Hoërskool Johan Jurgens

Grade 10 Life Sciences 2025

School Based Assessment Marking Guideline

Term 2 Assignment

Examiner: Mr K. da Gama

Moderator: Mrs S. Stoltz

Duration: 60 minutes
Total Marks: 55

Name: _____

Grade: 10 key __

1.1. The learner receives a mark for drawing a table and then a mark for every food item identified correctly

		Observation		**Results**		
	Original name of food	**Color change when iodine solution is added**	**(+) or (-)**	**A lot of starch present**	**No starch present**	
Example	**Rice grains**	**Blue black**	**+**	**Starch present**	**-**	
1	Eggs	None	**-**	-	No starch present	✓
2	Fish	None	**-**	-	No starch present	✓
3	Potatoes	Blue black	**+**	Starch present	-	✓
4	Grapes	None	**-**	-	No starch present	✓
5	Ripe Banana	Blue black	**+**	Starch present	-	✓
6	Bread Rolls	Blue black	**+**	Starch present	-	✓
7	Chicken	None	**-**	-	No starch present	✓
8	Cooking Oil	None	**-**	-	No starch present	✓
9	Carrots	Blue black	**+**	Starch present	-	✓
10	Breakfast cereal	Blue black	**+**	Starch present	-	✓

(1 ✓ for drawing a table)

(11)

1.2. We used the Iodine solution test ✓, where we would drop a few droplets of Iodine onto the type of food we were testing and if there was an observable colour change ✓, then it would be concluded that the food type was positive for starch. ✓

1.3. The learner is awarded two marks for mentioning two food types and a mark for any relevant reason.

- Potatoes
- Ripe Banana
- Bread Rolls
- Carrots
- Breakfast cereal (✓✓ Only the first two)

Possible reasons:

- Carbohydrates are broken down by living organisms to release energy and the more complex the carbohydrate the longer it takes to break down, thus releasing energy slowly. This could help the athlete perform better. ✓

or

- These foods are high in starch made of sugars, and when released, they can help the athlete perform better. ✓

1.4. The learner is awarded two marks for mentioning two food types and a mark for any relevant reason.

- Eggs
- Fish
- Grapes
- Chicken (✓✓ Only the first two)

Possible reason:

- These foods have no p, and are a good source of protein. ✓

1.5. The learner is awarded two marks for mentioning two food types and a mark for any relevant reason.

- Eggs
- Fish
- Grapes
- Chicken

(✓✓ Only the first two)

Possible reason:

- These foods have no starch, and are a good source of protein. Starch when unused turns to fat so if the person does not consume any starch, then the body cannot turn anything into fat. ✓

- Carbohydrates are broken down by living organisms to release energy and the more complex the carbohydrate the longer it takes to break down, but if the starch is not used up then it turns to fat, so if the person does not consume any starch, then the body cannot turn anything into fat. ✓

1.6. Any relevant answer could be awarded maximum marks, but only if the conclusion demonstrates the learner's ability in understanding ✓ and interpreting ✓ the experiment's results ✓ and suggests a possible improvement for next time. ✓

Possible reason:

After testing 10 common food types found around the house, using the iodine solution test, it was evident that starch was more present than not. Starch seems to be more present in foods high in carbohydrates and not so much in foods with a lot of protein. I could increase my sample size to improve my validity.

[27]

Question 2

2.1. To see if washing powders really contain enzymes. ✓

- To see how an enzyme can break down proteins such as gelatine.
- Any relevant answer can be awarded an answer.

2.2. The hole in the gelatine. ✓

2.3. The washing powders. ✓

2.4. Gelatine

- Agar
- Ordinary washing powder.
- Biological washing powder.

(✓✓Any two)

2.5. Any relevant answer could be awarded maximum marks, but only if the conclusion demonstrates the learner's ability in understanding ✓ and interpreting ✓ the experiment's results ✓ and suggests a possible improvement for next time✓

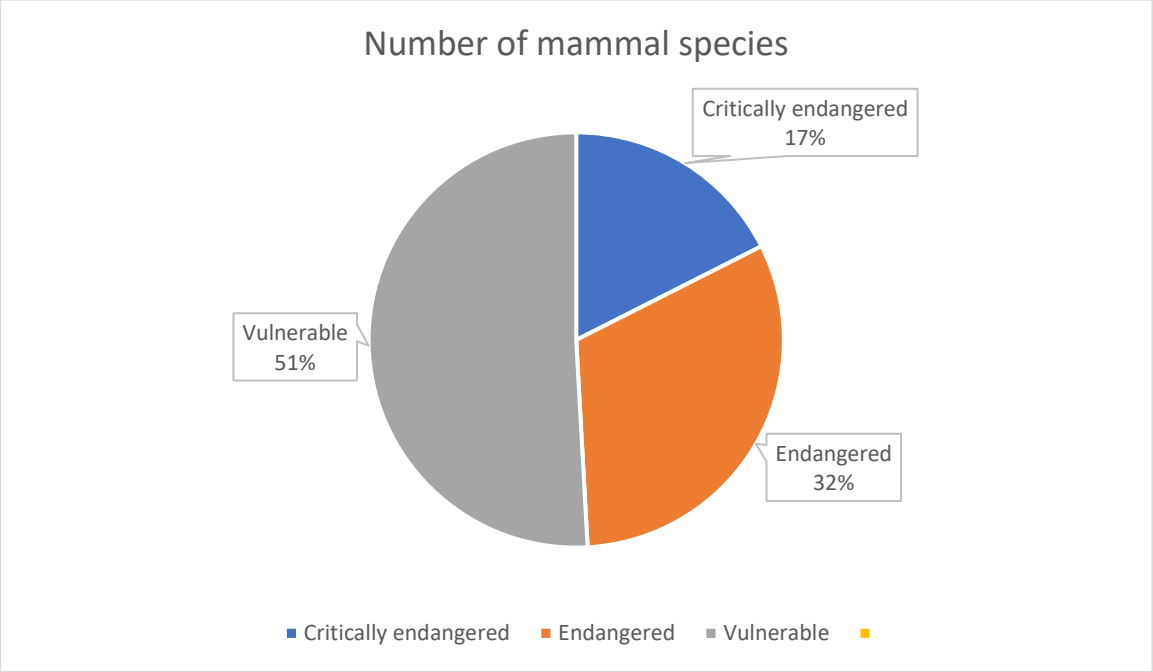
[9]

Question 3

3.1. Critically endangered ✓

3.2. 10+ 18+ 29 = 57
295 ✓ – 57✓ = 283 ✓
∴there are **283** mammal species remaining.

3.3.



Criteria for assessing the graph:

Pie Chart drawn. (T)	1
Title of the graph shows the relationship between the variables. (H)	1
Correct calculations to determine the proportions. (C)	2: All 3 correct 1: 1-2 correct
Correct proportions for the labelled sectors. (P)	2: All 3 sectors are correct 1: 1-2 sectors correct

(6)

[10]

Question 4

4.1.1. Four/ 4 ✓

4.1.2. 6,25% ✓

4.1.3. Number of half-lives ✓

4.1.4. The number of half-lives is inversely proportional ✓ or indirectly proportional to the percentage of Carbon-14 of the fossil.

4.2.1 i) 3.125 ✓

ii) 22 920 ✓

iii) 34 380 ✓

4.2.2. After about 60,000 years, too little carbon-14 is left in a specimen to be measured. ✓✓

[9]

Total marks [55]