ORANGE PUBLIC SCHOOLS
OFFICE OF CURRICULUM AND INSTRUCTION
OFFICE OF SCIENCE

GRADE 5
SCIENCE
Post - Assessment

School Year 2013-2014

Directions for Grade 5 Post-Assessment

The Grade 5 Post-Assessment is made up of multiple choice questions, and constructed response questions.

Read each question carefully, including diagrams and/or graphs.
Work as rapidly as you can without sacrificing accuracy. Do not spend too much time puzzling over a question that seems too difficult for you. Answer the easier questions first; then return to the harder ones. Try to answer every question, even if you have to guess.

Where necessary, you may use scratch paper for your work. Do not use the margins of the test booklet to do scratch work.

YOU MUST RECORD YOUR ANSWERS IN THE TEST BOOKLET PROVIDED. ALL MULTIPLE CHOICE, SHORT CONSTRUCTED RESPONSES AND ESSAY RESPONSES MUST BE WRITTEN IN YOUR TEST BOOKLET.

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

SGO Post-Assessment – Grade 5

Multiple Choice –
Identify the choice that best completes the statement or answers the question and write the letter of the correct answer in the blank provided.

____ 1. Starch and sugar belong to the group of nutrients called
A. fats.
B. carbohydrates.
C. sweets.
D. yeasts.

_____ 2. Donny wanted to find out the percentage of fat in ranch salad dressing. He plans to do the fat test on the salad dressing. Which food should he use as a control?
A. another ranch salad dressing
B. pure Italian dressing
C. pure vinegar
D. pure cooking oil

_____ 3. In the sugar test, yeast converts sugar into carbon dioxide. The bubbles released show that yeast is a(n)_____?
A. chemical
B. animal
C. air
D. indicator

_____ 4. Bases taste
A. sweet.
B. sour.
C. salty.
D. bitter.

_____ 5. If Maria eats less food (calories) than she uses,
A. her breathing becomes faster.
B. she loses weight.
C. her heart rate increases.
D. the extra food is stored as fat.

_____ 6. Which of the following gives us the most energy in calories?
A. Water
B. Fat
C. Carbohydrate
D. Protein

_____ 7. The function of a flower in a plant is _____.
A. Reproduction
B. Water absorption
C. Food Production
D. Anchor plant in ground

Student Name _____ Teacher _____

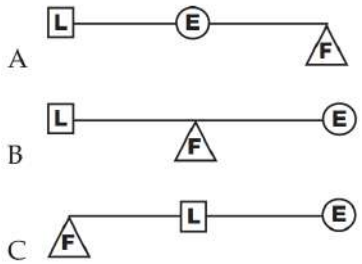
Grade 5 – FOSS Date _____

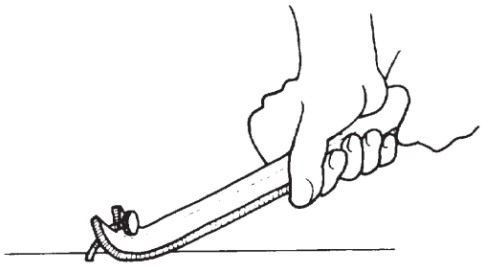
_____ 8. Why is it important for plants to transpire?
A. It keeps the plant from drowning.
B. It gets rid of water in the plant.
C. It transports water to every cell in the plant at all times.
D. It helps plants get water from other plants.

_____ 9. Which of the following describe a prokaryotic cell?
A. cells without a nucleus
B. multicellular organisms
C. cells that photosynthesize
D. animal cell

_____ 10. Fungi in the natural environment are mostly
A. consumers.
B. decomposers.
C. parasites.
D. producers.

_____ 11. Veronica used a crowbar to pry a nail out of a board. Which of the following diagrams correctly shows where the fulcrum, effort, and load are located on the crowbar when it is used this way?





Choose the one response below that appropriate fills in the blanks from top to bottom.

_____ 12. 1. A class-3 lever has the _____ in the middle.
2. A class-2 lever has the _____ in the middle.
3. A class-1 lever has the _____ in the middle

A. fulcrum
load
effort

C. load
effort
fulcrum

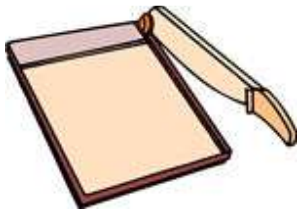
B. effort
load
fulcrum.

D. fulcrum
effort
load

Student Name _____ Teacher _____

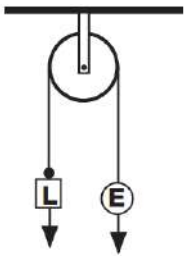
Grade 5 – FOSS Date _____

_____ 13. A paper cutter is a simple machine. The cutting handle that slices the paper is an example of a _____



A. pulley
B. screw
C. lever.
D. inclined plane.

_____ 14. When a pulley is used to lift a load, as shown in the illustration, the advantage gained is



A.less friction.
B. less work.
C. mechanical.
D. directional.

_____ 15. Joe wanted to find out the relationship between the size of a stone and how far it will travel when thrown. He did an experiment and collected the data shown below:

Size of Stone	**Distance**
1 g	170 cm
10 g	135 cm
25 g	80 cm
40 g	45 cm
50 g	15 cm

Which of the following would best visually represent this data?

A. Bar Graph
B. Line Graph
C. Pie Chart
D. Venn Diagram

Student Name _____ Teacher _____

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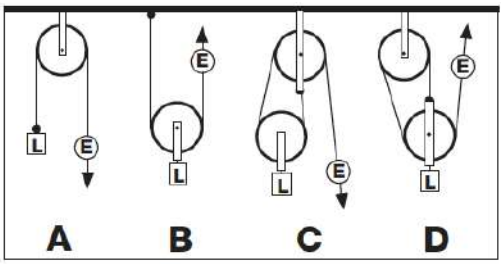
Refer to the picture below to answer question 16.

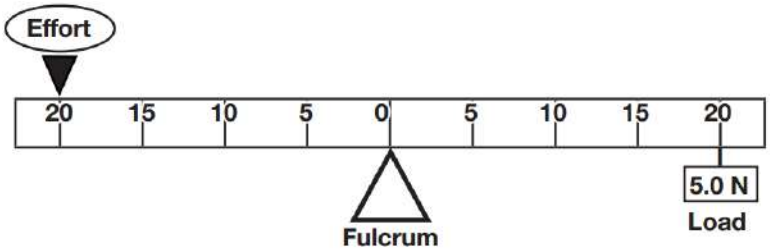


_____ 16. Which pulley system will require the least amount of effort?

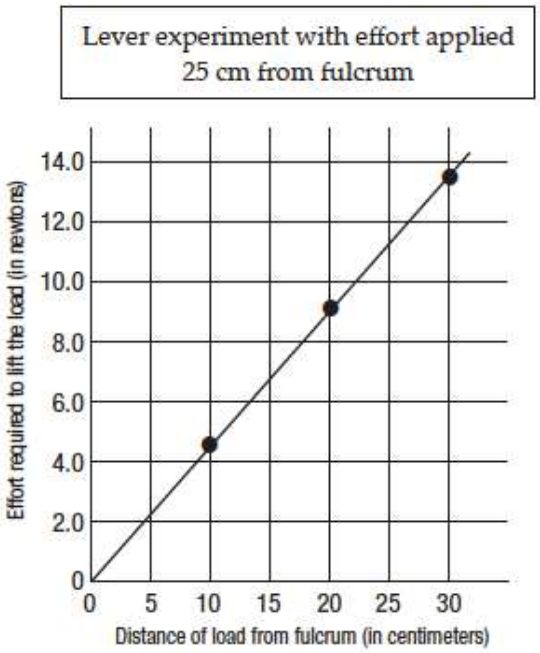
A. pulley system A
B. pulley system B
C. pulley system C
D. pulley system D

_____ 17. What could you change in the lever system pictured below to make it easier to lift the load?

A. Move the effort toward the fulcrum.
B. Pull up with the effort rather than down.
C. Move the fulcrum so it is just below the effort.
D. Move the fulcrum closer to the load.



Short Answer – *Answer each question in the space provided. Study the graph at the right and answer the following questions.*



18. If the load is 17 cm from the fulcrum, how much effort is needed to lift the load?

_____

19. If it takes an effort of 6.0 N to lift the load, how far would the effort be from the fulcrum?

_____

20. What is the relationship between the amount of effort required to lift the load and the distance the load is from the fulcrum?

_____

_____

_____

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

21. Directions: **WRITE** the letter ***L*** next to each object listed below that is living.

_____ mushroom	_____ skateboard	_____ cactus
_____ robot	_____ fire	_____ apple seed
_____ the Sun	_____ beetle	_____ lobster

Answer each question in the space provided. Write legibly and in complete sentences taking care to use proper sentence structure. Address each aspect of the question in your answer.

Michael wants to compare the fat in potato chips and in corn chips, but he isn't sure how.

22. **WRITE** a procedure Michael can use to compare the fat in potato chips and corn chips.

_____

_____

_____

_____

_____

23. Using only the results from his experiment, **EXPLAIN** how Michael will know which one, corn chips or potato chips, has more fat.

_____

_____

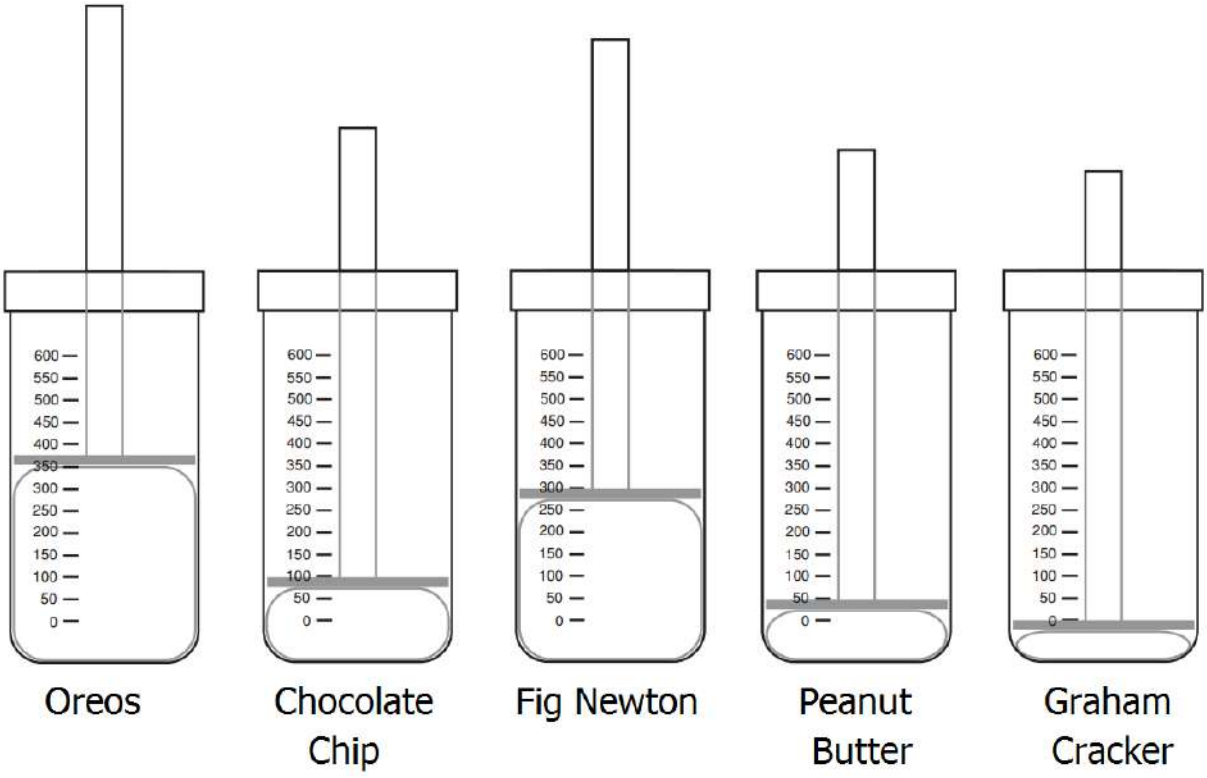
_____

_____

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

Darnell and Danielle had 5 cookies. They put 5 g of each cookie into a bag with 50 mL of water and 2 spoonfuls of yeast. They put the 5 bags in warm water. After 20 minutes, they put the 5 bags into measuring tubes. This is what they observed.

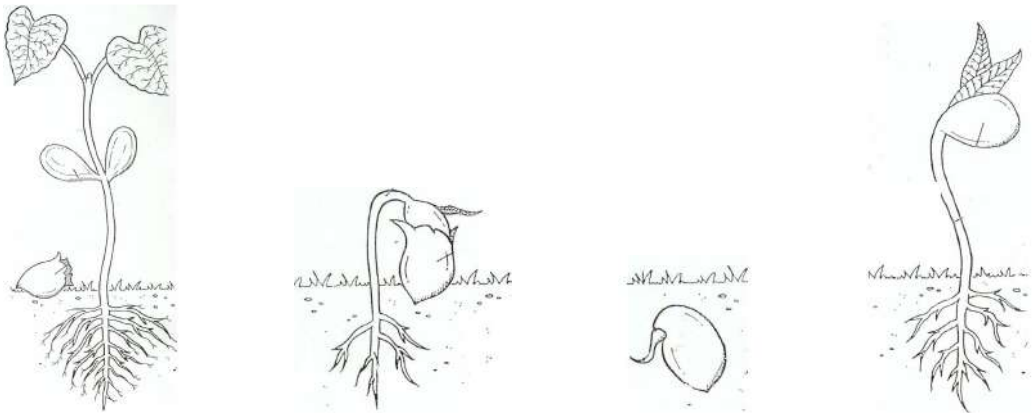


24. Put the cookies in order of least sugar to most sugar.

_____ _____ _____ _____ _____

least most

25. Number the following pictures in the correct order that shows the accurate life cycle of a plant.



_____ _____ _____ _____

Student Name _____ Teacher _____

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26. Mark an X next to each sentence that describes something you would need to know about an organism if you were setting up a habitat for it.

_____ What it eats.

_____ What color it is.

_____ How much it rains in its natural habitat.

_____ If it prefers light or dark.

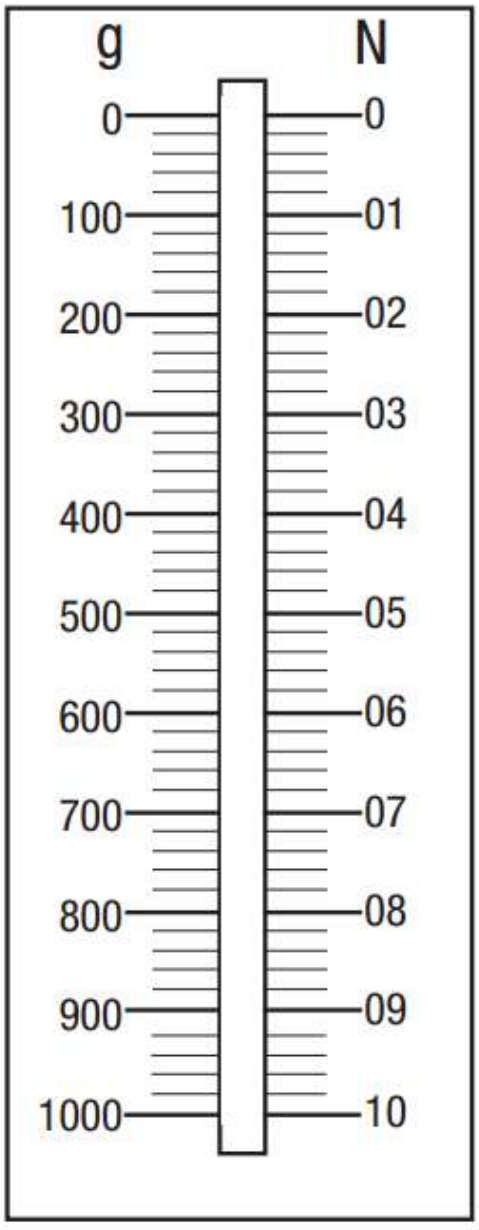
_____ The temperature range in which it can survive

27. To the right is an incomplete drawing of a spring scale.

- **Draw** a bar (the little metal indicator) on the spring scale to show a measurement of ***2.6 N***

28. How much force (effort) does each small, light line on the spring scale represent?

_____



Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

SGO Post-Assessment – Grade 5 KEY – 52 pts total

Multiple Choice – 1 pt ea

Identify the choice that best completes the statement or answers the question and write the letter of the correct answer in the blank provided.

__B__ 1. Starch and sugar belong to the group of nutrients called
A. fats.
B. carbohydrates.
C. sweets.
D. yeasts.

__D__ 2. Donny wanted to find out the percentage of fat in ranch salad dressing. He plans to do the fat test on the salad dressing. Which food should he use as a control?
A. another ranch salad dressing
B. pure Italian dressing
C. pure vinegar
D. pure cooking oil

__D__ 3. In the sugar test, yeast converts sugar into carbon dioxide. The bubbles released show that yeast is a(n)_____?
A. chemical
B. animal
C. air
D. indicator

__D__ 4. Bases taste
A. sweet.
B. sour.
C. salty.
D. bitter.

__B__ 5. If Maria eats less food (calories) than she uses,
A. her breathing becomes faster.
B. she loses weight.
C. her heart rate increases.
D. the extra food is stored as fat.

__B__ 6. Which of the following gives us the most energy in calories?
A. Water
B. Fat
C. Carbohydrate
D. Protein

__A__ 7. The function of a flower in a plant is _____.
A. Reproduction
B. Water absorption
C. Food Production
D. Anchor plant in ground

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

__C__ 8. Why is it important for plants to transpire?
A. It keeps the plant from drowning.
B. It gets rid of water in the plant.
C. It transports water to every cell in the plant at all times.
D. It helps plants get water from other plants.

__A__ 9. Which of the following describe a prokaryotic cell?
A. cells without a nucleus
B. multicellular organisms
C. cells that photosynthesize
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__B__ 10. Fungi in the natural environment are mostly
A. consumers.
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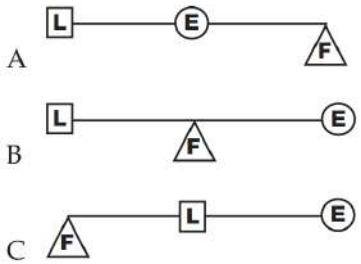
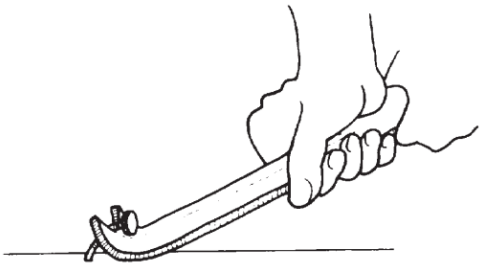




Choose the one response below that appropriate fills in the blanks from top to bottom.

__B__ 12. 1. A class-3 lever has the _____ in the middle.
2. A class-2 lever has the _____ in the middle.
3. A class-1 lever has the _____ in the middle

A. fulcrum
load
effort

C. load
effort
fulcrum

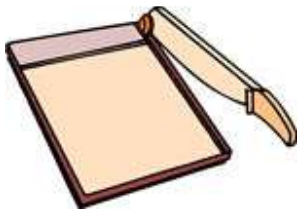
B. effort
load
fulcrum.

D. fulcrum
effort
load

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

__C__ 13. A paper cutter is a simple machine. The cutting handle that slices the paper is an example of a _____



A. pulley
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C. lever.
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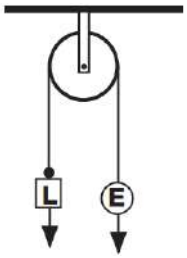
__D__ 14. When a pulley is used to lift a load, as shown in the illustration, the advantage gained is



A.less friction.
B. less work.
C. mechanical.
D. directional.

__A__ 15. Joe wanted to find out the relationship between the size of a stone and how far it will travel when thrown. He did an experiment and collected the data shown below:

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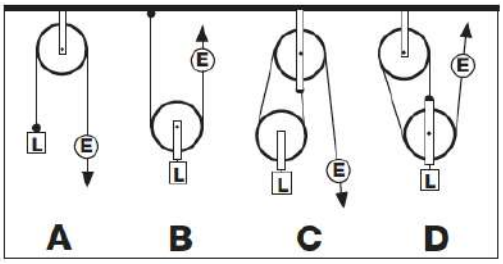
D. Venn Diagram

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

Refer to the picture below to answer question 16.



__D__ 16. Which pulley system will require the least amount of effort?

A. pulley system A
B. pulley system B
C. pulley system C
D. pulley system D

__D__ 17. What could you change in the lever system pictured below to make it easier to lift the load?

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C. Move the fulcrum so it is just below the effort.
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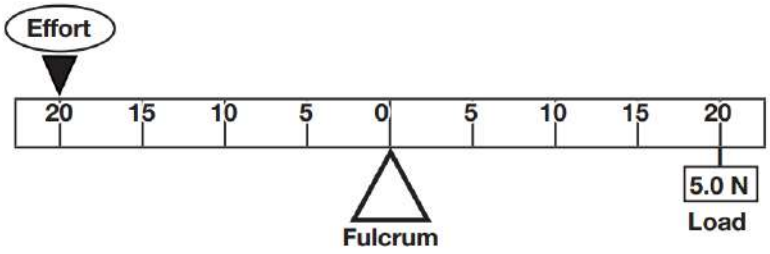


Short Answer – ***3 pts ea****. Answer each question in the space provided. Study the graph at the right and answer the following questions.*

18. If the load is 17 cm from the fulcrum, how much effort is needed to lift the load?

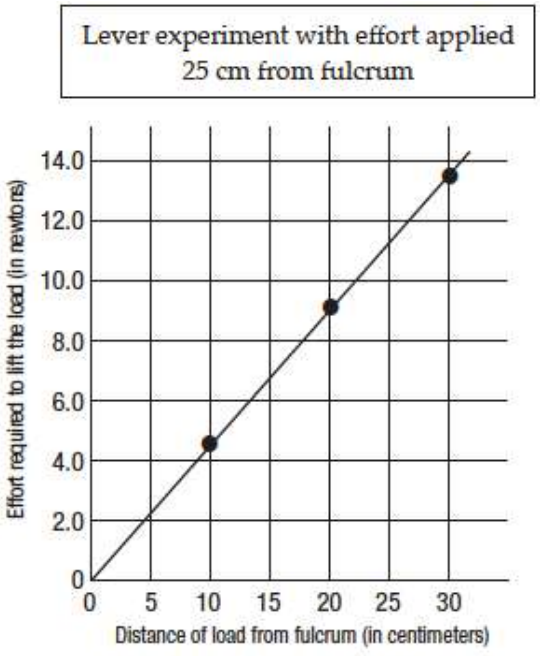
~8.0 N

19. If it takes an effort of 6.0 N to lift the load, how far would the effort be from the fulcrum?

~13 cm

20. What is the relationship between the amount of effort required to lift the load and the distance the load is from the fulcrum?

The farther from the fulcrum the load is, the more effort required to lift the load.



Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

18:

Code	If the student…
3	Indicates the effort is between 7.6 N and 8.4 N (must include correct units)
2	Indicates the effort is between 7.6 and 8.4 but does not include units
1	Provides any other answer
0	Makes no attempt

19:

Code	If the student…
3	Indicates the distance is between 12 cm and 14 cm (must include correct units)
2	Indicates the distance is between 12 and 14 but does not include units
1	Provides any other answer
0	Makes no attempt

20:

Code	If the student…
3	Indicates that the farther from the fulcrum the load is, the more effort is needed, or the closer to the fulcrum the load is the less effort is needed.
2	Indicates that it is harder to lift the load when it is farther away, or easier to lift the load when it is closer to the fulcrum
1	Provides any other answer
0	Makes no attempt

21. ***5 pts*** Directions: **WRITE** the letter ***L*** next to each object listed below that is living.

___*L*___ mushroom	_____ skateboard	___*L*___ cactus
_____ robot	_____ fire	___*L*___ apple seed
_____ the Sun	___*L*___ beetle	___*L*___ lobster

Answer each question in the space provided. Write legibly and in complete sentences taking care to use proper sentence structure. Address each aspect of the question in your answer.

Michael wants to compare the fat in potato chips and in corn chips, but he isn't sure how.

22. **WRITE** a procedure Michael can use to compare the fat in potato chips and corn chips. ***4 pts***

1. Measure out equal amounts of corn chips and potato chips (ex. 2 grams)

2. Smash the samples uniformly on the same size area of brown paper.

3. Wait (the same time for each)

4. Use a grid to measure the amount of each paper covered by grease spots.

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

Code	If the student...
4	writes a logical procedure that includes using brown paper as an indicator and treating both foods in the same way (i.e. someone could duplicate the investigation from the procedure described).
3	makes a minor error such as not being specific about smashing the food in the same-size space; must include equal masses of food.
2	provides one or two steps without details.
1	provides any other answer including just mentioning brown paper.
0	makes no attempt.

23. Using only the results from his experiment, **EXPLAIN** how Michael will know which one, corn chips or potato chips, has more fat. ***3 pts***

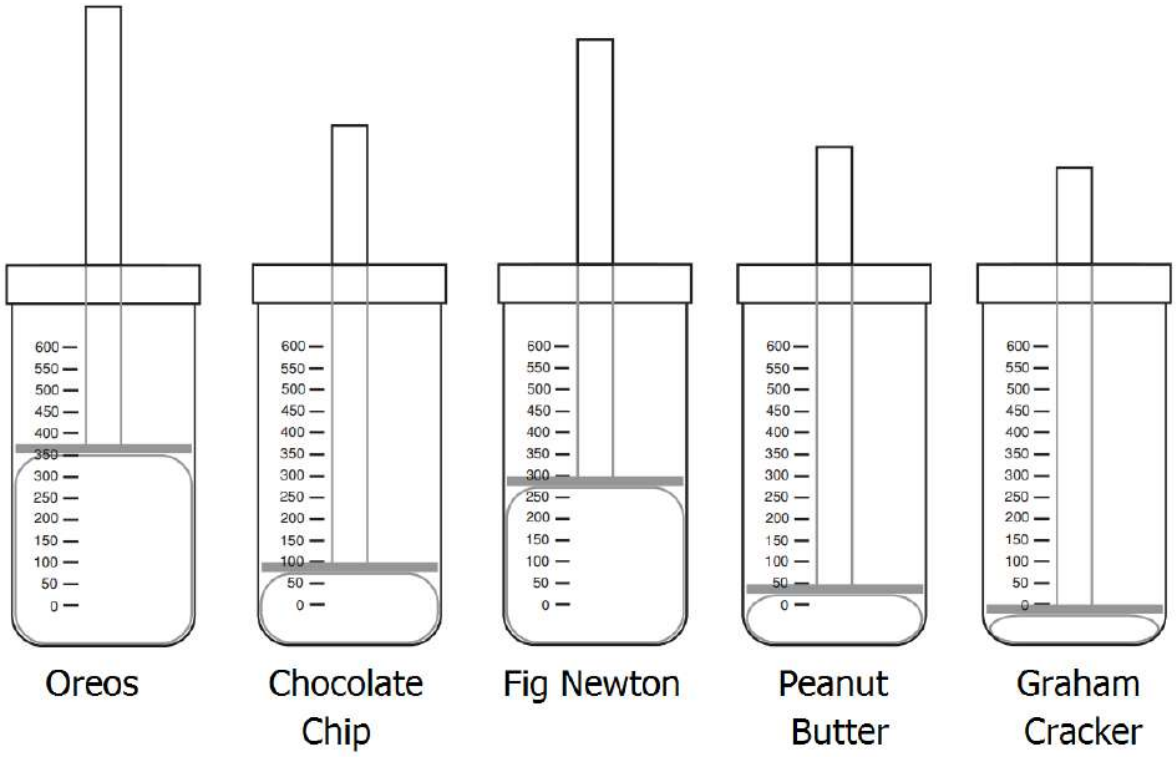
Anna should compare the size of the grease spots. The sample with the larger grease spot has more fat.

Code	If the student...
3	suggests comparing the size of the grease spots; explains that the larger grease spot means more fat.
2	suggests comparing the size of the grease spots; does not explain what that will tell you.
1	provides any other answer.
0	makes no attempt.

Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

Darnell and Danielle had 5 cookies. They put 5 g of each cookie into a bag with 50 mL of water and 2 spoonfuls of yeast. They put the 5 bags in warm water. After 20 minutes, they put the 5 bags into measuring tubes. This is what they observed.



24. Put the cookies in order of least sugar to most sugar. ***2 pts***

Graham Cracker ***Peanut Butter*** ***Chocolate Chip*** ***Fig Newton*** ***Oreos***

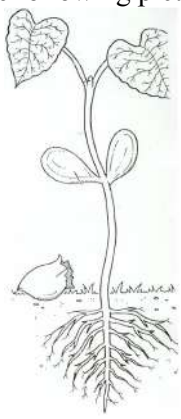
least most

Code	If the student…
2	Puts the cookies in the correct order from least sugar to most sugar: Graham Cracker, Peanut Butter cookie,Chocolate Chip cookie, Fig Newton, Oreos
1	Provides any other answer
0	Makes no attempt

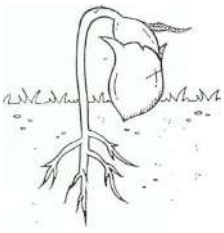
Student Name _____ Teacher _____

Grade 5 – FOSS Date _____

25. Number the following pictures in the correct order that shows the accurate life cycle of a plant. ***4 pts***



____4____



____2____

____1____

____3____

26. Mark an X next to each sentence that describes something you would need to know about an organism if you were setting up a habitat for it. ***4 pts***

___X___ What it eats.

_____ What color it is.

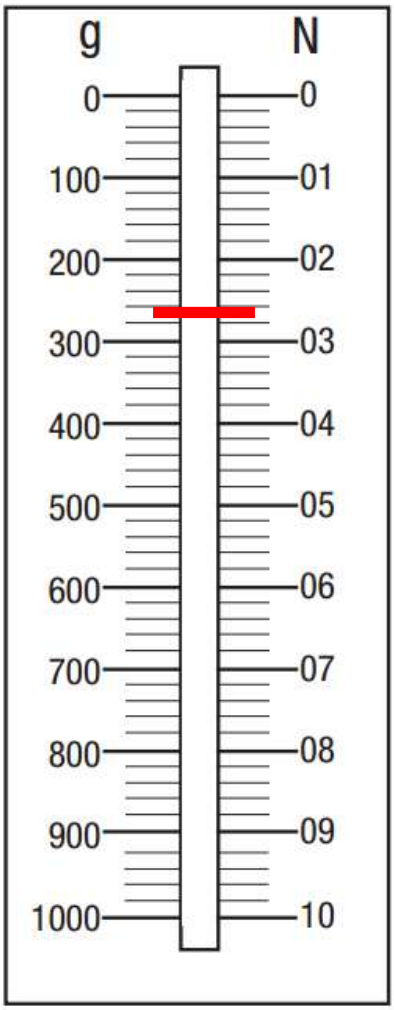
___X___ How much it rains in its natural habitat.

___X___ If it prefers light or dark.

___X___ The temperature range in which it can survive

27. To the right is an incomplete drawing of a spring scale.

- **Draw** a bar (the little metal indicator) on the spring scale to show a measurement of ***2.6 N – 2 pts***



28. How much force (effort) does each small, light line on the spring scale represent? – ***2 pts***

0.2 N

27:

Code	If the student…
2	draws a bar (a line) on the spring scale with the top at 2.6 N.
1	Provides any other answer
0	Makes no attempt

28:

Code	If the student…
2	indicates that each light line represents 0.2 N (newtons); includes units.
1	indicates the correct interval (0.2); does not include the units
0	Makes no attempt