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Contents



Lesson plans _____ pg. 1-6

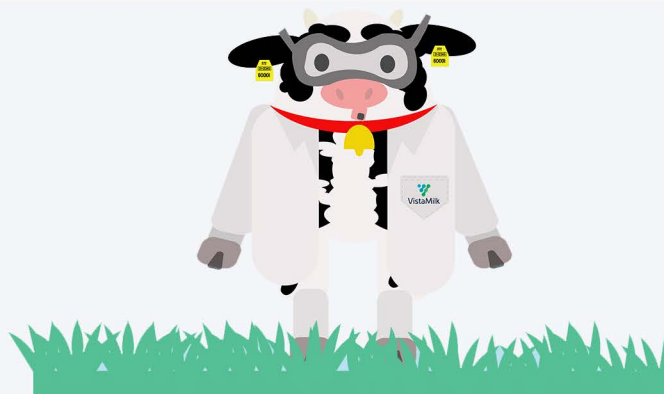
Learning outcomes _____ pg. 7

Growing grass _____ pg. 8

Waterproofing _____ pg. 9, 10

Toilet roll cow _____ pg. 11

Colouring page _____ pg. 12



Lesson Plan: Growing Grass

Date:	Class level: Jnr/Snr	Subject: Science	Lesson topic: Waterproofing
Strand(s): Materials	Strand unit(s): Properties and characteristics of materials; Materials and change	Lesson duration: Activity: 20 to 40 mins Results: 5 to 30 days	
Identify the Skills/Concepts: Observing; Predicting; Estimating and Measuring; Recording; Making; Evaluating			
Organisational Strategies for Teaching and Learning: Whole class instruction followed by individual work			
Learning outcomes: The children will be able to... <ul style="list-style-type: none">• Discuss the importance of grass• Repeat and understand the word calf• Plan how they are going to grow grass• Plant several grass seeds per table• Observe growth and change in grass			
Assessment Strategies: Teacher questioning; Teacher observation; Self-assessment; Peer assessment			
Resources/Materials: <ul style="list-style-type: none">• Pots• Soil• Grass seed• Water• Plastic trowels• Tablespoons			
Introduction: <ul style="list-style-type: none">• The lesson will begin by questioning the children on what they understand grass to be.• Explain the importance of grass to farmers and animals.• Introduce the children to the hungry calf who wants some dinner!		Key questions: <ul style="list-style-type: none">• What is grass?• What colour is it?• Where do we find it? Where does it come from?• What is grass used for? By who?• Is grass the same all year round?	

Development:

- Explain to the children that each of them are going to be growing a patch of grass to feed the hungry cow.
- Emphasise that the grass seeds need to be planted properly for the grass to grow and model each step for the children.
- Firstly the children will take turns using the trowel to put some soil into their pot, filling it three quarters full.
- Each child will again take turns sprinkling a tablespoon of grass seed on the top of their soil. Each child will then cover the seed with a thin layer of soil.
- Finally each child will use a spray bottle to water their soil. The spray bottle ensures the soil isn't waterlogged. You can have a control pot which is poorly prepared and kept in the dark to show some contrast.

Key questions:

- Will the seed grow if it isn't planted correctly?
- How much soil is needed to fill the pot?
- How many spoons of seed do we use?
- Why can't we put too much water into the soil?

Conclusion:

- The children water and observe the grass over the coming weeks.
- They should mark the date when they notice the grass is starting to grow and can measure the growth on a weekly basis.
- Once everyone's grass has grown the cow will have found a whole field of grass for herself and so wants the children to keep theirs and take it home.

Key questions:

- Why did our grass grow? Was everyone's the same?
- Who can remember why we need grass?
- Why did the poorly prepared pot not grow as well?



Date:	Class level: Jnr/Snr	Subject: Science	Lesson topic: Waterproofing
Strand(s): Materials	Strand unit(s): Properties and Characteristics of Materials; Materials and Change		Lesson duration: 20 to 40 mins
Identify the Skills/Concepts: Questioning; Observing; Predicting; Investigating and experimenting; Analysing; Recording and Communicating; Making; Evaluating			
Organisational Strategies for Teaching and Learning: Whole class followed by group work			
<p><u>Learning outcomes:</u></p> <p>The children will be able to...</p> <ul style="list-style-type: none"> • Distinguish between waterproof and non-waterproof • Investigate the effect water has on some common materials • Compare and Sort materials based on whether they're waterproof • Create their own shelter for a cow based on the experiment results 			
Assessment Strategies: Teacher observation; Teacher questioning; Peer assessment; Self-assessment			
<p><u>Resources/Materials:</u></p> <ul style="list-style-type: none"> • Cow picture • Various materials • Shelter template • Droppers • Checklist • Pot of water 			
<p><u>Introduction:</u></p> <ul style="list-style-type: none"> • Firstly, the children will meet Hallie the calf who's worried about rain coming soon. She needs them to build her a shelter that will keep her dry during the bad weather. • The children will need to use a waterproof material to build the shelter and will discuss what the meaning of the word waterproof is. • The teacher will then explain that the class are going to investigate what materials are waterproof and non-waterproof by carrying out an experiment. • The children will be shown each of the materials and they can offer some predictions as to what they think the results will be. 		<p><u>Key questions:</u></p> <ul style="list-style-type: none"> • What does waterproof mean? • What does non-waterproof mean? • Why does the shelter need to be waterproof? • Do you think _____ is going to be waterproof or non-waterproof? 	

Development:

- The experiment will be carried out by placing a piece of a material onto the cow template. A few drops of water will be applied to the material. The material is then carefully removed and the children run their finger along the area where water was dropped to see if it's wet or not.
- The children will be in groups of three and each have a specific role. One child will apply the water using the dropper, another will hold the material in place and the third will check the result and note the result using a tick or an X on the checklist sheet they create naming the materials they are using. These roles will swap every few minutes at the teacher's instruction.
- The teacher will model the procedure for the experiment for the whole class and then hand out the resources to each group.
- The children will be given around 10 minutes to test the various materials.

Key questions:

- Who are the recorders/droppers/material managers?
- How do we know whether the material is waterproof or not?
- Are you recording your results?

Conclusion:

- The children will then be called back together and asked to share the results of their experiment and whether their predictions were correct. They can also answer any questions from other groups.
- Each group will then be asked to pick a material, based on their results, to use to build the cow's shelter.
- Each group will be handed out a template of a barn and asked to cover it with their chosen material.
- Each group can present their barn.

Key questions:

- What results did you get?
- Were they what you expected? Were you surprised?
- What materials were waterproof/non-waterproof?
- What material have you chosen for your shelter? Why?
- Did any other group get a similar/different result?



Lesson Plan: A Cow's Body

Date:	Class level: Jnr/Snr	Subject: Science	Lesson topic: Anatomy of a cow
Strand(s): Living Things	Strand unit(s): Plants and Animals	Lesson duration: 30 mins to 1 hour	
Identify the Skills/Concepts: Exploring; Planning; Making; Evaluating			
Organisational Strategies for Teaching and Learning: Whole class followed by individual work			
<u>Learning outcomes:</u> The children will be able to... <ul style="list-style-type: none">• Identify the various parts of a cow• Discuss the purpose of these parts• Create their own model of a cow			
Assessment Strategies: Teacher questioning; Teacher observation; Self-assessment;			
<u>Resources/Materials:</u> <ul style="list-style-type: none">• Cow anatomy PowerPoint• Cut and paste template• Scissors• Glue sticks• Card			
<u>Introduction:</u> <ul style="list-style-type: none">• The teacher explains that today the class are going to be discussing the different parts of a cow. The unlabelled picture of the cow can be put on the board while the teacher assesses prior knowledge.• As prior knowledge is assessed the teacher can give explanations to the various parts and their uses while the PowerPoint progresses to show the labels of these parts.• The teacher will explain that today the class are going to make their own cows with all the parts discussed.		<u>Key questions:</u> <ul style="list-style-type: none">• Can anyone name any parts of a cow?• What part is this?• Does anyone know what this part is used for?	

Development:

- The template will be shown to the children as they review all the parts again.
- The teacher will explain that the children are each going to cut out all of the pieces on the template and stick them onto a cardboard toilet roll to create their own cow.
- A picture of the finished product from the powerpoint can be shown on the board.
- The resources can then be handed out and the children can begin.

Key questions:

- Who can remember what part this is?
- What does this part do?
- How many stomach's should your cow have? Why?

Conclusion:

- To finish a few children may like to present their cow to the class and explain the various parts.
- Additionally, you could play a game as a class where you ask children to quickly point to a part of the cow which you call out or even ask them to put their hands up to explain the purpose of any given part of the cow.

Key questions:

- What are the 4 stomachs used for?
- Why don't we have 4 stomachs?
- Can you point to the _____?
- Are you happy with how your cow turned out? Why/Why not?



Growing grass

The children will be able to...

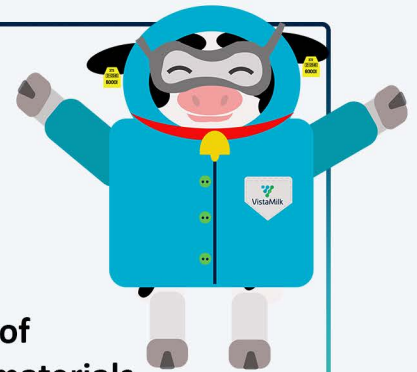
- Discuss the importance of grass
- Repeat and understand the word calf
- Plan how they are going to grow grass
- Plant several grass seeds per table
- Observe growth and change in grass



Waterproofing

The children will be able to...

- Distinguish between waterproof and non-waterproof
- Investigate the effect water has on some common materials
- Compare and sort materials based on whether they're waterproof
- Create their own shelter for a cow based on the experiment results



A Cow's Body

The children will be able to...

- Identify the various parts of a cow
- Discuss the purpose of these parts
- Create their own model of a cow



WHAT YOU NEED:



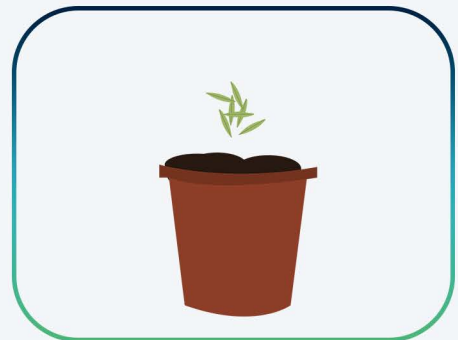
TO DO:



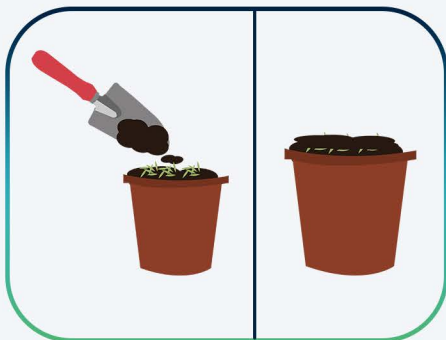
1. Fill the plant pot with soil.



2. Make a hole in the soil for the grass seeds.



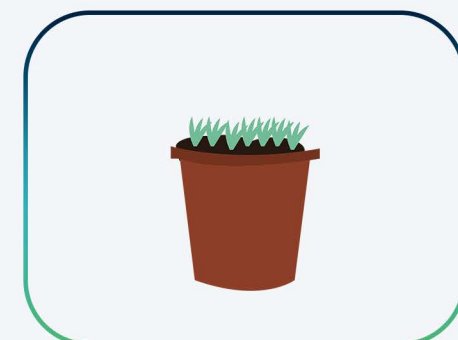
3. Put the grass seeds into the hole in the soil.



4. Put more soil onto the grass seeds to cover them.



5. Fill the spray bottle with water and spray the soil.



6. Place your pot in a place with lots of light. Wait for your grass to grow!



Tip!: Remember to water your grass regularly!

Did your grass grow?

What material make little Hallie the calf's coat waterproof?

Try putting different materials on the coat and test which one it should be!



_____ was waterproof.

_____ was not waterproof.

What material makes little Hallie the calf's shed waterproof?

Try putting different materials on the shed and test which one it should be!



_____ was waterproof.

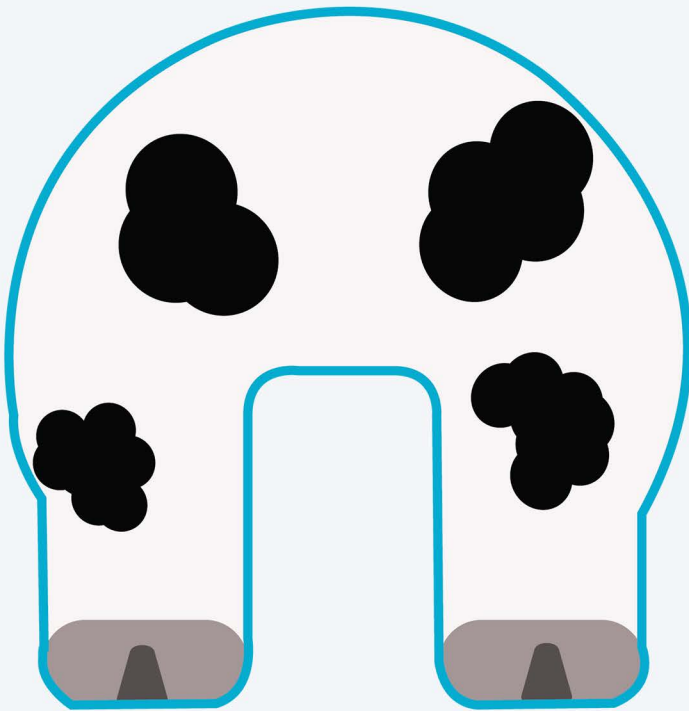
_____ was not waterproof.

Cut out around the blue line the different parts of the cow, and make your own toilet roll cow, Hallie!

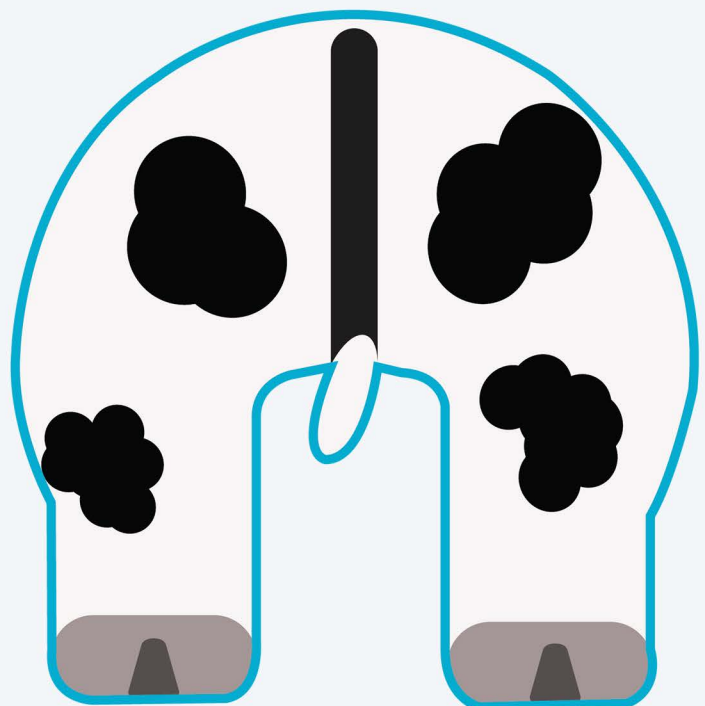
Cow's head



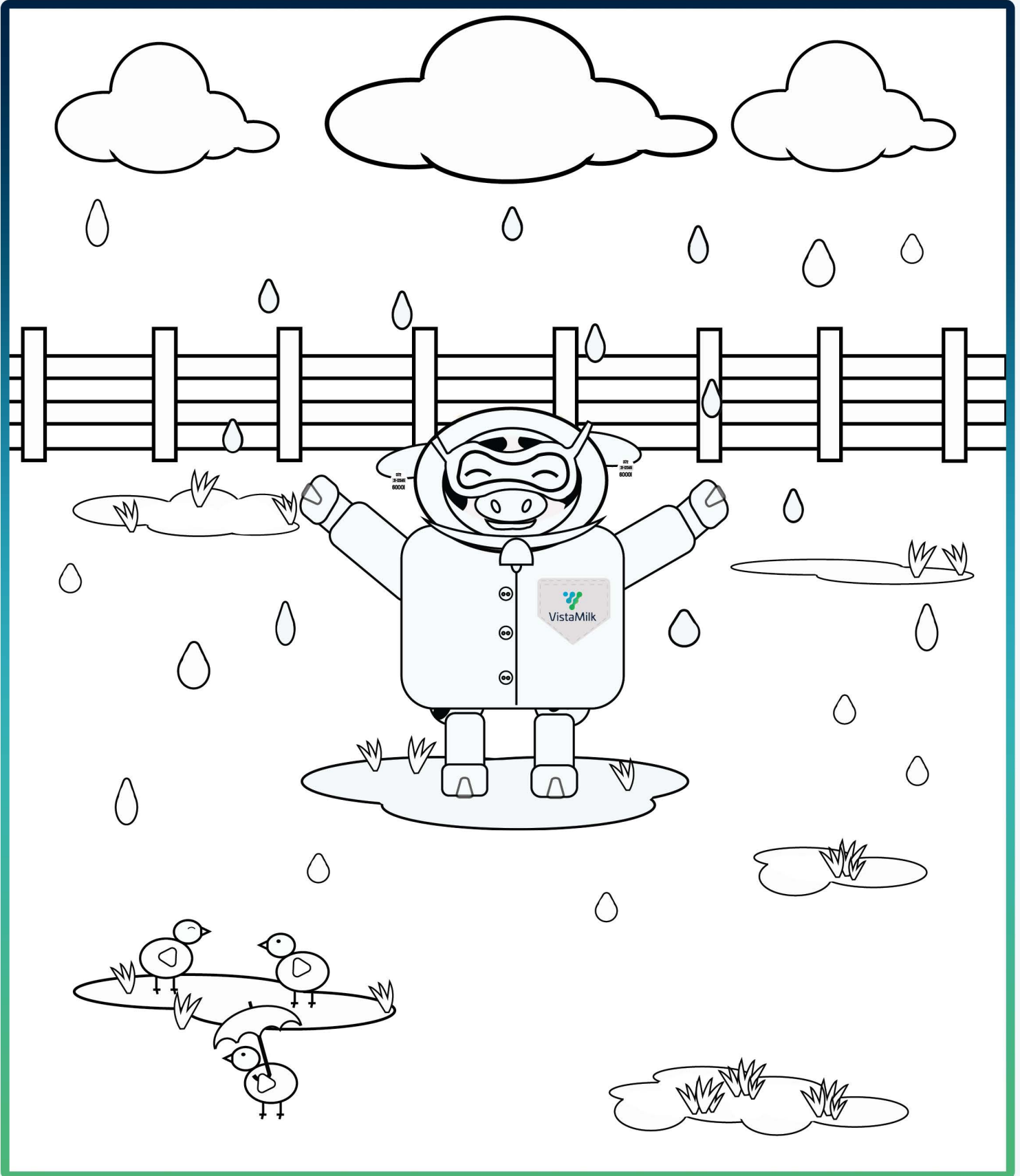
Cow's front legs



Cow's back legs



Colour in the picture below!





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