LifeKnowledge in our program can help with this.

First and foremost, it's important to remember that with everything we do, leadership and life skills should be practiced as often as possible. The classroom teaches students the theory of concepts. Laboratory, SAE and FFA provide opportunities for students to experience those concepts. In all cases, leadership should be integrated. I often use LK as the curriculum for my Human Relations (leadership) class. In this class, I see a more diverse group of students who are not core agriculture students but who desire leadership training.

I also use LK to help me plan mini-LK lessons in my technical content classes. This can happen in one of two ways. Sometimes I use a leadership concept as a metaphor for a technical concept – for example, a comparison of the concept of diversity between people to breeds of livestock. Other times I use LK to provide students with a skill they will need outside of class, à la presentation preparation.

We've just completed our fundraising to build a high school greenhouse. While preparing to speak with community members and local businesspeople, agriculture students benefited from learning LK skills along with their lessons. That approach eventually helped us raise more than \$108,000 for the structure, which will be ready for classes this August.

As for using LK to bridge the gap between classroom and FFA activities, there are a few simple steps I've taken that make leadership development fluid in my program.

- **Integrate learning objectives into the Chapter FFA POA** (many will be LK skills). Make learning objectives part of the POA; involve officers and discuss with members as an event is planned. Prior to the activity, plan a short lesson to engage students and properly train them to do tasks. Students can gain valuable training in seemingly simple tasks such as welcoming customers, making change, closing a sale or any number of things.
- **Plan to teach students LK skills prior to, during and after an FFA activity.** When applicable, plan aspects of your curriculum around certain FFA activities so that you can seamlessly integrate leadership concepts.
- **Make students part of the process and challenge them to teach their peers.** Leadership development is not a stand-alone concept; it takes active participation. Empower students by applying LK concepts to every activity.
- **Pair positive, experienced students with those who are learning.** Take advantage of your role as advisor by utilizing the experience of other students to help you. It's good for inexperienced students to learn from their peers, with your supervision and assistance. Provide LK as a tool to help your students do this.

*“One of the biggest things I have learned by applying LK and leadership development throughout my program is that students desire responsibility and accountability for their FFA activities. LK has helped me create an atmosphere of ownership.”*

One of the biggest things I have learned by applying LK and leadership development throughout my program is that students desire responsibility and accountability for their FFA activities. LK has helped me create an atmosphere of ownership. Students are more motivated and can proficiently perform tasks without my supervision. This relieves stress for me, and many times their work surpasses my expectations. Currently, we're planning our FFA banquet. Students have signed up for committees and have chosen their responsibilities. I take time to meet with the committees and build LK topics into our agenda so they are fully prepared to complete their jobs. I've been pleasantly surprised at how responsive they are to this process.

It's important for ag teachers to remember that LK is a more focused version of what agricultural education and FFA have been doing for more than 75 years – providing students with skills that will help them excel in life. Many teachers teach leadership, but it comes in small doses and at unscheduled times. Using the resources of LK, we're able to turn doses of leadership into an ongoing prescription of leadership experience. Besides great leadership content, LK also provides teachers with other tools such as E-Moments, a set of engagement strategies that can enhance any lesson plan.

To learn more about LK, teachers should apply for this year's Delta Conference. More information is available at: <http://www.tarleton.edu/~deltaconference/>.

## Summertime Leadership Development for Your Students

By Gary Leger, Agriculture Teacher, Robertson High School, Las Vegas, N.M.



It has been said that teaching opportunities in agriculture do not end when the school bell rings. The summer offers quality time to teach leadership development as well as agricultural career skills because students are not subject to the pressures of other classes as they are during the school year. This time can be used to train a new chapter officer team, make SAE visits, prepare kids for presentations to civic and agricultural community groups, participate in county fairs and chapter activities/meetings, and for CDE coaching. Summer months are also the time when our state hosts its leadership camp and state convention, and when opportunities such as Washington Leadership Conference are available. Students come away from these experiences fully engaged and ripe for teachable moments in leadership development.

### The Value of Summer Leadership Development

Most of you probably have no trouble encouraging students to participate in these types of activities. I would guess that 60 percent of my students are involved in some type of summer activity. They view these opportunities as desirable and work hard to earn the right to attend leadership camps, fairs and so forth. For those who may need a little encouragement, it always helps to share success stories and discuss/create opportunities that interest students. I know that for my program, summertime involvement has made a significant difference.

- **CDE Success** – My students have participated in CDEs at the national level for the last four years. They are required to do all of their own fundraising for these events, and they must develop presentations to give to FFA support groups throughout the summer. They must also work as a team during the summer to train for these events. As a result, we've had two bronze emblem teams, two silver emblem teams, a gold emblem team and a national championship marketing team.
- **Chapter Success** – We use the summer months for chapter officer retreats and for strategic planning in developing our Program of Activities. As a result, our chapter has secured two consecutive Gold Emblem National Chapter Awards (one two-star and one three-star emblem).
- **Marketing Success** – Another benefit to summer leadership development is the support it generates for my program and my kids. Keeping them involved in summer activities – agricultural fairs, community service activities and civic presentations – keeps them in the public eye. This is an important vehicle for marketing the effectiveness of FFA to the community.
- **Individual Success** – Not as impressive on paper, but equally important to me, is the growth that I witness in all of my students during the summer. They may not all aspire to be national champions, but any success I have in helping them develop leadership potential and personal growth is the real reason why I am in this business. The one-on-one teaching experiences I have with them during the summer offer me the opportunity to connect with all of my kids, especially the shy ones.

*"Not as impressive on paper, but equally important to me, is the growth that I witness in all of my students during the summer. They may not all aspire to be national champions, but any success I have in helping them develop leadership potential and personal growth is the real reason why I am in this business."*

### Use LK to Help You

To get the most out of these activities, don't hesitate to integrate LifeKnowledge techniques and lessons into everything you do. I've highlighted a few specific activities with correlating lessons.

**A. Chapter officer leadership retreats.** I use elements of LK Lesson Plans AHS 20 and 21 to help my team develop a shared vision and mission for the year. Then I use AHS 34 on Strategic Planning as a foundation for developing the Chapter Program of Activities.

**B. Student presentations to adult groups asking for support.** I use portions of LK lesson plans HS 85 and 86 to teach my students how to develop effective presentations, and AHS 90, 21 and 92 to help them jazz up their delivery.

**C. CDE team preparation.** Working with FFA competitive teams presents many challenges. I have found hints and methods for motivating teams in LK lessons HS 65 through 70.

**D. SAE visits.** This is a great opportunity to work one-on-one with your students in an environment that is entirely personal to the student. It provides an ideal atmosphere for talking about things other than the SAE, such as personal goals and ambitions and how opportunities in FFA can help them achieve these objectives. There is an entire section of LK lessons dedicated to maximizing SAE visits.

### Stay Motivated

The best way to keep students from taking the summer off is by *not* taking the summer off yourself. Even though I am on a conventional nine-month contract, I found out early on that I had to remain committed to my students and my program during the summer months. There are too many opportunities that would be lost if we, the students and I, took a summer vacation from our leadership development. Summer student engagement keeps the kids on track and ready to go when school begins. It also gives you a head start as a teacher. Simply put, my students and I come to school motivated and ready to take on the challenges and opportunities of a new school year when the school bell rings again.

# Keeping Your Leadership Development Alive!

By Britina Robinson, Agriculture Teacher, A&M Consolidated High School, College Station, Texas



As agriculture teachers, we have the influence and opportunity to develop leadership skills among our students. While this is one of the best parts of our job, it also requires that we make a personal commitment to our own leadership development. As we know, our profession is continually changing, and as such, we must approach leadership as a multi-faceted continuum. The more leadership experiences we can draw from, the better the experience will be for our students, both now and later. Proactive leadership development also enables us to demonstrate the importance of professional growth to our peers within the educational system. So how do we keep this commitment alive with limited time and limited resources?

I am lucky to be teaching in a school district that values professional development and provides financial assistance when it is appropriate. Finding time is typically the challenge, so I always try to seek out those opportunities that work best with my schedule. I also approach leadership development as a **part** of my job, not a suggestion. For teachers lacking both time and financial support, I recommend seeking out opportunities locally and within your state. There are also

educational centers and community colleges that offer low-cost, quality leadership development courses. The time commitment is usually minimal and the fresh ideas you can take back to the classroom make it well worth it.

One conference that is on my schedule every summer is the Professional Development Conference for Agricultural Science and Technology Teachers of Texas. Most states have some type of professional development conference for teachers, and I think it's important to attend. Our conference enables me to meet with colleagues from around the state and gather and share ideas in an effort to better all students. This time is also used to plan activities and work in committees to ensure continuous improvement in all areas of agricultural education. Serving on these committees is also important because leadership development comes in many forms and fashions. Additionally, I had the tremendous opportunity to attend the National FFA Organization's Delta Conference for educators two summers in a row with teachers from around the nation. This conference changed my approach to teaching and significantly influenced my effectiveness in the classroom.

*"After attending a conference or workshop, be sure to practice what you have learned. Otherwise, it's a waste of time and money. Using information on a daily or weekly basis is the only way this experience will have a long-term effect on you and your students."*

It's also important to realize that some of the best leadership development comes from peers, which is another reason attending conferences and workshops is valuable. I find that keeping in contact with teachers I've met and sharing ideas is a motivator. It's common to feel rejuvenated after attending a conference, but it's important to keep that enthusiasm year-round.

E-mail, online communities and other technological methods have made it easier to stay in touch with those acquaintances. I've also found that I enjoy sharing my knowledge and experiences with teachers in my school and state by presenting at conferences and conventions. I believe every teacher has something to share, and these opportunities help to spread useful information while also inspiring leadership. When information starts with one person, it creates a positive ripple effect that can produce widespread results.

After attending a conference or workshop, be sure to practice what you have learned. Otherwise, it's a waste of time and money. Using information on a daily or weekly basis is the only way this experience will have a long-term effect on you and your students. After I attended Delta, I had to learn how to actively engage students and incorporate LifeKnowledge into every class. This was a classroom-changing event for me. But, by using the different methods for giving directions and other classroom management techniques, my classroom has evolved from an area of teaching to an area of learning.

Institutional knowledge merely provides the basics for teaching in a classroom. All too often, however, that basic knowledge leaves you out in the cold once students enter the picture. By staying on top of your game through leadership development experiences, you grow as a teacher and your students are more engaged in learning. Leadership development = classroom success!

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## Featured Lesson Plan – Healthy Eating

By Carmen Webb, Agriculture Teacher, Cameron, Mo.

Carmen Webb is an agriculture educator from Cameron, Mo., who believes that "all students are capable of learning how to become leaders. If given an opportunity and the proper resources, each student can use their strengths and build upon their weakness, which is an essential part to their development and success." Carmen provides an opportunity for her students to develop leadership skills by integrating LifeKnowledge precepts into her lessons. This lesson allows the students to associate healthy eating habits with the monogastric digestive systems in animals. To review this lesson and see how Carmen has integrated the precept of Physical Growth into her technical content, click on the link provided.

[To view a complete version of Carmen's lesson, click here.](#)

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## Murray State University: LifeKnowledge Builds a Bridge for Future Ag Ed Teachers

### Unique program gives high school students a preview of ag education

At Kentucky's Murray State University, a unique opportunity in the School of Agriculture's agricultural education program helps recruit high school students. In addition, it uses LifeKnowledge as a resource to help those in the ag education major learn about leadership.

It's called the LifeKnowledge High School Bridge Program. The Bridge program is designed and run by Stacy Vincent, academic advisor for the agricultural education major and a new professor at Murray State.

"The program is for high school juniors and seniors interested in becoming agricultural education teachers," says Vincent. "It is an online college course that introduces students to agriculture instruction and how they can make a difference as an ag ed teacher. It gives them a chance to see what the career is all about, while using the concepts of LifeKnowledge."

With LifeKnowledge lessons as part of the online curriculum, students learn about the 16 core competencies and how to use the competencies in their own lives. More importantly, they learn how to incorporate the competencies into high school classrooms for their future students to learn.

"Part of the online students' assignment is to learn leadership skills. However, the take-home point is how they use the lessons and make them their own," comments Vincent. "The final involves each student writing a lesson and actually teaching it to a class in their own school."

"Results have been phenomenal. The lessons that students have come up with are absolutely amazing," says Vincent. "The students think outside the box and come up with their own ideas, all while using leadership lessons."

The program is open to anyone around the country. Vincent currently has 38 students in the program from Kentucky, Missouri, Illinois and Tennessee. He estimates 75 percent of those students will be attending Murray State next fall, even though the college credit they receive is transferable.

"This is a great program with huge potential to grow in several areas," says Vincent. "I hope to keep this program going and growing in the future. It offers students a great opportunity to get a jump-start on their career, and it gives LifeKnowledge a great opportunity to grow as well."

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## LifeKnowledge in Action – Retreat Planning

**By Christine White, Education Specialist, LifeKnowledge Center for Agricultural Education**

Planning a retreat for your chapter or new chapter officers can sometimes be a very time-consuming process. First are the logistics of place, food and time frame, but the most difficult part to plan is the content for the retreat. The content is also the most important part of the retreat, so you need to find a balance when planning. How do I make sure the material that needs to be included is covered in a way that will not bore the students? How do I make sure we have fun while learning and the retreat does not turn into a great get-together with nothing accomplished?

Trying to find this balance can be difficult, but LifeKnowledge lessons can help when planning and executing a retreat. Lessons can help address the topic you wish to focus on during the retreat. The LifeKnowledge lessons are designed so you can teach the whole lesson or just teach the lesson objectives that cover your topic of interest. Also, since the lessons are completely scripted, you can print the lessons and have the officers run the different sessions so the retreat becomes a student-led activity.

Here are a few lessons that might be helpful when planning a retreat:

### Topic Areas:

### LifeKnowledge Lessons:

#### Teamwork Team Building

HS.63: Cooperative Relationships  
HS.66: Levels of Teamwork  
HS.67: Types of Teams

#### Leadership

AHS.11: Building Followership: The Leadership Challenge  
AHS.38: Serving as a Mentor  
HS.17: How Leaders Influence Others through Vision



**Program of Activities  
Program Planning** AHS.44: Organizational Planning  
AHS.45: Leading Program of Activities Development  
HS.47: Evaluating Plans and Goals

**Responsibility** HS.13: Understanding Responsibility and Accountability  
HS.14: Being Responsible and Accountable  
MS.8: Defining Responsibility

**Presentations  
Advocacy** HS.55: Components of Communication Process  
HS.88: Using Key Messages  
MS.45: Planning a Public Presentation

**Team Visioning** AHS.20: Establishing a Team Vision  
HS.19: Visioning Skills  
HS.44: The Benefits of Goal Setting

**Problem Solving** AHS.16: Techniques for Handling Change  
HS.98: Brainstorming Solutions  
MS.52: Developing Solutions and Strategies

**Relationship Building** AHS.8: Developing Partners for Your Chapter  
HS.51: The Importance of Relationship Building  
HS.73: Strategies for Including Others on a Team

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## eLearning – Professional Development Workshops for Educators

Do you wish you could attend professional development workshops without leaving your school and still earn credit or professional development units? The U.S. Department of Education has developed eLearning Workshops that will allow you to do just that through their Teacher-to-Teacher Initiative. It was designed to provide professional development opportunities to help teachers develop the craft of teaching and learning based on the latest research available. To explore a list of workshop topics available or for more details of how to register so that you can earn professional development credit or units, visit <http://www.paec.org/teacher2teacher/>

This website was designed for you as a busy educator, so do not miss the opportunity to continue to develop the skills that will keep your teaching fresh and cutting-edge.

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## What's New with LK

### New, Improved Version of LifeKnowledge Available

LifeKnowledge is now better. LifeKnowledge Online has many new features including [online access](#) for teachers and students from any computer along with automatic program updates. Additionally, a [precept indicator](#) will measure students' levels of achievement and provide immediate feedback to assess strengths and potential growth areas. The [online coaching guide](#) includes more than 275 activities to help integrate LK into existing classroom, FFA and SAE activities. To subscribe to LK Online, call the FFA call center at 1-888-332-2668 or fax the call center at 1-800-366-6556. It is also available at [www.ffaunlimited.org](http://www.ffaunlimited.org) and in the 2007-2008 Core Catalog. When ordering LK Online, reference item number LK-07 and be prepared to provide the following information: Chapter Name, Chapter ID, State, Advisor's Name and Advisor's E-mails. Access to the program begins within two business days of purchase. LifeKnowledge Online contact: Christine White, [cwhite@ffa.org](mailto:cwhite@ffa.org) or 317-802-4212.

**We Want Your LifeKnowledge Success Stories**

Do you have a success story for LifeKnowledge in your school? How are you using LifeKnowledge strategies to teach leadership to all students? What changes is LifeKnowledge making to your teaching style or the learning environment in your classroom? We'd like to know so we can share your success with other agricultural education teachers across the country. Contact Christine White at [cwhite@ffa.org](mailto:cwhite@ffa.org) or call her at 317-802-4212.

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**Healthy Eating**  
**Carmen Webb, Agriculture Teacher**  
**Cameron, Missouri**  
**2006**

**Student Objectives:**

At the conclusion of this lesson, students will be able to:

**Objective 1:**

Define monogastric.

**Objective 2:**

Identify animals that have a monogastric digestive system.

**Objective 3:**

Identify and describe the main parts of the monogastric digestive system and their functions.

**Background**

**Unit:**

Introduction to Animal Nutrition

**Life Knowledge Precept:**

Physical Growth

G1: Practice healthy eating habits

**Key Terms:**

Monogastric, Mouth, Stomach, Esophagus, Anus, Small Intestine, Duodenum, Large Intestine, Cecum, Colon, Rectum, Crop, Beak, Gullet, Glandular Stomach, Gizzard, Ceca, Cloaca, Vent

**Logistical Information**

**Time:**

50-60 minutes

**Resources:**

IML - Student Handbook – Introduction to Animal Nutrition

**Supplies:**

Overhead Projector, Markers, Colored Pencils, Posters (pig, dog, chicken, rabbit, horse), Post Its, Handouts (pig, chicken, flowcharts), Overheads (pig and chicken), Quiz & Key, White paper

*Carmen Webb*





## **Interest Approach:**

Play “CSI” theme song (you can download from <http://timstvshowcase.com/csi.html>) at the beginning of the lesson.

Who would like to tell me what theme song was playing when you walked in?

When I go home and sit down to relax, I like to read, and what I love most to read is mystery books. Then if I turn the TV on, I find myself searching for my favorite TV show, “CSI.” I love trying to find out what has happened and then trying to solve the case.

Creativity is important today because for the next few minutes, we are going to be starring in our very own “CSI \_\_\_\_\_ (insert your school name).”

The crime scene is an upset stomach, and as the detective, we are searching for what caused this event to happen. The questions that we will be asking are on the board:

1. What type of foods do we like to eat?
2. What did we eat yesterday?
3. How do we feel if we eat healthy food?
4. What happened one time when we ate lots and lots of junk food?

Our job, just like a CSI agent’s, is to discover information about the crime scene. Turn to the person next to you and say, “I am the detective on ‘CSI \_\_\_\_\_ (insert your school name here)’.” We will have two minutes to interrogate our subject.

What questions do you have? By a show of hands, who can recall what our task is?

When we hear the countdown, we may begin. Remember, we will be searching for the answers to the questions on the board.

When we hear “Switch,” reverse roles. Find out what your partners’ answers are. The first person conducting the interview, please raise your hand, stick your thumb up and say “*This is my microphone.*”

We have two minutes to conduct our interviews. Everyone ready?

In 5, 4, 3, 2, 1...Interrogate!

*Allow the students two minutes to discover the answers from their partners. Walk around the room to monitor the conversations the students are having. At the end of the two minutes, switch roles within the partner groups.*

**Carmen Webb**



NOW “SWITCH” roles... Interviewers, hold up your microphone and look at your thumb and say, “Microphones, don’t fail me now!”

Everyone ready? In 5, 4, 3, 2, 1...Interrogate!

*At the end of the two-minute cycle, solicit answers from the class to report on the details that they uncovered in their interrogations.*

What type of foods do we like to eat?

What did we eat yesterday?

How do we feel if we eat healthy food?

What happened one time when we ate lots and lots of junk food?

The mystery is, why do we feel one way when we eat certain foods and we feel a different way when we eat healthy foods?

Think about this situation –

If I fed only junk food to the principal \_\_\_\_\_ (*insert your principal’s name here*) and quarterback \_\_\_\_\_ (*insert quarterback’s name here*), would we see the same results?

No, both would be less healthy, but \_\_\_\_\_ (*principal’s name*) might gain lots of weight and be grumpy all day and \_\_\_\_\_ (*quarterback name*) might just lose performance on the field and become sluggish. In this example, for both individuals, the food is traveling the same path in, but it is being digested very differently.

If I went home today and put a bale of hay in a five-pound Yorkshire terrier’s bowl, what would it do? What if I gave a steer a cup of Science Diet mini bites every day? The Yorkie would look at me very confused and make a mess of the bale. The steer would lose lots of weight and lose lots of performance.

We have discovered that if we eat unhealthy, we will lose performance and become unhealthy. Also, we know that every animal is fed different foods and different amounts for very specific reasons.

Today, we are beginning to take a journey through animal nutrition, and we will explore why what is healthy for one animal isn’t healthy for another animal as we investigate the digestive system.

Investigate what...*the digestive system!*

**Carmen Webb**



## Summary of Content, Instructional Sequence, Activities and Strategies:

**Objective 1:** Define monogastric.

*Start writing on the board.*

We know that animals consume different types of foods and different amounts of feed.

Let's look at the words on the board:

In your mind, begin defining these words:

Monotone – *one tone*

Monopoly – *control of one market*

Monorail – *one beam - single rail*

Someone tell me what the following words mean:

Monotone

Monopoly

Monorail

How about Monogastric?

*Allow students to answer the following questions by providing definitions.*

From these words, we have discovered that

Mono = one

REPEAT – one = mono

Can you tell me what gastric might mean?

Gastric = of the stomach

So if we know mono is...one and gastric is of the...stomach,

What does monogastric mean?

Capture this definition in your notebook.

Monogastric – This refers to the structure of the stomach. The stomach in a monogastric digestive system is a simple structure consisting of a single compartment.

Animals with one stomach = monogastric digestive tract

*Carmen Webb*



**Objective 2:** Identify animals that have a monogastric digestive system.

*Place the diagram of a cow's digestive tract on the overhead, then place one of the pig's digestive tract.*

Now that we know some animals have a monogastric digestive system, let's discover which animals they are. To do this...

Close your eyes and sit back as we go on an imaginary trip. We just loaded the bus and are heading out of town just past Wal-Mart. The bus turns right and we are going down a gravel road. We smell the clean air blowing in and then the bus stops and AHHHH...the sign reads "WELCOME to Old MacDonald's Farm." You get off the bus and begin to wander around from pen to pen.

Think about all the animals that you see here.

*Play the song "Old MacDonald Had a Farm" for the students if you desire to set the context of the next activity.*

When the song begins, you and your partner will have one minute to construct a list of all the animals you saw today on "Old MacDonald's Farm."

*When one minute is up...tell your students to look up and say "eee I eee I o."*

Looking at all these different animals and knowing that some of the animals have different digestive tracts, let's determine which ones have a monogastric digestive system.

We took some X rays of the digestive tracts in a few animals from Old MacDonald's Farm, and here is what they look like ---- *Show the students the diagrams.*

What's the difference between the two animals?

Size, parts, in the cow there are more parts

A cow's digestive tract has more compartments than a pig's digestive tract has. A pig has just one compartment, so it has a monogastric digestive system.

*Carmen Webb*



Objective 3:

*Hand out three colored pencils – one RED, one GREEN and one YELLOW – to each student.*

Using the green pencil, circle the animals that have a MONOGASTRIC digestive system. The animals are:

Pig  
Chicken  
Duck  
Dog  
Cat  
Rabbit  
Etc. Are there any other animals?

Using the yellow pencil, circle the animals on your paper that are considered to be birds. Fowl – birds used for meat have a single-compartment stomach but it is modified. We will explore these systems later.

Now with a red pencil, let's circle the other animals on the page.

Cow  
Sheep  
Dairy Cow

Now that we know what animals have a monogastric digestive system, it is time that we determine how the system works together. There are four divisions in a monogastric digestive system.

*Use the Motion Moment to illustrate the four divisions of the stomach.*

REPEAT.....There are four divisions.

- A. Parts leading to small intestine – WAVE HELLO
- B. Small Intestine – SMALL
- C. Large Intestine – LARGE
- D. Parts allowing the exit – Wave BYE-BYE

Practice the four divisions.

*Provide each of the students with a copy of the handout of the flowchart.*

Using the flowchart, we will see four different squares because there are four different... Divisions. Insert the divisions into the flowchart.

Turn to your neighbor and say HELLO...parts leading to small intestine. WHAT DO YOU DO?

*Carmen Webb*



**A. Parts leading to small intestine** – reduce the size of feed particles.

1. Mouth – teeth grind the feed into smaller particles and the tongue moves the food to the throat.
2. Esophagus – carries the food to the stomach.
3. Stomach – muscular organ that stores food before it passes into the small intestine. This is where digestion begins!

*Changing the auditory, use a small voice.*

Turn to your partner and say, “Wow, we are at the small intestine.”

**B. SMALL INTESTINE**

4. Duodenum – Small intestine – further digest food and absorb the nutrients.
5. Rest of small intestine – Nutrients are further absorbed through the intestinal walls.

*Changing the auditory, use a loud voice.*

Turn to your partner and say, “NOW entering the large intestine.”

**C. LARGE INTESTINE**

6. Cecum – contains microorganisms. The function varies depending on the species. In a horse or rabbit, it is enlarged, which allows the microorganisms to ferment roughage.
7. Colon – absorbs water and forms the feces.

Turn to your partner and say, “You’re going bye-bye.”

**D. Parts allowing the exit of feces**

Rectum – carries the feces to the anus

8. Anus – Passes the solid wastes out of the body.

Knowing the parts and their order, we will now label the parts on the pig.

Using a different colored pencil for each part, we need to color the flowchart to match the parts on the pig. For example, if you color the mouth pink, color the square on the flow chart pink. When we hear “Connect,” we will have three minutes to color. “Connect.”

**Review:**

Today, we learned that the most distinctive part of the monogastric digestive system is that it has a simple stomach with only one compartment. Digestion is carried out by the organs and is able to convert the feed into nutrients for the animal. Swine, horses, dogs and rabbits have a monogastric digestive system. It is important that you feed your animals correctly! In terms of both the amount and type of feed supplied, it is extremely important for production since it helps ensure that the animal is healthy and productive! By understanding how the digestive system works, you can feed the animals so they can use nutrients properly and perform at high levels.

*Carmen Webb*





Here on “CSI \_\_\_\_\_ (*insert school name here*)”, we solved the mystery! The junk food caused the upset stomach. When we want to perform at our best, we should prepare our bodies for high levels of performance, action and endurance. Maintaining a healthy body throughout life is a key to personal success. Next time you have a choice between an apple or a donut, think about how a leader eats healthy and how you can eat healthy and reach your own personal success.

*Use the EyeWitness News E-Moment to review today’s lesson. Hand out an index card to each student. Each card should include one of the digestive organs discussed today.*

Inquiring minds want to.....KNOW.

Inquiring minds want to.....KNOW.

Using our creative minds, we are going to have five minutes to write a weather report, sportscast or a live news report.

We will be reporting on how food travels through the monogastric digestive system. An example of a way to start if you are doing a weather report is – “Reporting live here in the mouth of the dog, we are tracking a storm of food that is moving south. Things look pretty rough but are beginning to break down.” An example for sports – “I am reporting at Dog stadium in Kansas City and it’s off to a rough start against the digestive system. Here in the first period, player “mouth” is really breaking food up but it looks like he passes to ...”

When we hear “Report,” you may begin. Remember, the length is not important but the path and functions of the parts are important. Place your writing utensil on your paper once the task is completed.

What questions do you have? “Report.”

*Give the students five minutes to complete and remind them when time is getting close.*

### **Evaluation**

*The next day when the students enter the classroom, greet them at the door and place a card or sticky note on each student’s back. Ask the students not to discuss the cards on their back or on the back of another student.*

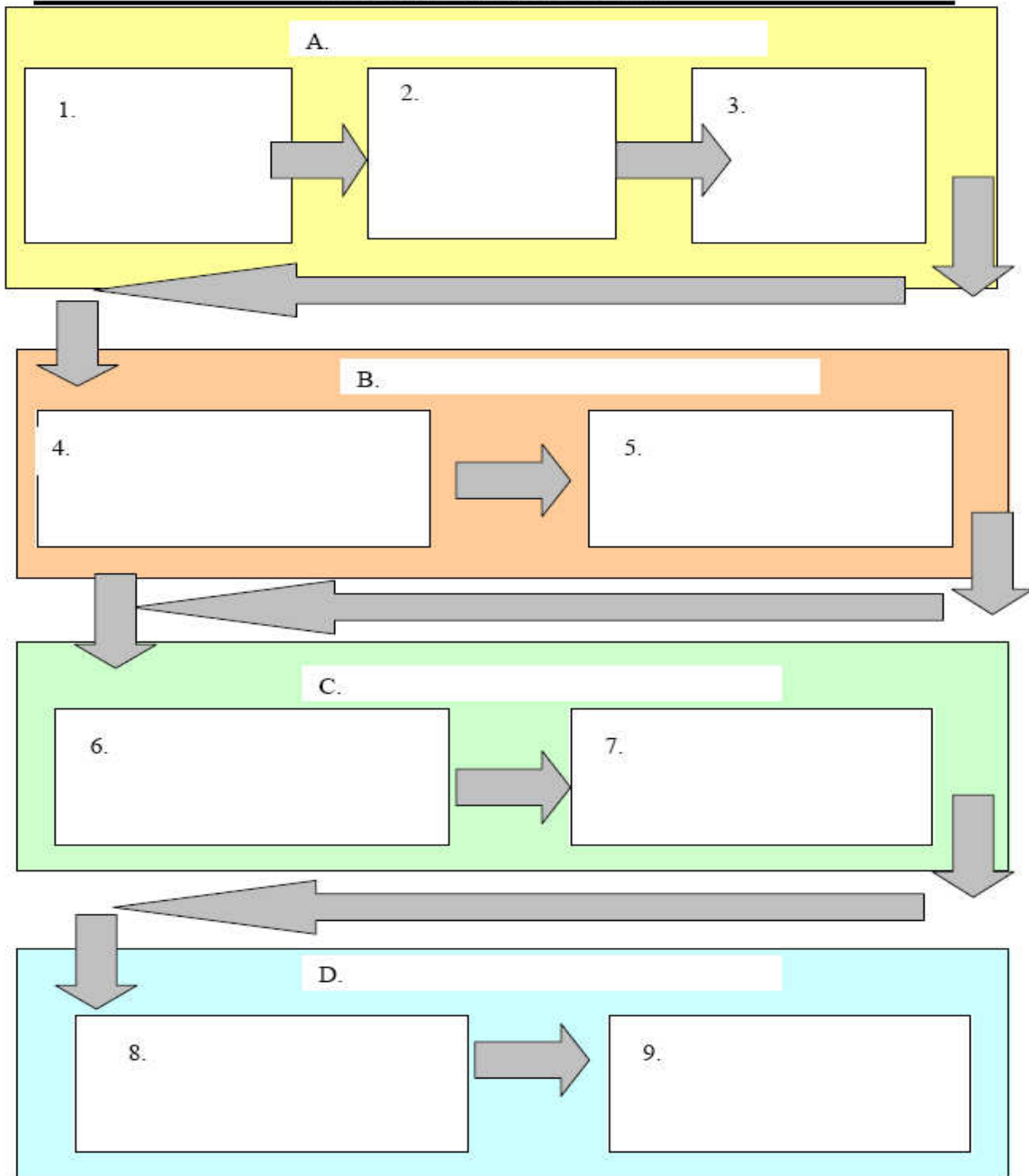
All of the cards that I have placed on your backs include the name of one of the parts of the monogastric digestive system. Let’s play a game, Clue. When I say CLUE, you will go up to a person in this room, read the card on their back and try to get the person to guess what is on their card. Once the person has answered correctly, remove the card and give a clue to another person. Once all cards have been identified, have a seat. What questions are there? Ready...set...CLUE!

*Provide the students with a quiz in which they are to identify the parts of the monogastric system and their functions.*

**Carmen Webb**



# Monogastric Digestive System



Carmen Webb

