

Administration Procedures for the Life Science Assessment TALKS

- 1) Assessment should be administered to students within 9 days of the beginning of the academic year. (August 11-21, 2015 and August 9-19, 2016)
- 2) Directions on the cover page should be read aloud to all students taking the assessment.
- 3) Directions on the inside of the cover page should be read aloud to all students before they begin the assessment.
- 4) Once the assessment is given, students should work to answer each question to the best of their ability.
- 5) A mid-year assessment will be administered the last week of the first semester or the first week of the second semester.
- 6) A final course assessment will be administered during the last four weeks of the school year.

TALKS = Title, Axis, Labels, Keys, Spacing

The Cricket Experiment

Jim was reading about behaviors in animals and saw that scientists have determined you can tell the temperature outside by the number of chirps crickets are emitting. He thought this was interesting and decided to try and find out for himself if this was true.

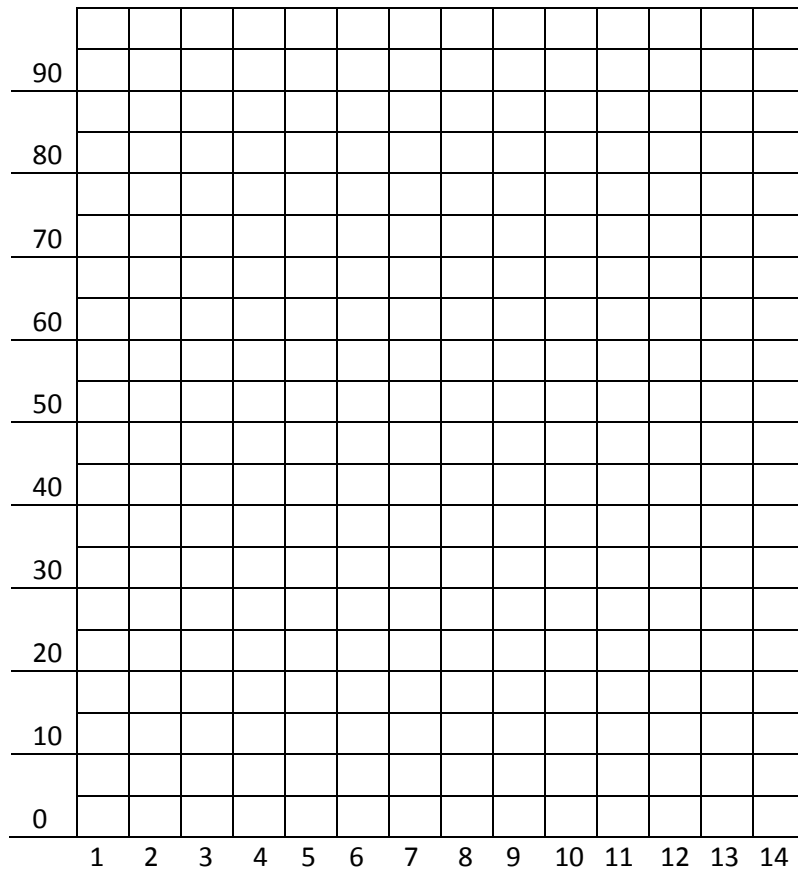
He checked and found that his local newspaper posted the daily temperature measured each morning at 7:00 a.m. and each evening at 7:00 p.m.

He got five jars and fine cloth to could stretch over the mouths of his jars that would let air in. Jim collected five male crickets from the field behind his house after he had dinner and put one cricket in each jar. He then set them on his back porch. At 7:00 p.m. in the evening he sat outside and tried to record the number of chirps each cricket made. He realized he was having trouble collecting all his data, so he asked his two younger brothers and 2 younger sisters to help him. Now they would only have to record the chirps from one cricket each. Every evening they recorded how many chirps the crickets made over a 15 second interval. He recorded this information in a notebook and after two weeks decided to evaluate his data.

Jim had a formula for figuring the temperature from the article he read. The number of chirps in 15 seconds + 40 would give him the temperature. Listed below is his data.

Cricket Chirps at 7:00 p.m.							
Day	Cricket 1	Cricket 2	Cricket 3	Cricket 4	Cricket 5	Day	Temp
1	18	18	19	17	17	1	60
2	23	23	24	24	22	2	64
3	22	22	21	21	22	3	62
4	18	18	18	17	18	4	60
5	14	14	15	15	14	5	56
6	28	27	27	27	26	6	68
7	28	29	30	29	28	7	70
8	26	26	26	26	27	8	68
9	26	27	27	26	26	9	68
10	29	30	29	29	28	10	70
11	30	31	31	32	31	11	72
12	20	21	21	22	22	12	62
13	25	26	26	25	26	13	66
14	24	23	24	24	23	14	64

Jim decided to graph the data comparing it to the temperatures from each day. Use the graph provided to duplicate his work.



Directions: Read each question and write the answers using complete sentences when necessary.

1. What is the question Jim is trying to answer?
2. What is the independent variable?
3. What is the dependent variable?

4. What are some of the constants in the experiment?

5. What is Jim's control, if there is one?

6. Explain the type of graph Jim should use to record his results.

7. List three sources of experimental error that could occur during this experiment.

8. What should Jim's conclusion be from this experiment?

Grading Rubric Life Science Baseline Assessment

Baseline Question	3	2	1	0
Problem	Clearly defined problem, legible, complete sentence written	Defined problem, legible/complete sentence written	Defined problem	No defined problem or left blank
Hypothesis	Hypothesis from scenario is clearly described using an if/then sentence.	Hypothesis is described without using an if/then sentence	Student wrote a hypothesis and was not included in the scenario	Student did not attempt a hypothesis
Independent Variable	N/A	Independent variable was identified using a complete sentence	Independent variable was identified without a complete sentence	Independent variable was not identified
Dependent Variable	N/A	Dependent variable was identified using a complete sentence	Dependent variable was identified without using a complete sentence	Dependent variable was not identified
Constants <i>*see note below</i>	3 or 4 valid constants were listed	2 valid constants were listed	1 valid constant was listed	No valid constants were listed
Graph Explanation	Bar graph was the answer given with justification in a complete sentence	Bar graph was the answer given without clear justification in a complete sentence	Bar graph was given without justification	Incorrect graphing answer given
Experimental Error <i>@see note below</i>	3 valid errors were listed	2 valid errors were listed	1 valid error was listed	No valid error was listed
Conclusion	Complete sentence with correct conclusion that addresses hypothesis	Correct conclusion with complete sentence not addressing hypothesis	Correct conclusion with no sentence	No conclusion identified

* **Valid Constant** is defined as one described in the scenario.

@ **Valid Experimental Error** is defined as mistakes made during the experiment that could alter the recorded data.