

GRADE 7

SCORING GUIDE

INTERMEDIATE SCORING GUIDE

CONSTRUCTED RESPONSE:

1. **Two points**—one for each section

- A. Dark colored materials absorb radiation more effectively than light colored clothes
- B. A thin layer of insulating air will be present between two layers.

2. **Twopoint-one** for each section

- A. Use of such devices could reduce medical bills;
Use of such devices would allow a person to keep a regular, day-to-day/hour-to-hour record of his/her blood pressure/glucose level/heart rate;
Use of such devices would draw the individual into more direct involvement in appraising/maintaining his/her own health;
Use of such devices should lead to earlier diagnosis of illnesses;
Any reasonable response that indicates a student's understanding of how such self-monitoring devices could be beneficial to that person.
- B. Possible lack of training in the use of such devices might tend to produce inaccurate readings/monitoring;
Poor procedure could result in infection/injury of person using the instrument;
Individual could become obsessive/hypochondriacal, etc.;
Self-diagnosis might result in error leading to incorrect treatment or medication usage;
Any reasonable response that indicated a student's understanding of how the use of such monitoring devices could be a risk to that person.

3. **Three points**—one for each of three answers

- streaks
- hardness
- crystalline structure
- cleavage/fracture
- chemical composition
- color
- luster/glitter
- density/specific gravity/heft
- magnetism
- refraction
- texture
- any response indicating a valid physical characteristic (not a test for a characteristic)

PERFORMANCE EVENT:

1. **Four points**—one for each of the following:

- A. Graph has an appropriate title
- B. Axes labeled correctly
- C. Axes numbered correctly
- D. Data is plotted correctly

2. **One point**

The lower the ground temperature the greater the height or vice versa

3. **Threepoints-one** for each of three answers

- Air temperature
- Soil type (mineral type)
- Amount of water
- Amount of sunlight
- Type of tulip/tulip bulb
- Parasites/pests
- Use of fertilizers
- Closeness of individual plants (density)
- How deep the bulb was planted
- Any obviously influential variable with respect to growth

4. **One point**

Yes AND tulips grew more when the ground temperature was colder

OR

No AND suggestion that not enough information is given about how the investigation was conducted to evaluate the quality of the data

Missouri Assessment Program
Spring 2001

Science
Released Items
Scoring Guide
Grade 7

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FB-SD1-16

Session: 1
Item: 7
Page: 6
Standard: III.A6.p36 (Std 1)
Goals: 1.10

Key Elements:

oxidation or rusting
AND
iron and oxygen

Oxygen came in contact with the iron only where the paint wore off.

Score Points:

2 points two key elements
1 point one key element
0 points other

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FF-S2-7

Session: 2
Item: 4
Page: 7
Standard: VIII.B3 and 4.p90 (Std 4)
Goals: 2.1, 3.5

Key Elements:

Site 3

- Site 3 is just downstream from a feedlot which may be dumping bacteria (from cattle manure) into the river.
 - Site 3 has the lowest dissolved oxygen level.
 - Site 3 has the highest bacterial level.
-

Score Points:

2 points two key elements
1 point one key element
0 points other

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FF-S2-8

Session: 2
Item: 5
Page: 7
Standard: VIII.B3 and 4.p90 (Std 4)
Goals: 1.6

Key Element:

They decrease.

Score Points:

1 point key element
0 points other

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FF-S2-9

Session: 2
Item: 6
Page: 7
Standard: VIII.B3 and 4.p90 (Std 4)
Goals: 2.1, 3.5

Key Elements:

Trout are not present because of low dissolved oxygen levels.

High bacteria levels are present at this location.

AND

They are associated with low dissolved oxygen levels.

Score Points:

2 points two key elements
1 point one key element
0 points other

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FF-S2-10

Session: 2
Item: 7
Page: 8
Standard: VIII.B3 and 4.p90 (Std 4)
Goals: 2.1, 3.5

Key Elements:

-
- The bacterial levels are higher upstream and lower downstream from the wastewater treatment plant.
 - The wastewater treatment plant doesn't appear to add bacteria to the stream.
-

The chart shows that the bacterial count is safe for swimming.

Score Points:

2 points two key elements
1 point one key element
0 points other

FF-S2-11

Session: 2
Item: 8
Page: 8
Standard: VIII.B1.p90 (Std 4)
Goals: 2.1, 3.1, 4.1

Key Elements:

Site 1
OR
Site 2
OR
Site 7
OR
Site 8

Explanation must include the accurate use of data from all three charts to support at least 2 out of 3 activities (swimming, boating, and fishing).

Note: Actual numbers need not be used, but the implication that all three charts were used to support the choice of site must be evident.

Score Points:

2 points two key elements
1 point one key element
0 points other

Missouri Science Scoring Guide
2001 Operational Test
Grade 7

FF-S3-30

Session: 3
Item: 26
Page: 13
Standard: V.B3.p57 (Std 6)
Goals: 1.6, 1.10, 2.1

Key Elements:

Earth has a tilted axis.

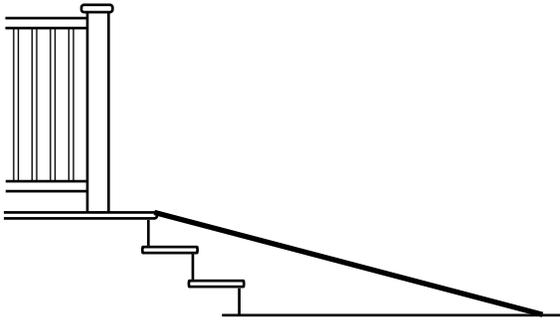
The tilt does not change/remains constant while the Earth orbits/revolves around the sun.

-
- MO/We get more/less direct light.
 - The angle at which light strikes the Earth changes.
-

Score Points:

3 points three key elements
2 points two key elements
1 point one key element
0 points other

Session: 3
Item: 29
Page: 16
Standard: IV.C3.p49 (Std 2)
Goals: 1.6, 1.10, 3.1



Key Elements:

longer ramp, not as steep as one shown in the original picture

It isn't as steep as the other ramp.

No
AND

- Ramps (machines) reduce effort not work.
 - The effort is less, but the distance is greater, so work is the same.
-

Score Points:

3 points three key elements
2 points two key elements
1 point one key element
0 points other

**Missouri Assessment Program
Spring 2002**

Science

**Released Items
Scoring Guide**

Grade 7

Session:	1
Item No.:	9
Page No.:	8
Standard:	IV.B.2 (Std 2)
Goals:	1.1

Key Elements:

8 newtons/8 N

friction AND gravity

Note: Air resistance is acceptable as friction.

Score Points:

2 points two key elements

1 point one key element

0 points other

Session:	1
Item No.:	10
Page No.:	9
Standard:	VII.D1. (Std 3)
Goals:	1.6, 1.10

Key Elements:

The new plant has the same traits as the parent plant.

any response indicating that

- Because only a single parent is involved, the offspring has DNA that is identical to the DNA of the parent.
 - Because only a single parent is involved, the offspring has chromosomes that are identical to the chromosomes of the parent.
 - Because only a single parent is involved, the offspring has genes that are identical to the genes of the parent.
-

Score Points:

2 points	two key elements
1 point	one key element
0 points	other

Session:	2
Item No.:	7
Page No.:	6
Standard:	II.B.1 (Std 7)
Goals:	1.3, 3.4

Key Element:

Any one of the following:

- A larger sample size gives more reliable data.
 - More plants make one defective plant easier to dismiss.
 - Errors have less effect on results if averaged with a large number of correct data.
-

Score Points:

1 point one key element
0 points other

Session:	2
Item No.:	8
Page No.:	6
Standard:	II.B.1 (Std 7)
Goals:	1.1

Key Elements:

(a) either one of the following:

- How does fertilizer type affect tomato size/plant size?
- any question that implies fertilizer as the independent variable and tomato size/plant size as the dependent variable

Note: The question must be testable.

(b) any one of the following:

- Chemical fertilizer will produce bigger tomatoes than organic fertilizer.
 - Organic fertilizer will produce bigger tomatoes than chemical fertilizer.
 - Tomato size/plant size is not related to fertilizer type.
-

Score Points:

2 points	two key elements
1 point	one key element
0 points	other

Session:	2
Item No.:	9
Page No.:	6
Standard:	II.B.1 (Std 7)
Goals:	1.3

Key Elements:

(Independent variable) fertilizer type

(Dependent variable) tomato size/plant size

Score Points:

2 points two key elements

1 point one key element

0 points other

**Missouri Assessment Program
Spring 2004**

Science

Scoring Guide for Released Items

Grade 7

Session: 1
Item: 5
Page: 5
Standard: III.B.3 (Std 1)
Goals: 1.10

Key Elements:

B

If one bulb goes out, the others will still work.

OR

No matter how many lights there are, they will all have the same brightness.

Score Points:

2 points two key elements

1 point one key element

0 points Other

Session: 1
Item: 7
Page: 7
Standard: II.C.1 (Std 8)
Goals: 2.1, 4.4

Key Elements:

(a) _____

No

AND*one of the following:*

- No one should do experiments without consent forms from individuals involved.
- Harm in the form of embarrassment or ridicule could happen to individuals involved.
- It is an invasion of privacy.

Note: No, may be implied.

(b) _____

Individuals should be asked after the taping and consent should be obtained.

OR

Before taping, individuals should be asked for their consent to be videotaped at unguarded and possibly embarrassing moments.

Note: It is possible to have both (a) and (b) answered correctly in (a) if the answer addresses the need for permission. For example: "No, because you have to ask the people."

Score Points:

2 points two key elements

1 point one key element

0 points Other

Session: 1
Item: 8
Page: 8
Standard: VII.B.2 (Std 3)
Goals: 1.10

Key Elements:

(a)

one of the following:

- Chloroplasts perform photosynthesis.
- Chloroplasts produce sugars/food.
- Chloroplasts give off oxygen.

(b)

two of the following:

- They require sunlight.
 - They require carbon dioxide (CO₂).
 - They require water (H₂O).
 - They require minerals.
-

Score Points:

2 points one key element from (a) **AND** two key elements from (b)

1 point either 1 key element from (a) or 2 key elements from (b) **OR** 1 key element from (a) and 1 key element from (b)

0 points Other

Session: 1
Item: 13
Page: 11
Standard: VI.B.5 (Std 5)
Goals: 1.10

Key Elements:

Sunlight strikes Earth and its atmosphere more directly at or near the equator than at areas of higher latitude, which heats land/ocean/atmosphere more at or close to the equator than elsewhere.

OR

any other response that indicates the student's correct understanding of how sunlight affects patterns of decreasing temperature as one goes from the equator toward areas at higher latitude

Score Points:

1 point one key element

0 points Other

**Missouri Assessment Program
Spring 2005**

Science

Scoring Guide for Released Items

Grade 7

Session: 1
Item: 5
Page: 5
Standard: III.B.3 (Std 1)
Goals: 1.10

Key Elements:

B

If one bulb goes out, the others will still work.

OR

No matter how many lights there are, they will all have the same brightness.

Score Points:

2 points two key elements

1 point one key element

0 points Other

Session: 1
Item: 7
Page: 7
Standard: II.C.1 (Std 8)
Goals: 2.1, 4.4

Key Elements:

(a) _____

No

AND*one of the following:*

- No one should do experiments without consent forms from individuals involved.
- Harm in the form of embarrassment or ridicule could happen to individuals involved.
- It is an invasion of privacy.

Note: No, may be implied.

(b) _____

Individuals should be asked after the taping and consent should be obtained.

OR

Before taping, individuals should be asked for their consent to be videotaped at unguarded and possibly embarrassing moments.

Note: It is possible to have both (a) and (b) answered correctly in (a) if the answer addresses the need for permission. For example: "No, because you have to ask the people."

Score Points:

2 points two key elements

1 point one key element

0 points Other

Session: 1
Item: 8
Page: 8
Standard: VII.B.2 (Std 3)
Goals: 1.10

Key Elements:

(a)

one of the following:

- Chloroplasts perform photosynthesis.
- Chloroplasts produce sugars/food.
- Chloroplasts give off oxygen.

(b)

two of the following:

- They require sunlight.
 - They require carbon dioxide (CO₂).
 - They require water (H₂O).
 - They require minerals.
-

Score Points:

2 points one key element from (a) **AND** two key elements from (b)

1 point either 1 key element from (a) or 2 key elements from (b) **OR** 1 key element from (a) and 1 key element from (b)

0 points Other

Session: 1
Item: 13
Page: 11
Standard: VI.B.5 (Std 5)
Goals: 1.10

Key Elements:

Sunlight strikes Earth and its atmosphere more directly at or near the equator than at areas of higher latitude, which heats land/ocean/atmosphere more at or close to the equator than elsewhere.

OR

any other response that indicates the student's correct understanding of how sunlight affects patterns of decreasing temperature as one goes from the equator toward areas at higher latitude

Score Points:

1 point one key element

0 points Other