



FACULTY OF SCIENCE & MATHEMATICS

SSI3013

INFORMATION AND COMMUNICATION TECHNOLOGY IN SCIENCE

LESSON PLAN: LECTURE MAKER

GROUP B

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LESSON PLAN OF LECTURE MAKER

Date : 15 May 2012
Time : 8.00 a.m-10.00 a.m
Venue : Computer Lab
Class : Form 4 Angsana
No. of students : 30 students
Title : Digestive system in cow
Subject : Science

Learning outcomes :

At the end of this topic, students can

1. Define the meaning of digestive system generally.
2. Differentiate the digestive system in cow and human.
3. Know the parts of cow digestive system
4. Explain what how the digestive system in cow can happen
5. Understanding the process of digestion in cow
6. Explain the importance of digestive system in cow and human.

Prior Knowledge :

1. Students should know the main important of digestive system for living things.
2. Students should know the four main parts of cow digestive system
3. Students should identify the different forms of cow digestive system compared to human digestive system.

Moral values : Inquiry, spiritual, helping each other, obey instruction.

Students' preparation : Notebook, pen or pencil and colour pencil

Teaching skills : generating ideas and applications

Teaching aids : Projector, LCD, powerpoint, laptop, marker pen, whiteboard.

Phase	Content	Teaching and learning activities	Remark
Introduction	Greeting students Attract students	1. Teachers greet students by saying hello and asking them whether students are get ready on	Teaching aids: • Newspaper

(15 minutes)	attention	<p>not to start the lesson for today.</p> <ol style="list-style-type: none"> Teachers asking students about the news on the newspaper today to create the interactive environment in the class. Teachers show students the page chosen and tell students about some of interesting news from the newspaper to make students more attracted to start a new topic of lesson for that period. 	<p>Teaching skills:</p> <ul style="list-style-type: none"> • Generating ideas • Prediction • Making inferences • Making explanation
Induction (15 minutes)	Making correlation	<ol style="list-style-type: none"> Teacher ask students to flashback and reflect back the topic that had been taught last week. Teacher correlate the topic learnt by students last week with the topic that is going to teach today. 	<p>Teaching aids:</p> <ul style="list-style-type: none"> • Power point
Step 1 (20 minutes)	Figuring out the main content of topic	<ol style="list-style-type: none"> Teacher ask students, whether they have heard about 'Digestive System' and what they can imagine when she mentioned about 'Digestive System' Teacher show a video on digestive system Teacher asking for students' opinion on the topic. Teacher tell students the definition of digestive system. 	<p>Teaching aids</p> <ul style="list-style-type: none"> • Marker pen • Whiteboard • Powerpoint • Video <p>Teaching skills</p> <ul style="list-style-type: none"> • Generating idea • Delivering and sharing ideas
Step 2	Enrichment of	<ol style="list-style-type: none"> Teacher show the two cards (manila card 	Teaching aids

(15 minutes)	knowledge	<p>sized) that show the cow and human digestive system.</p> <ol style="list-style-type: none"> Teacher ask students to make comparison between two type of digestive system and the parts of cow and human digestive system 	<ul style="list-style-type: none"> Information cards <p>Teaching skills</p> <ul style="list-style-type: none"> Generating ideas Sharing ideas Making comparison Problem solving Analyse information
Step 3 (20 minutes)	Explanation and reinforcement	<ol style="list-style-type: none"> To make it more focus to cow digestive system so teachers explain the process of a cow digestive system using videos to make it clear and easily understand by students.. Teachers tell students the reasons that digestive system important in living things(animals and humans) 	<p>Teaching aids</p> <ul style="list-style-type: none"> Video <p>Teaching skills</p> <ul style="list-style-type: none"> Delivering ideas Interpret and analyzing ideas from teaching materials.
Step 4 (30 minutes)	<p>Activity reinforcement</p> <p>-Social</p> <p>-cognitive</p> <p>-psycomotor</p>	<ol style="list-style-type: none"> Students are divided into 6 groups that is consist of 5 students for each group. Teacher ask each group to draw the four main part of cow digestive system and state their functions on mahjung paper. Teacher give students time about 10 minutes before present it in front of class. Only 3 group will be chosen to present. Other member from another group can ask the presenter any question related with the topic 	<p>Teaching aids</p> <ul style="list-style-type: none"> Mahjung paper Marker pen <p>]</p> <p>‘</p> <p>Teaching skills</p> <ul style="list-style-type: none"> Sharing ideas Interpret information Q & A session

<p>Closure 1. minutes)</p>		<ul style="list-style-type: none"> • Teacher asks student whether they understand the topic that had been taught. • Teachers reinforce learning outcomes and stress that the topic is achieving the objectives of the topic. • Teacher makes conclusion about the topic today by drawing a simple mind map (only main point) • Teacher gives homework to students • Class dismissed 	<p>Teaching aids</p> <ul style="list-style-type: none"> • Whiteboard • Marker pen <p>Teaching skills</p> <ul style="list-style-type: none"> • Making conclusion
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Title of the project

Cow Digestive System

Synopsis of the project

Explain to the students about the digestive system of cow. Cow have unique digestive system because it have a stomach that divide into four compartment which is rumen, reticulum, omasum and abomasums. We will asked the student understanding about the cow digestive system before and after the lecture of ruminants digestive system.

As the general, the function of digestive system is the mechanical and chemical breakdown of food and its absorption into a the blood. The digestive system functions is same for all living animals that live that breaks the molecules or particles food into small pieces before lastly remove though the anus. For cow, it's have stomach divide into four main compartment. Not like human that have only one. This complex four stomach arrangement gives the ruminant a huge advantages. They can convert forages into energy to make milk and meat, and can utilize non-protein nitrogen like urea as a protein source

The **rumen** is the largest of the four compartments and its contains billions of bacteria, protozoan, molds and yeast. It placed left side of abdomen. It have papillae lining and also have muscular pillars. For **reticulum**, this stomach closes to the heart cavity. Its sits underneath and toward of front of the rumen, laying against the diaphragm. The reticulum is called the “honeycomb” because of the honeycomb appearance of

its lining. It also acts as a trap of foreign objects ingested by a cow. In facts, the two stomach (reticulum and rumen) work very closely and are not actually separate compartments. It just divides by a small fold of tissue only. The main function of the reticulum is to collect smaller digests particles and move them into the omasum, while the larger particles remain in the rumen for further digestion.

The **Omasum** is a spherical and connected to the reticulum by a short tunnel. It is called the “ many piles” or the “ butcher’s bible”. It absorb water and other nutrients from digested materials. When materials leaves this compartment, it is drier and more packed than when it exits others. From the omasum, partially digested feed passes to the abomasums.

The **abomasums** is the “true stomach” of a ruminants. It is the compartment that is the most similar to a stomach in a non ruminants. The abomasums produces hydrochloric acid and digestive enzyme. In the abomasums, the environment is very acidic with the normal pH around 2.

Objective

1. To give explanation for all students the function of digestive system as in general.
2. To give explanation for all students about the cow’s digestive system in the simple form and easy to memorizes.
3. Student can be differentiate between the fours of stomach compartment each other.

The target group

1. Students in form 4 and 5 life science.

Resources

Internet

<http://msucares.com/pubs/publications/p2503.pdf>

http://pubs.ext.vt.edu/400/400-010/400-010_pdf.pdf

<http://animalscience.tamu.edu/images/pdf/nutrition/nutrition-cows-digestive-system.pdf>

<http://www.lagrazinglands.com/pdf/utcads.pdf>

<http://staff.bcc.edu/pslavin/pdf/Digestive%20System.pdf>

Software used

Lecture maker

Organization chart and job

- Project Leader
- Graphic design
- Sound editor
- Video editor
- Animator

