



**NEW ENGLAND
COMMON ASSESSMENT PROGRAM**

**Released Items
Support Materials
2012**

**Grade 8
Science**

**NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE**

Grade 8 Science Released Item Information

Item Number	Big Idea ¹	Assessment Target	Depth of Knowledge Code	Item Type ²	Answer Key	Total Possible Points
1	INQ	PS 1-1	2	MC	D	1
2	INQ	PS 1-3	2	MC	D	1
3	SAE	PS 1-4	2	MC	D	1
4	SAE	PS 2-7	2	CR		4
5	POC	ESS 1-3	2	MC	D	1
6	POC	ESS 1-4	2	MC	A	1
7	NOS	ESS 2-7	2	MC	A	1
8	FAF	LS 3-8	2	MC	B	1
9	POC	LS 3-9	2	MC	A	1
10	POC	LS 4-12	2	MC	B	1

Grade 8 Science Released Inquiry Task Information

Item Number	Big Idea ¹	Inquiry Construct	Depth of Knowledge Code	Item Type ²	Total Possible Points
1	INQ	2	3	SA	2
2	INQ	3	2	SA	2
3	INQ	10	2	SA	2
4	INQ	8	2	CR	3
5	INQ	10	2	SA	2
6	INQ	11	2	SA	2
7	INQ	4	2	SA	2
8	INQ	12	3	CR	3

¹Big Idea: NOS = Nature of Science, SAE = Systems and Energy, MAS = Models and Scale, POC = Patterns of Change, FAF = Form and Function, INQ = Scientific Inquiry

²Item Type: MC = Multiple Choice, CR = Constructed Response, SA = Short Answer

**NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE**

PS1 (5–8) INQ-1 Students will investigate the relationships among mass, volume, and density.

- 1 A student predicts that gold (Au) has a higher density than lead (Pb). She places a sample of each element on a balance scale.

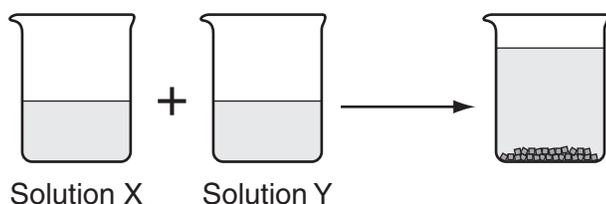
Which variable does the student need to control to test her hypothesis?

- A. the length of the samples
- B. the shape of the samples
- C. the temperature of the samples
- D. the volume of the samples

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GRADE 8 SCIENCE

PS1 (5–8) INQ-3 Students will collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).

- 2 Solution X and Solution Y are combined in a third beaker. A solid is formed, as shown below.



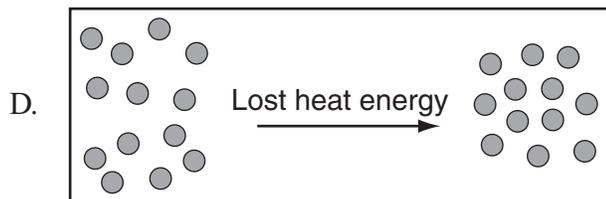
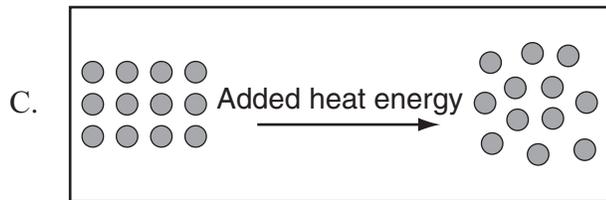
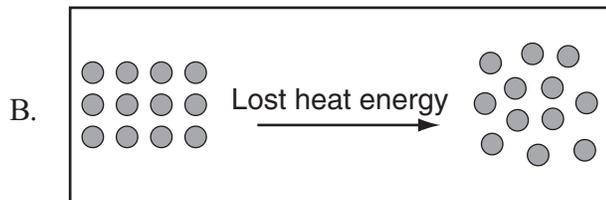
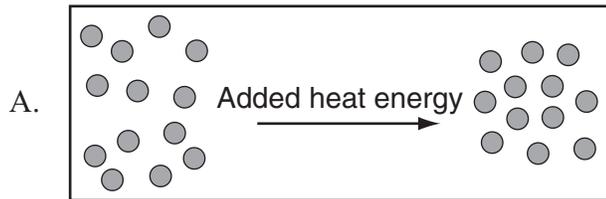
Which information can be used to find out if the total mass of the substances is the same before and after the reaction?

- A. the total mass of the substances after mixing
- B. the total mass of the substances before mixing
- C. the total mass of the substances and beakers after mixing
- D. the total mass of the substances and beakers before and after mixing

NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE

PS1 (5–8) SAE-4 Students will represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.

- 3 Which diagram models water changing from a gas state (water vapor) to a liquid state?



**NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE**

PS2 (5–8) SAE-7 Students will use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).
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- 4 A cast-iron frying pan is heated to 205°C in a kitchen oven. The hot pan is then removed from the oven and placed on a metal table at room temperature (20°C). After 10 minutes, the pan has cooled to 65°C.
- a. Name **two** different heat transfer methods.

 - b. Explain how **each** of the heat transfer methods you named in part (a) worked to decrease the temperature of the cast-iron frying pan.

Scoring Guide

Score	Description
4	The response demonstrates a thorough understanding of how data can be used to draw conclusions about how heat can be transferred. The response includes the names of two specific heat transfer methods (conduction, convection, radiation) and accurate descriptions of how each method acts to decrease the temperature of the cast-iron frying pan.
3	The response demonstrates a general understanding of how data can be used to draw conclusions about how heat can be transferred. The overall response is general.
2	The response demonstrates a limited understanding of how data can be used to draw conclusions about how heat can be transferred. The overall response is limited.
1	The response demonstrates a minimal understanding of how data can be used to draw conclusions about how heat can be transferred. The overall response is minimal.
0	The response is incorrect or contains work that is irrelevant to the skill or concept being measured.
Blank	No response

Training Notes:

a./b. A thorough understanding can be exemplified by two of the following sample responses:

Heat moved from the warm pan to the cool table by direct contact; a chain reaction of colliding atoms transfers internal vibrations; this process is called **conduction**.

Heat was carried up and away from the pan by rising currents of heated air; air at the surface of the pan absorbs heat and rises up due to a decrease in density relative to the surrounding cool air; the mechanism of expansion acts to cool this air as it rises; this process is called **convection**; one important aspect of this process involves the formation of rising and sinking convection currents.

The pan radiated (emitted) thermal energy as waves of infrared light; this process is called **radiational cooling or just radiation**. **The mention of waves is necessary for full credit.**

SCORE POINT 4

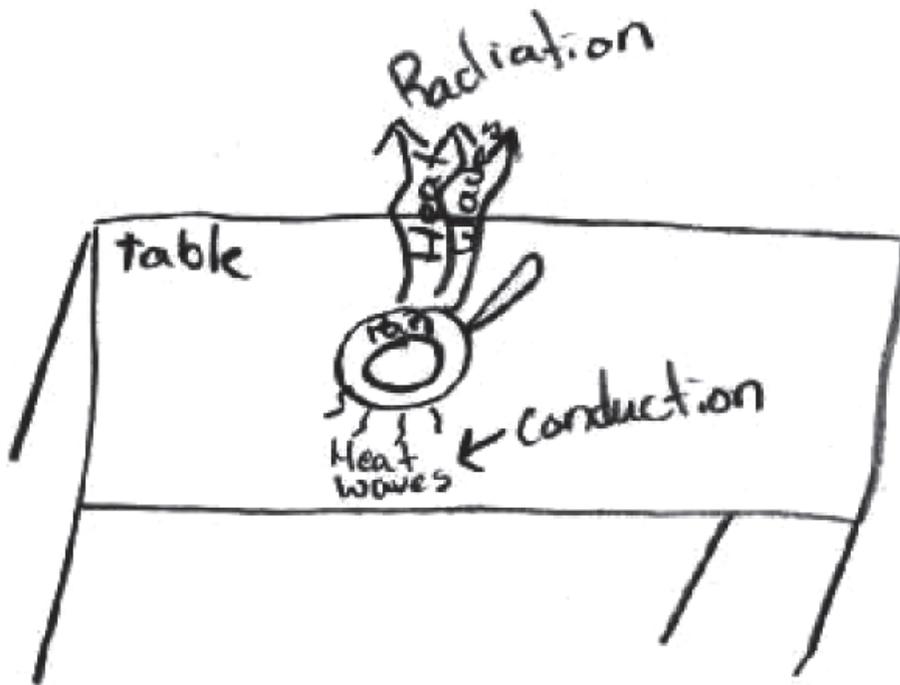
4 a. Conduction and Radiation

b. Conduction

- Heat leaves through the table from the bottom of the Pan.

Radiation

- Heat leaves through the air.
- Almost evening out the different temperatures.



The response names and adequately describes two correct heat transfer methods. Radiation receives full credit because heat waves are drawn and labeled in picture.

- 4 A.) Two different heat transfers are Conduction and Radiation
- B.) Conduction helps to decrease the temperature because the pan being on a metal table the heat conducts from the pan to stove and the pan loses heat, radiation helps because the pan is losing all kinds of heat by being in a colder spot and it radiates its heat making it colder.

The response names two correct heat transfer methods; however, the explanation of radiation does not include heat waves.

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GRADE 8 SCIENCE

SCORE POINT 2

- 4
- a. Two types of heat transfer methods are conduction and
- b. Conduction is heat transfer by direct contact causing the hot pan to transfer it's heat to the cool counter.

The response only names and adequately describes one heat transfer method.

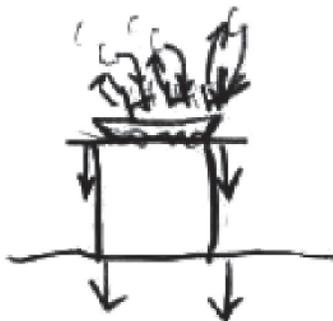
NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE

SCORE POINT 1

4 a. Heat transfer is the ~~heat~~ heat from the pan to the table and from the ~~pan~~ air to the pan.

b. The heat was conducted to the table to the ground.

• The cold air and hot air switched places to cool the pan.



The response does not name any heat transfer methods; however, there is a minimal description of heat conduction in part (b).

NECAP 2012 RELEASED ITEMS
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SCORE POINT 0

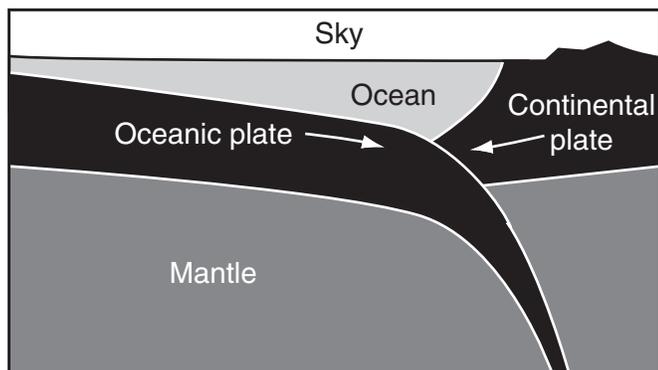
- 4
- (A) A bowl of soup in a microwave heated for 4 minutes.
Toast in the toaster heated for 2 minutes.
- (B) A bowl of soup and toast decreases the temperature of the cast-iron frying pan because they make the room temperature change when you cook them.

The response contains no work that is relevant to the question being asked.

NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE

ESS1 (5–8) POC-3 Students will explain how Earth events (abruptly and over time) can bring about changes in Earth’s surface: landforms, ocean floor, rock features, or climate.

- 5 The diagram below shows two of Earth’s plates interacting with each other.



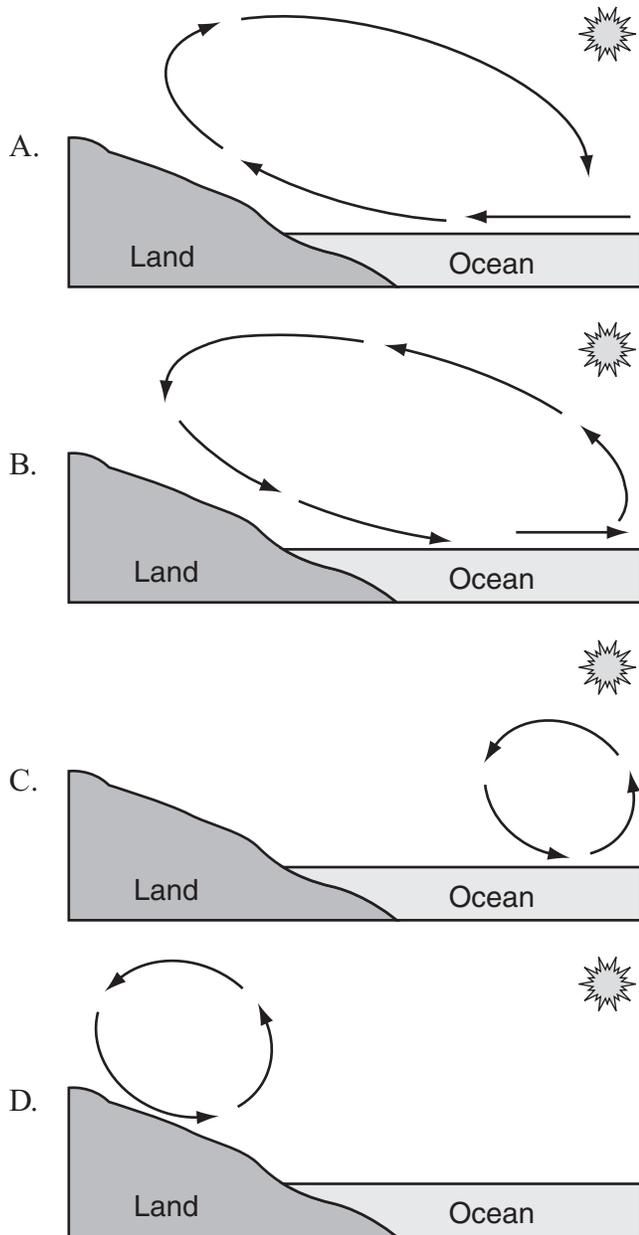
Which prediction does the information in the diagram **best** support?

- A. Both plates will slide into the ocean as they collide.
- B. A mid-ocean ridge will form as the plates move apart.
- C. The ocean will become larger as the plates move apart.
- D. A volcanic mountain range will form as one plate moves under the other.

NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE

ESS1 (5–8) POC-4 Students will explain the role of differential heating or convection in ocean currents, winds, weather and weather patterns, atmosphere, or climate.

- 6 In the summer, the land is warmer than the ocean surface during the day. Which diagram shows how the flow of air creates wind near the ocean during the day?



**NECAP 2012 RELEASED ITEMS
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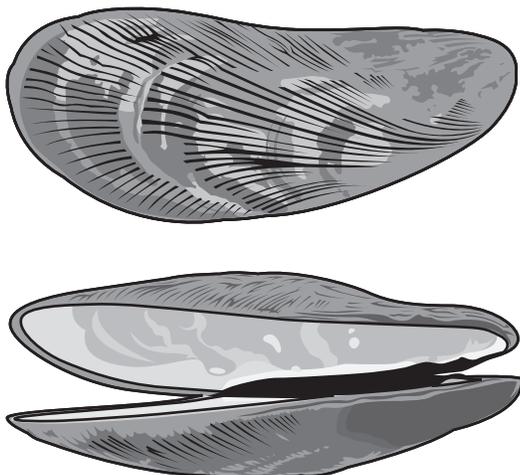
ESS2 (5–8) NOS-7 Students will explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system.

- 7 Which example demonstrates technology being used to improve understanding of the solar system?
- A. Galileo built a telescope and observed moons orbiting Jupiter.
 - B. Newton wrote a book that described how gravity held planets in their orbits.
 - C. Ptolemy created a model that showed planets and the Sun revolving around Earth.
 - D. Halley calculated a comet's orbit and predicted when the comet would be seen again.

NECAP 2012 RELEASED ITEMS
GRADE 8 SCIENCE

LS3 (5–8) FAF-8 Students will use a model, classification system, or dichotomous key to illustrate, compare, or interpret possible relationships among other groups of organisms (e.g., internal and external structures, anatomical features).

- 8 Students found the shell shown below in Cape Cod, Massachusetts.



The students used the key below to find out what kind of organism lived in the shell.

1. Does the organism have two halves of a shell attached by a hinge?
 - a. If yes, it is a bivalve and go to 2.
 - b. If no, it is a univalve and go to 4.
2. Is the shell thick with two unequal parts?
 - a. If yes, it is a common oyster.
 - b. If no, go to 3.
3. Is the shell smooth or ribbed?
 - a. If smooth, it is a blue mussel.
 - b. If ribbed, it is a ribbed mussel.
4. Is the shell dome-shaped with a thin plate covering half the opening?
 - a. If yes, it is a slipper snail.
 - b. If no, it is a limpet.

Based on the key, which organism lived in the shell the students found?

- A. common oyster
- B. ribbed mussel
- C. slipper snail
- D. limpet

**NECAP 2012 RELEASED ITEMS
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LS3 (5–8) POC-9 Students will cite examples supporting the concept that certain traits of organisms may provide a survival advantage in a specific environment and, therefore, an increased likelihood to produce offspring.

- 9 Euglenas and amoebas are two different kinds of single-celled organisms that live in freshwater ecosystems. Both organisms can obtain food directly from the water. But only euglenas can make their own food.

What will happen if food in the water becomes scarce?

- A. More euglenas than amoebas will be found in the water.
- B. More amoebas than euglenas will be found in the water.
- C. Both euglenas and amoebas will start to photosynthesize.
- D. Both euglenas and amoebas will die out.

**NECAP 2012 RELEASED ITEMS
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LS4 (5–8) POC-12 Students will describe the major changes that occur over time in human development from single cell through embryonic development to new born (i.e., trimesters: 1st-group of cells, 2nd – organs form, 3rd – organs mature).

- 10 The table below lists major changes in early human development.

Events in Early Human Development

Letter ID	Event
P	There are only 32 cells present.
Q	The heart is pumping and the nervous system begins to form.
R	Fertilization takes place.
S	The baby's eyes are open and fingernails and toenails are present.

Which sequence is the correct order of events in early human development?

- A. sequence P, R, Q, S
- B. sequence R, P, Q, S
- C. sequence R, Q, P, S
- D. sequence P, R, S, Q

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry:	Formulating Questions & Hypothesizing
Inquiry Construct 2:	Construct coherent argument in support of a question, hypothesis, prediction.

- 1 Write a possible explanation about why ocean temperatures along the East Coast of the United States are warmer than ocean temperatures along the West Coast in locations at approximately the same latitude. Include **one** piece of information from the article and/or what you know about ocean currents in your explanation.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of constructing a coherent argument in support of a question, hypothesis, or prediction. The response includes an explanation about why the ocean temperature along the East Coast of the United States is warmer than the temperature along the West Coast. The response includes one piece of information from the article or prior knowledge in the explanation.
1	The response demonstrates a limited understanding of constructing a coherent argument in support of a question, hypothesis, or prediction.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

The ocean temperature along the East Coast of the United States is warmer than along the West Coast (at approximately the same latitude) because an ocean current [the Gulf Stream] moves warm water [from the equator] to the coast. Or, students may describe a cold-water current bringing cold water toward the West Coast.

Note: Students may discuss any plausible scientific reason that supports their explanation.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 2

- 1 Ocean temperatures along the East Coast are warmer than along the West Coast because of the Gulf Stream. The Gulf Stream is very warm and runs from the Gulf of Mexico to Woods Hole. So, the warm Gulf Stream makes the Woods Hole a lot warmer than Crescent City.

The response correctly describes why the East Coast is warmer than the West Coast, including mentioning the Gulf Stream, and includes information from the article (although the article is not cited).

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 1

- 1 During August the temperatures of the east coast were being heated by the gulf stream. unlike the west coast.

The response correctly describes the Gulf Stream as the reason for warm temperatures on the East Coast; however, the description and amount of additional information brought in is limited.

SCORE POINT 0

- 1 woods hole is warmer than crescent city because woods hole is closer to the equator.

The response incorrectly states that Woods Hole is closer to the equator than Crescent City, when the question states that these cities are at the same latitude.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry:	Formulating Questions & Hypothesizing
Inquiry Construct 3:	Make and describe observations in order to ask questions, hypothesize, make predictions related to topic.

- 2 Based on Figure 1, predict how the air temperatures in Crescent City and Woods Hole compare. Explain your prediction.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of how to make predictions related to the topic. The response predicts how the air temperatures in the two cities compare, and explains the prediction.
1	The response demonstrates a limited understanding of how to make predictions related to the topic.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

The air temperatures in the two cities should be similar because the two cities receive approximately the same amount of solar radiation.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 2

2 The air temperature in Woods Hole and Crescent City would be around the same because the average solar radiation is the same.

The response accurately predicts, based on Figure 1, the similarities in air temperatures in the two cities, and clearly explains the reason behind the prediction.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 1

2 The air temperature in woodshole is about the same as in crescent city.

The response contains a correct prediction with no associated explanation.

SCORE POINT 0

2 crescent city is a lot colder than woods hole

The response is incorrect. Figure 1 does not indicate that Crescent City would be colder than Woods Hole.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry: Inquiry Construct 10:	Conducting Investigations Summarize results based on data.
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3 For each city, describe any air temperature patterns in the data listed in Data Table 1.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of how to summarize results based on data. The response describes any air temperature patterns in the data table, for each city.
1	The response demonstrates a limited understanding of how to summarize results based on data.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

Students may discuss the following types of information:

- Woods Hole:
 - The temperatures are lowest during the winter months and the highest during the summer months.
 - The temperatures increase from January through August and then decrease from September through December.
 - The temperature ranges from 30°F to 70°F throughout the year.
 - The temperature varies significantly throughout the year.
- Crescent City:
 - The temperatures are lowest during the winter months and the highest during the summer months.
 - The temperatures increase from January through August and then decrease from September through December.
 - The temperature ranges from 46°F to 58°F throughout the year.
 - The temperature does not vary significantly throughout the year.

Note: If the response compares the air temperature patterns in the two cities, credit may be given.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 2

③ In Woods Hole, from January to July, the temperature increases, but August to December the temperature decreases.

In Crescent City, the temperature stays from above 40° and less than 60° all year.

The response contains correct information about the air temperature patterns in both cities as indicated by Data Table 1.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 1

3 For Woods hole the temperatures change more dramatically through the months. For Crescent City it kind of stays almost the same temperature all year.

The response contains correct information from Data Table 1 with a limited discussion of how this represents air temperature pattern—for example, what does “change more dramatically” mean in terms of air temperature differences?

SCORE POINT 0

3 In Crescent city there is 47 and 47. There is 70 and 70 in Woodshole.

The response simply names consecutive data points in each city from Data Table 1; it does not discuss a pattern.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry:	Conducting Investigations
Inquiry Construct 8:	Use accepted methods for organizing, representing, and manipulating data.

- 4 Use the information in Data Table 1 and Data Table 2 to graph the average monthly ocean temperatures **and** monthly air temperatures for Crescent City. Include a title and all other required elements of a graph.

Scoring Guide

Score	Description
3	The response demonstrates a thorough understanding of how to use accepted methods for organizing, representing, and manipulating data. The response graphs the average monthly ocean and air temperatures for Crescent City and includes a title and all the other required elements of a graph.
2	The response demonstrates a general understanding of how to use accepted methods for organizing, representing, and manipulating data.
1	The response demonstrates a limited understanding of how to use accepted methods for organizing, representing, and manipulating data.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

Components of correctly drawn graph should include the following:

- Format may be a bar graph or a line graph.
- Acceptable labels for axes include “Temperature” (*y*-axis) with units, and “Month” (*x*-axis). Students must use a key or comparable labeling system to distinguish between air and ocean temperatures.
- Data range for *y*-axis should include average temperatures from Data Table 2 labeled at consistent intervals.
- Data range for *x*-axis should include months of the year. Each column should represent one month.

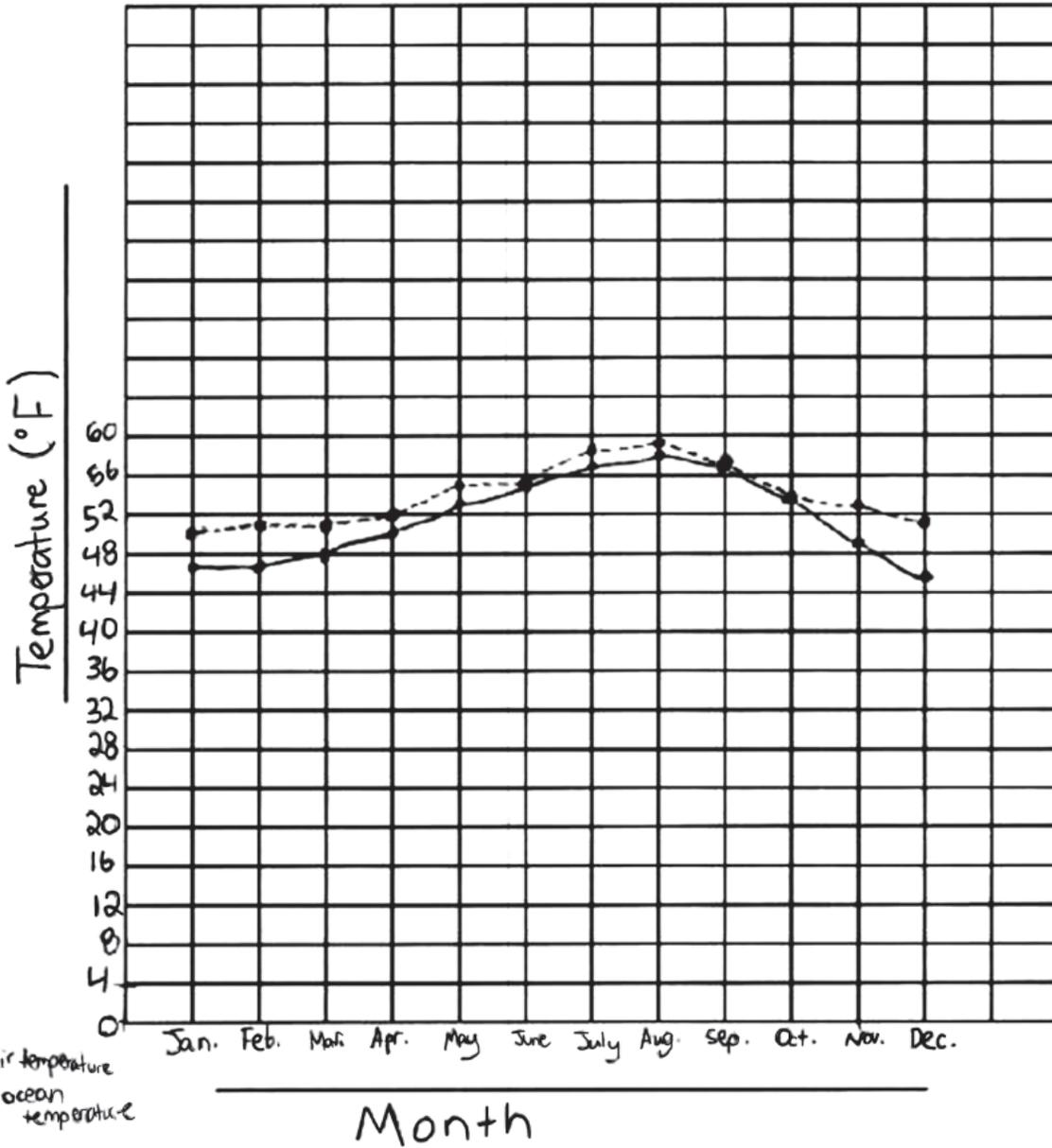
Possible title for graph: “Average Monthly Ocean and Air Temperatures for Crescent City, CA”

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 3

4

Average Monthly Ocean and Air Temperatures of Crescent City.



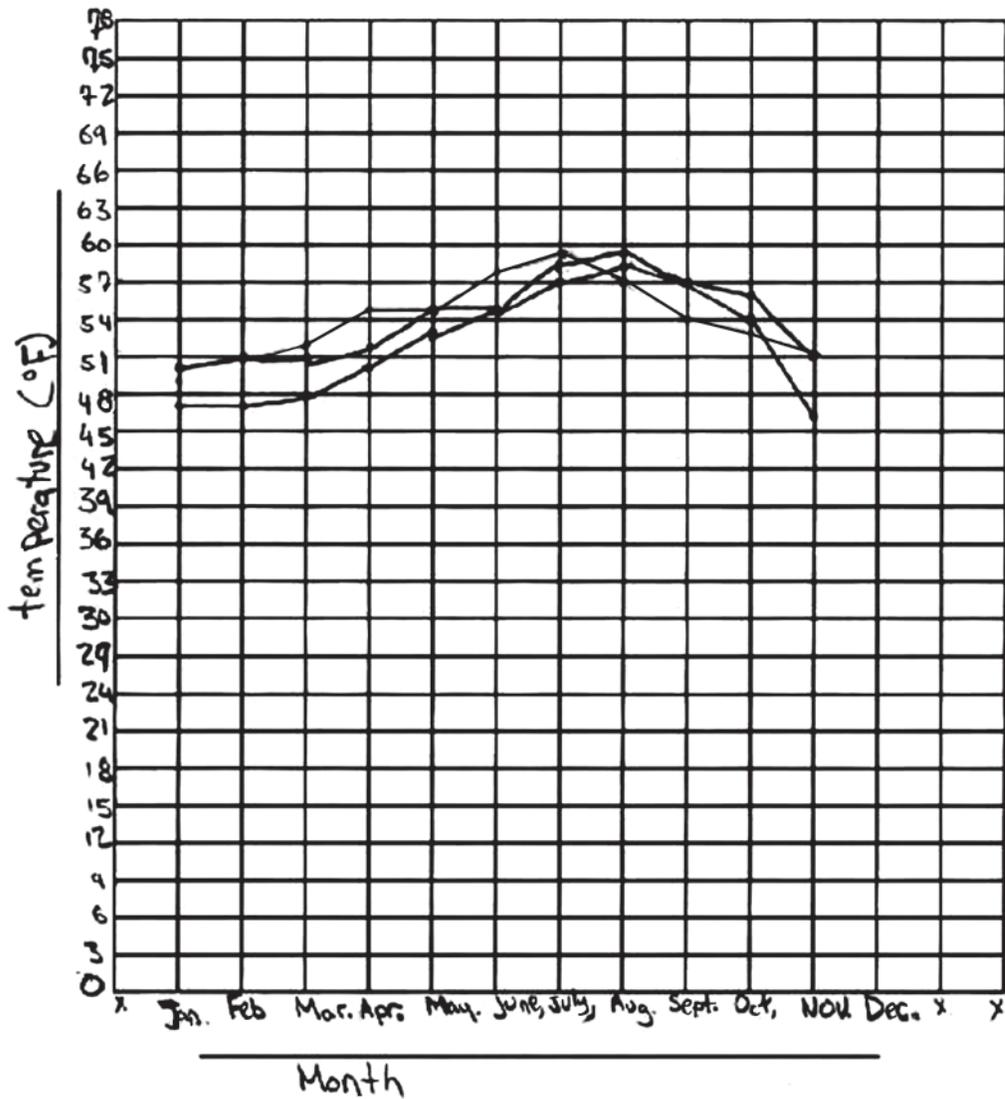
The response contains an appropriate title and axis labels (including units on the y-axis), the key clearly differentiates between air and ocean temperatures, and the data is graphed correctly.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 2

4

average monthly air and ocean temperature



The response contains appropriate axis labels (including units on the y-axis) and correctly graphed data. However, the title does not name a specific city (the question asks for Crescent City), and the graph does not provide a key to differentiate between the ocean and air temperature lines.

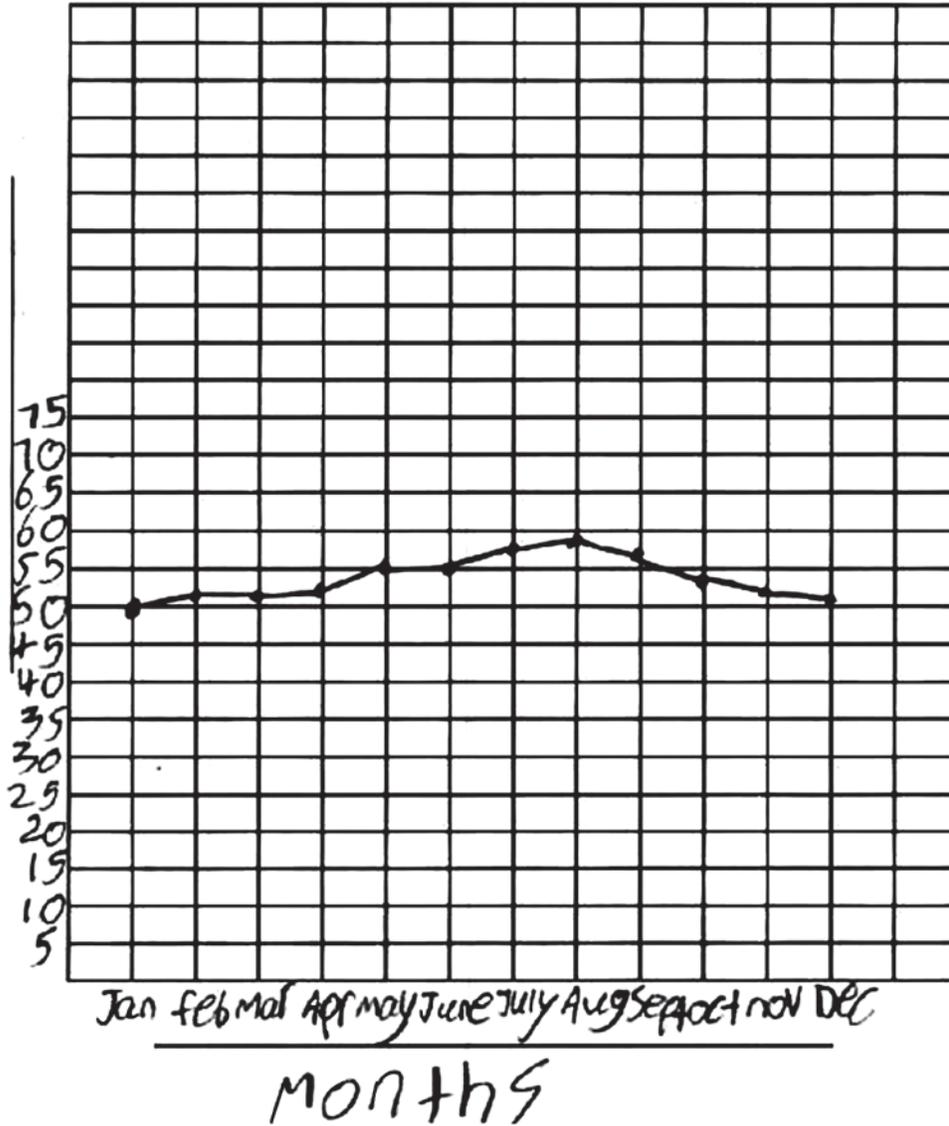
NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 1

4

Crescent City water temp. (°F)

Ocean
temperature

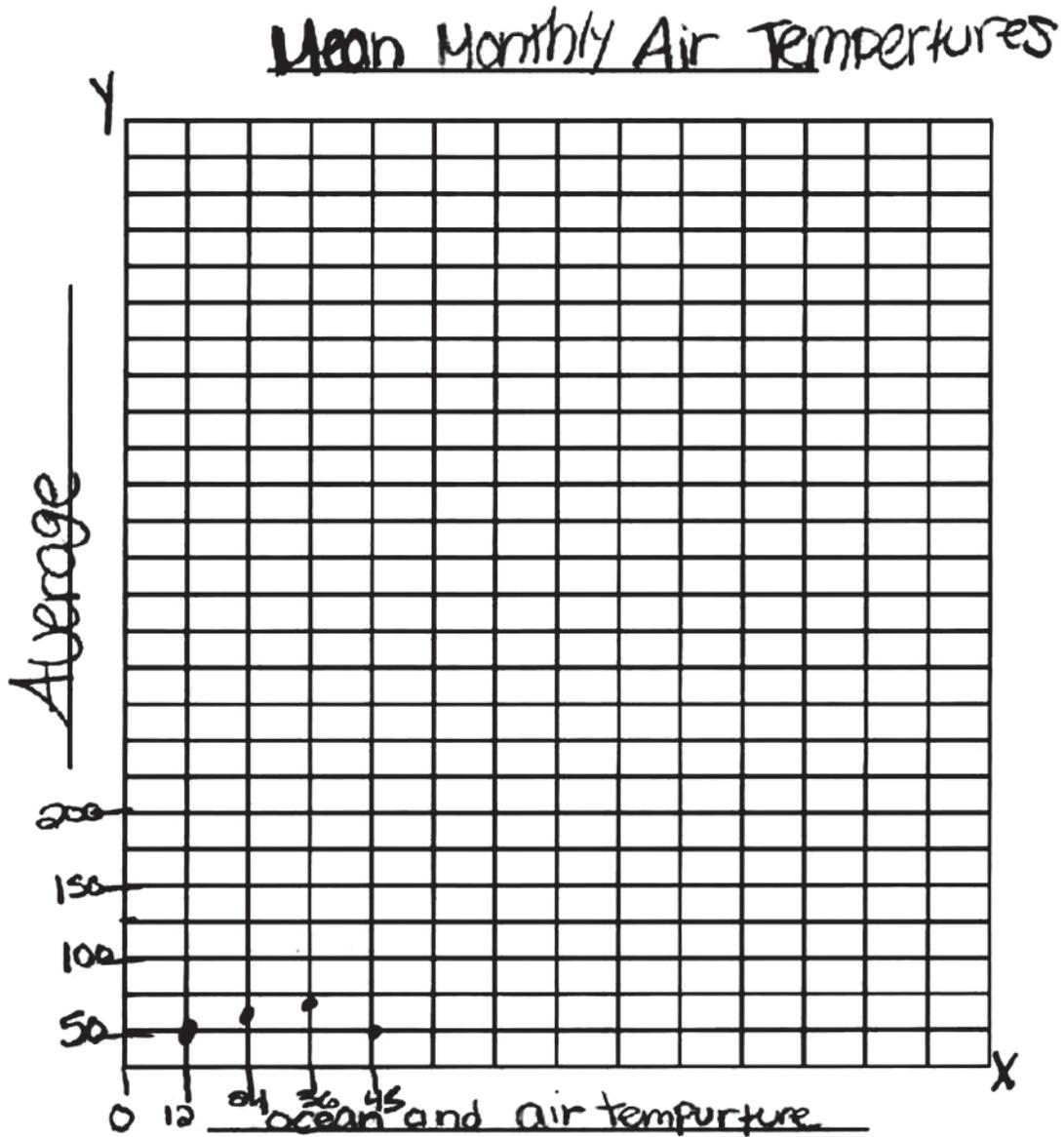


The response correctly graphed ocean temperature data; however, the overall response does not fully answer the question, because it is missing the air temperature data, a proper title, and a proper y-axis label with units.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 0

4



The response has no demonstration of how to graph the information contained in Data Tables 1 and 2.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry:	Conducting Investigations
Inquiry Construct 10:	Summarize results based on data.

5 Describe any patterns in the ocean temperature data shown in your graph.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of summarizing results based on data. The response describes any patterns shown in the ocean temperature data for Crescent City in the graph.
1	The response demonstrates a limited understanding of summarizing results based on data.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

Students may discuss the following types of information:

- The temperatures are lowest during the winter months and the highest during the summer months.
- The temperatures increase from January through August and then decrease from September through December.
- The temperature ranges from 50°F to 59°F throughout the year.
- The temperature does not vary significantly throughout the year.

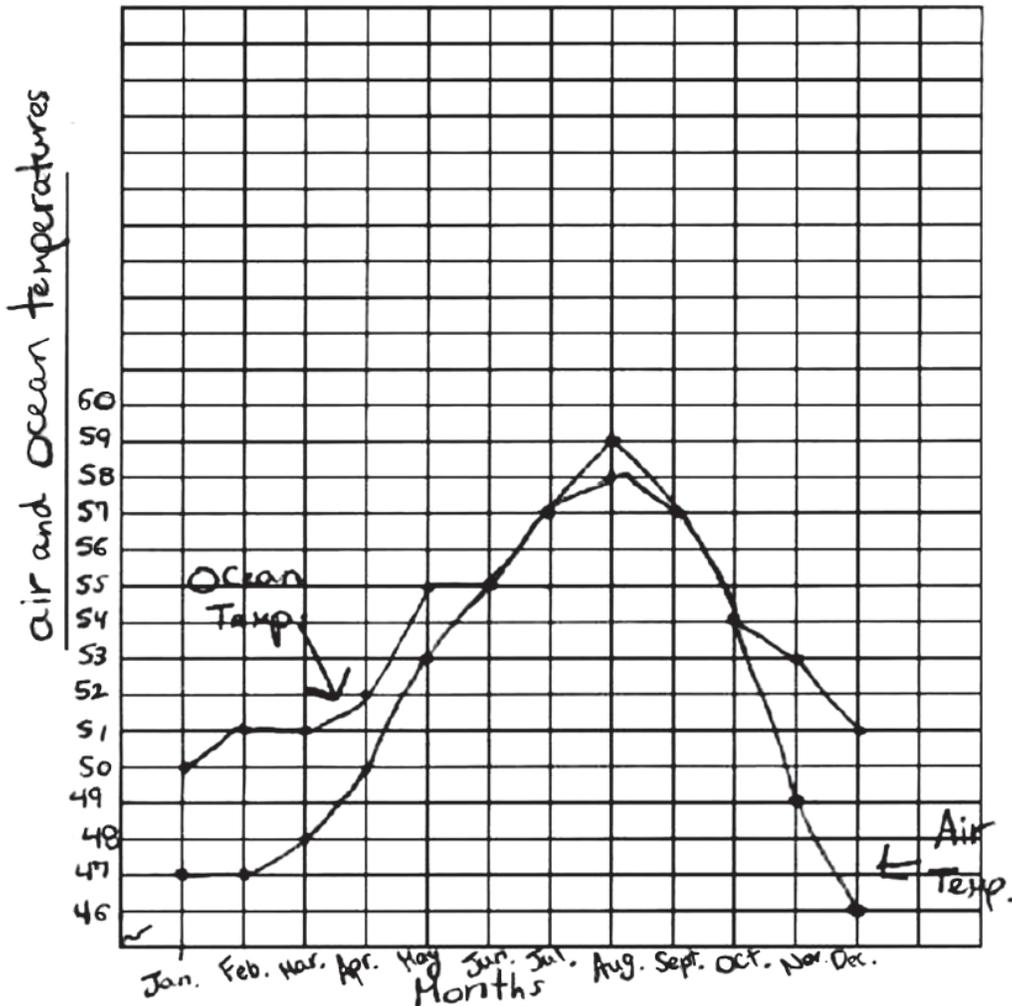
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GRADE 8 SCIENCE

SCORE POINT 2

5 The Ocean temperatures began in January and increased until August. And then the temperatures began to decrease after August. But the ocean temperatures only ranged in the fiftys. So, there was not much differences in the temperatures.

4

Crescent City's
average monthly air and ocean temperatures



The response adequately describes an ocean temperature pattern for Crescent City, as seen in the graph.

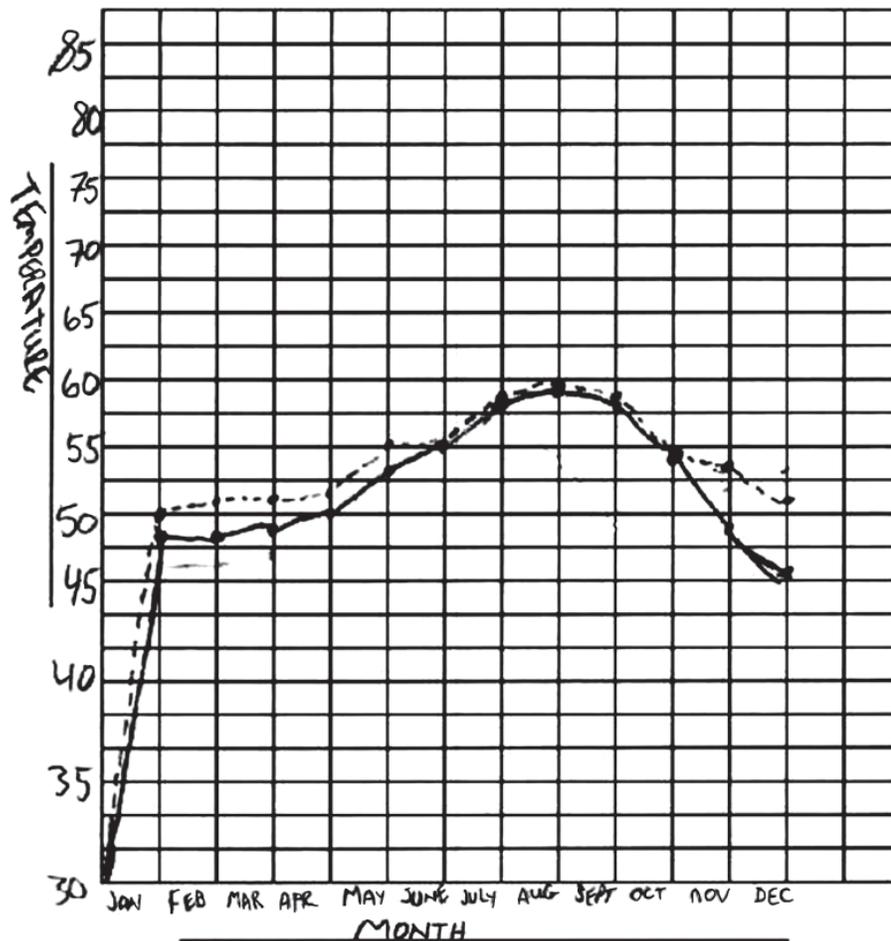
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GRADE 8 SCIENCE

SCORE POINT 1

5 IT SEEMS TO PEAK IN AUGUST AND THEN GO DOWN AGAIN.

4 CRESCENT CITY MONTHLY TEMPERATURE

KEY
--- OCEAN
— AIR



The response contains a vague description of an ocean temperature pattern. Overall, the response demonstrates a limited understanding of how to summarize results based on data.

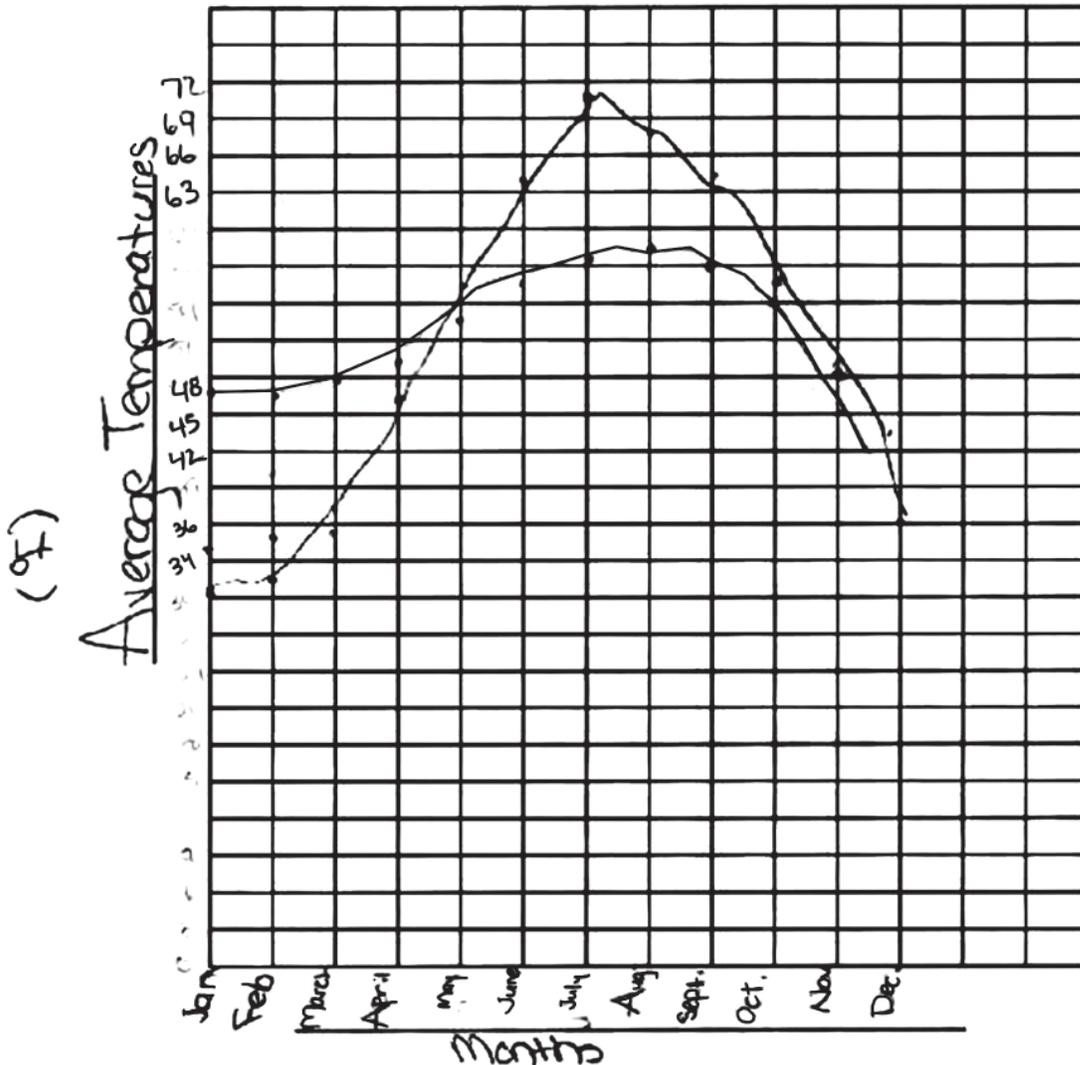
NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 0

5 Sometimes the temperatures meet some don't, and some are increasing/decreasing more than others.

4

Monthly Air and Ocean Currents
for Woods Hole, MA and Crescent City
CA



The response contains irrelevant information to the question asked (the question did not request information about air temperature), and the description of the pattern is too vague for credit.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry: Inquiry Construct 11:	Developing and Evaluating Explanations Analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous.
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- 6 Refer to the air temperature information in Data Table 1 and the ocean temperature information in Data Table 2. Describe any relationships between the ocean temperatures and air temperatures in Woods Hole.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of how to analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous. The response describes at least one relationship between air temperatures and ocean temperatures in Woods Hole.
1	The response demonstrates a limited understanding of how to analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

Possible relationships include:

- The air temperatures experienced by Woods Hole are closely related to the ocean temperatures near the city.
- The ocean temperatures near Woods Hole are usually slightly warmer than the air temperatures experienced by the city.
- When the temperature of the ocean increases/decreases, there is a corresponding decrease/increase in the temperature of the air.

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GRADE 8 SCIENCE

SCORE POINT 2

6 In Woods Hole the air temperature and the water temperature tended to stay around the same temperature as each other. When the air temperature rose, so did the water's. When the water temperature dropped, so did the air's. They pretty much stayed around each other.

The response correctly describes a relationship between the water and air temperatures in Woods Hole, using the data tables.

NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE

SCORE POINT 1

6 They seem to move up and down at the same time.

The response contains a limited description of the relationship between the air and ocean temperatures in Woods Hole.

SCORE POINT 0

6 They are very different. Because of the seasons and temperature kind they use.

The response contains incorrect information; the ocean and air temperatures in Woods Hole are actually similar throughout the year.

**NECAP 2012 RELEASED INQUIRY TASK
GRADE 8 SCIENCE**

Broad Area of Inquiry: Inquiry Construct 4:	Planning and Critiquing of Investigations Identify information/evidence that needs to be collected in order to answer the question, hypothesis, prediction.
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- 7 Look at the ocean currents near Crescent City and Woods Hole on the map in Figure 2. Describe the type of ocean current near each location.

Scoring Guide

Score	Description
2	The response demonstrates a general understanding of how to identify information/evidence that needs to be collected in order to answer the question, hypothesis, or prediction. The response describes the type of ocean current near each location.
1	The response demonstrates a limited understanding of how to identify information/evidence that needs to be collected in order to answer the question, hypothesis, or prediction.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

The type of ocean current near Crescent City is a cold-water current. The type of current near Woods Hole is a warm-water current.

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SCORE POINT 2

7 In Crescent City the type of ocean current there is a cold-water current.

While in Woods Hole the type of ocean current there is a warm-water current.

Both cities seem to have opposite types of ocean currents.

The response contains the correct description of the type of ocean current near each location.

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SCORE POINT 1

7 The currents in Woods Hole are warm water currents. The currents in Crescent City are also warm water currents.

The response contains correct information about the type of ocean current near Woods Hole. The description of the currents near Crescent City is incorrect (it is a cold-water current).

SCORE POINT 0

7 In Woods Hole the current is cold water.
In Crescent City the current is warm water.

The response does not correctly describe the type of ocean current near either location.

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Broad Area of Inquiry: Inquiry Construct 12:	Developing and Evaluating Explanations Use evidence to support and justify interpretations and conclusions or explain how the evidence refutes the hypothesis.
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- 8 Read the explanation you wrote for question 1. Identify whether the student’s data support or reject your explanation. Use evidence from the student’s research in your answer.

Scoring Guide

Score	Description
3	The response demonstrates a thorough understanding of how to use evidence to support and justify interpretations and conclusions. The response identifies whether the data provided support or reject the student’s explanation and includes evidence from the student’s research.
2	The response demonstrates a general understanding of how to use evidence to support and justify interpretations and conclusions.
1	The response demonstrates a minimal understanding of how to use evidence to support and justify interpretations and conclusions.
0	The response does not contain any correct elements or is irrelevant.
Blank	No response

Training Notes:

The data provided support the student’s explanation because the map shows that there is a warm-water current [Gulf Stream] moving warm water toward the East Coast of the United States. Or, the map shows that there is a cold-water current [California current] moving cold water toward the West Coast of the United States.

Note: Student may discuss both currents as contributing to the temperature difference, but both are not needed for full credit.

SCORE POINT 3

8 The student's data does support my explanation. She had a map with ocean currents showing which currents are around those two cities. I said that the ocean temperature was warmer near Woods Hole than near Crescent City because of the currents. On the map there are all warm-water currents in Woods Hole and in Crescent City it's mostly cold-water currents. This supports my explanation.

1 Temperatures are warmer along the East Coast of the U.S. than along the West Coast. This is because of the current. The Gulf Stream is a very warm current that starts in the Gulf of Mexico and flows along the East Coast of the United States. The Gulf of Mexico is a warm place so the water that flows from there to the East Coast causes the water to be warmer than the West Coast even when places are at the same latitude.

The response correctly identifies that the data support the student's initial explanation, and contains a thorough description of the supporting evidence contained within the investigation.

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SCORE POINT 2

8 The student's data did support my answer. I know this because, I said the Gulf Stream caused the water to be warmer and we proved that with the map.

1 One explanation about why the ocean temperature along the East Coast is warmer than the West Coast because of the Gulf Stream. The Gulf Stream is a warm, powerful current. It comes from the Gulf of Mexico and comes up the East Coast around Florida.

The response correctly identifies that the data support the student's initial hypothesis, but the response only utilizes a small amount of information from the investigation to support the explanation.

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SCORE POINT 1

8 The students data rejects my explanation because it doesn't matter where the sun hits its the type of water current (warm, cold).

1 Woods Hole has approximately 72°F in August & Crescent City has about 55°F . They are both almost on the same latitude line but, they have different times and the sun hits that part of Earth later than Woods Hole.

The response correctly identifies that the data do not support the student's initial explanation. There is minimal use of evidence from the investigation (type of water current) with no further explanation.

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SCORE POINT 0

8 The students answers supported my answer because in the Map of winds it proved that the winds are colder than warmer.

1 The east coast might have colder winds that carry around the world into the Pacific Ocean and the warmer winds from the west coast travel to the east coast.

The response incorrectly states that the data from the investigation support the initial explanation; there is no information about wind given within the investigation.