River City Science Academy Mandarin
10911 Old St. Augustine Rd. Jacksonville, FL 32257

Summer Packet

2021- 2022 School Year

We are so excited to welcome you to 7th grade! You'll be learning so much and can build on all you've learned last year as well. See each core (Reading/ELA, Science, Social Studies, Math) class's assignment to keep your mind fresh and sharp during the summer!

RIVER CITY SCIENCE ACADEMY
MANDARIN

7th Summer Work – ELA/ Reading

You will be responsible for reading at least one FICTION NOVEL of your choice. It must be a book that is NEW TO YOU. Upon completion of reading, you will design a creative, tangible (not digital) project that will be turned in upon your return to school in August.

Photos of Past Projects for Inspiration:

Your project will need to include:

- Description of Characterization – Descriptions of main characters, including personality and physical traits, and any necessary comparisons/contrasts between characters, as well as images (hand-drawn or printed) of each character.
- Description of Setting – Describe the main setting(s) of the story, include (hand-made or printed) maps and drawings of setting.
- Description of the Plot – Include a story board or plot line diagram to highlight introduction, rising action, climax, and falling action/outcomes of the story.
- Student Recommendation – Rate the book from 1 star (worst) to 5 stars (best), and provide reasonable justification for your rating.
- Creativity and Ingenuity in Design – your project needs to show significant evidence of originality and inventiveness. The majority of the content and many of the ideas must be fresh, original, inventive, and based on logical conclusions and accurate reading comprehension.

* * * Each bullet point above will be worth 20% of the overall score for your ELA summer work. * * *
* * * Project is due before the end of the first week of school. Late Submissions will not be accepted. * * *

7th Grade Summer Work – Civics/US History

You will be responsible for reading at least one historical fiction novel or school appropriate historical film of your choice. It must be a a book/film that is NEW TO YOU (for the book it may also be used for your ELA summer work). Upon completion of reading/watching, you will write a minimum five-paragraph essay comparing and contrasting the actual historical event and people with the events and characters presented in the novel. Prior to writing your essay, you will need to answer the following questions about the event:

1. What is the name of the historical event addressed in your novel?

2. When did the event happen? What are the most important dates?

3. Who were the most important people involved in the event?

4. What were the factors that led to your event? Why did it happen?

5. Where did the event take place?

6. Why is this event so significant that an author would create a story around it?

* * * Essay will be scored using the attached Compare and Contrast Rubric. * * *

*** Essay must address compare and contrast, as well as demonstrate understanding of the historical event. ***

* * * Project is due before the end of the first week of school. Late Submissions will not be accepted. * * *

CATEGORY	4	3	2	1
Purpose & Supporting Details	The paper compares and contrasts items clearly. The paper points to specific examples to illustrate the comparison. The paper includes only the information relevant to the comparison.	The paper compares and contrasts items clearly, but the supporting information is general. The paper includes only the information relevant to the comparison.	The paper compares and contrasts items clearly, but the supporting information is incomplete. The paper may include information that is not relevant to the comparison.	The paper compares or contrasts, but does not include both. There is no supporting information or support is incomplete.
Organization & Structure	The paper breaks the information into whole-to-whole, similarities - to-differences, or point-by-point structure. It follows a consistent order when discussing the comparison.	The paper breaks the information into whole-to-whole, similarities - to-differences, or point-by-point structure but does not follow a consistent order when discussing the comparison.	The paper breaks the information into whole-to-whole, similarities - to-differences, or point-by-point structure, but some information is in the wrong section. Some details are not in a logical or expected order, and this distracts the reader.	Many details are not in a logical or expected order. There is little sense that the writing is organized.
Transitions	The paper moves smoothly from one idea to the next. The paper uses comparison and contrast transition words to show relationships between ideas. The paper uses a variety of sentence structures and transitions.	The paper moves from one idea to the next, but there is little variety. The paper uses comparison and contrast transition words to show relationships between ideas.	Some transitions work well; but connections between other ideas are fuzzy.	The transitions between ideas are unclear or nonexistent.
Grammar & Spelling (Conventions)	Writer makes no errors in grammar or spelling that distract the reader from the content.	Writer makes 1-2 errors in grammar or spelling that distract the reader from the content.	Writer makes 3-4 errors in grammar or spelling that distract the reader from the content.	Writer makes more than 4 errors in grammar or spelling that distract the reader from the content.

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Summer Packet

Science 7

Explore the Nature of Science

The assignment will be collected during the first two weeks of school and graded by your science teacher.

summer

Question 1 .

A hiker is walking through an apple orchard growing two varieties of apple trees – Festival and Cool Crisp. This person notices that the leaves of all the trees are curled. This person wonders, “Are all apple leaves curled?”

In order to answer the hiker’s question, which of the following would be the most useful hypothesis?

- **A.** If a leaf is from a fruit tree, then it will be curled.
- **B.** All apple leaves are curled.
- **C.** Some apple leaves are curled and others are not.
- **D.** Apple leaves may be curled.

Question 2 .

It takes Tabitha about 22 minutes to walk from her house to school. If her friend Sara's house is located halfway between Tabitha's house and the school, approximately how long should it take Tabitha to walk to Sara's house?

- **A.** 11 minutes
- **B.** 4 minutes
- **C.** 22 minutes
- **D.** 16.5 minutes

Question 3 .

Everyone in Mrs. Blaylock's science class must perform an experiment for the science fair this year. To begin this process, Mrs. Blaylock asks her students to brainstorm four different questions that they could study.

One of Mrs. Blaylock's students writes down the following questions.

1. How does the mass of a toy car affect its speed down a ramp?
2. How does the position of the Sun, moons, planets and stars affect a person's personality traits and daily behavior patterns?
3. Which type of pan - copper, aluminum, or glass - heats up the quickest?
4. Which type of chemicals can remove the cell wall of a plant cell?

Which of the above questions cannot be answered through a scientific investigation?

- **A.** question 2
- **B.** question 1
- **C.** question 4
- **D.** question 3

Question 4 .

Directions: Select the correct graph.

Mrs. Vega's science class incubated chicken eggs to see if any of the eggs would hatch. One of the eggs did hatch, and the class kept the chick. They measured the chick's weight each week using a spring scale. The measurements from the chick's weekly weigh-ins are shown in the table below.

Week	Weight (Newtons)
1	0.1
2	0.5
3	1.0
4	1.7

Which of the following graphs correctly shows the data from the table?

Question 5 .

A hypothesis is best described as

- **A.** a detailed list.
- **B.** an educated guess.
- **C.** a conclusion based upon evidence.
- **D.** a summary.

Question 6 .

Dr. Grant is conducting an experiment to see if female cockatoos of a certain species prefer males with red feathers on their heads. In her experiment, she paints the feathers on several male cockatoos' heads four different shades of red. She then releases the painted cockatoos and monitors how many females each male attracts.

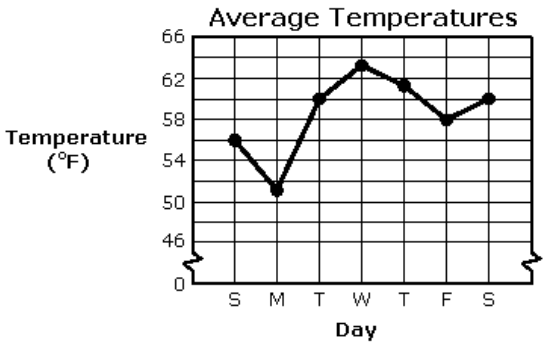
Painted Cockatoos

Normal Cockatoo

What is wrong with Dr. Grant's experiment?

- **A.** She did not test multiple males.
- **B.** She did not release any normal cockatoos and monitor them.
- **C.** Red feathers do not exist anywhere in nature.
- **D.** She did not monitor the painted cockatoos after they were released.

Question 7 .



Which table below matches the graph above?

- **A.**

S	M	T	W	T	F	S
56	51	60	63	61	58	60

- **B.**

S	M	T	W	T	F	S
55	51	61	64	60	58	60

- **C.**

S	M	T	W	T	F	S
56	51	60	63	59	58	60

- **D.**

S	M	T	W	T	F	S
56	52	60	63	60	59	60

Question 8 .

An explanation for certain behaviors or occurrences which have happened or will happen that is based on many tests and examples is a

- **A.** scientific theory.
- **B.** science experiment.
- **C.** research question.
- **D.** variable.

Question 9 .

Mr. Stein builds a model of a molecule out of wooden beads and pegs. He uses the model to explain the shape of the molecule.

Mr. Stein uses a model because

- **A.** the model makes it more difficult to understand the molecule's shape.
- **B.** the bonds between the atoms in the real molecule are too strong.
- **C.** the real molecule is too small to easily observe.
- **D.** the real molecule doesn't actually have a shape.

Question 10 .

An animal cell contains a nucleus and other organelles suspended in a watery solution that is encased in a flexible cell membrane. Which of the following physical models would best represent an animal cell?

- **A.** A metal box filled with foam balls that are painted different colors.
- **B.** A glass jar filled with water, a large marble, and many different types of coins.
- **C.** A basket filled with a soccer ball and surrounded by ping pong balls.
- **D.** A plastic zipper bag filled with water, one large plastic bead, and many smaller beads.

Question 11 .

Dr. Joseph is testing whether bloodhounds are able to smell people wearing specially designed, airtight bodysuits. In his experiment, a man wearing such a bodysuit hides in a forest, and a bloodhound tries to trail his scent. Dr. Joseph walks along with the bloodhound and monitors its progress.

For the results of the experiment to be useful, which of the following should Dr. Joseph do?

- **A.** He should give the man in the bodysuit a compass, so that he can find his way out of the forest.
- **B.** He should give the bloodhound food and water every 30 minutes.
- **C.** He should make certain that the man in the bodysuit gets lost in the forest.
- **D.** He should make certain that he does not know the location of the man in the bodysuit.

Question 12 .

The table below lists the high temperatures taken in Grassy Plains for the past week.

Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
32°C	30°C	34°C	35°C	34°C	31°C

The weatherman forecasts that today — Friday — will be hotter than Thursday, but not as hot as Monday. He estimates that the high temperature for today will be 33°C.

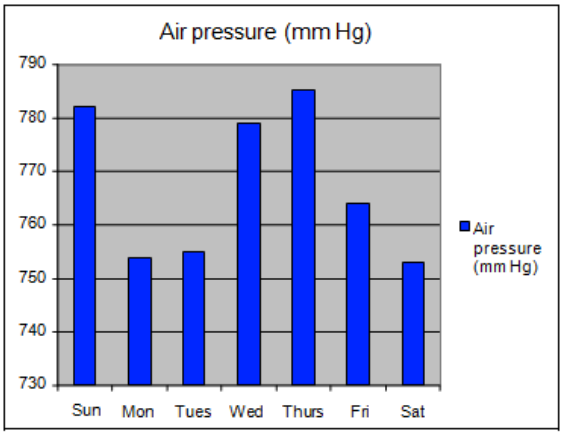
Is his estimate reasonable?

- **A.** Yes; his estimate is reasonable because it is greater than Monday's temperature but less than Thursday's temperature.
- **B.** Yes; his estimate is reasonable because 33°C is between Monday and Thursday's temperature.
- **C.** No; his estimate is not reasonable because the estimate must equal the most frequently occurring temperature — 34°C.
- **D.** No; his estimate is not reasonable because it is impossible to estimate weather and temperature patterns.

Question 13 .

Directions: Select the correct data table.

Amir measured the air pressure every day for a week. The results are in the graph below.



Which of the following tables matches the data above?

Question 14 .

A marine biology team is studying a marine ecosystem near a shallow coral reef. For their study, they install ten stations, each supplied with a thermometer and a video camera. The thermometers measure the water temperature, and the video cameras monitor the activity of the fish in each location.

The team takes turns watching the video and determines the average activity of the different fish species at different water temperatures over many months.

After the study, the team reports the average activity and not the actual number of active fish because

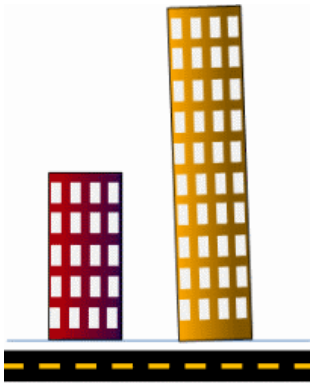
- **A.** the average of a system is more complicated to measure.
- **B.** they were too lazy to count all the fish.
- **C.** average measurements simplify a complex system.
- **D.** they ran out of time to watch all the video.

Question 15 .

A scientist wants to determine which fertilizer is more effective—Fertilizer X or Fertilizer Y. The best way for her to proceed would be to design an experiment with

- **A.** three groups of plants—a group fertilized by X, a group fertilized by Y, and a control group with no fertilizer.
- **B.** two groups of plants—a group fertilized by Y and a control group with no fertilizer.
- **C.** three groups of plants—a group fertilized by X, a group fertilized by both X and Y, and a control group with no fertilizer.
- **D.** two groups of plants—a group fertilized by X and a control group with no fertilizer.

Question 16 .



A contractor made a small error in laying the foundation of a building. Instead of being level, the foundation was at an angle of two degrees. After the building was built, the entire structure leaned dangerously to the left and had to be torn down.

What does this building demonstrate about systems in general?

- **A.** Systems built by people cannot change.
- **B.** Small changes in a system can produce very large differences.
- **C.** Small changes in a system have only small effects.
- **D.** The affect of a change in a system is always predictable.

Question 17 .

Alice wants to find out whether her pet gecko finds its prey based on vision. She thinks that her gecko will more easily see the colored crickets. She follows these steps:

1. get 10 similar crickets from the pet store
2. tag 5 of the crickets by putting a tiny dab of bright coloring on their backs
3. release all 10 crickets into the terrarium with the gecko at the same time
4. after several hours, record the number of tagged and non-tagged crickets still alive in the terrarium

After several hours, Alice notes that only 4 non-tagged crickets were still alive in the terrarium. No tagged crickets were observed. She concludes that her gecko uses mostly its vision to capture and eat its prey.

What is another possible explanation for these results?

- **A.** The gecko prefers other species of crickets to the one Alice used.
- **B.** The cricket was attracted to the scent of the coloring.
- **C.** The gecko only eats crickets that have a certain bright color.
- **D.** The crickets should have been introduced at different times.

Question 18 .

Mindy sees a famous physicist, Dr. Walker, on television. Dr. Walker says that there is no evidence to support the idea that humans are related to other mammals.

Which of the following statements is true?

- **A.** Mindy should accept Dr. Walker's statement because it was broadcast on television.
- **B.** Mindy should accept Dr. Walker's statement because he is a respected scientist.
- **C.** Mindy should question Dr. Walker's statement because biology is not his area of expertise.
- **D.** Mindy should reject Dr. Walker's statement because another physicist on television disagrees with him.

Question 19 .

The universe consists of many different galaxies, which, in turn, consist of many different solar systems. Each solar system has a central star around which planets orbit.

Earth, for example, is a planet that orbits the Sun in the Solar System. The Solar System is one of many that can be found in the Milky Way galaxy.

This example demonstrates that

- **A.** some systems contain other smaller systems.
- **B.** some systems are connected to other systems.
- **C.** some systems are a part of larger systems.
- **D.** all of these

Question 20 .

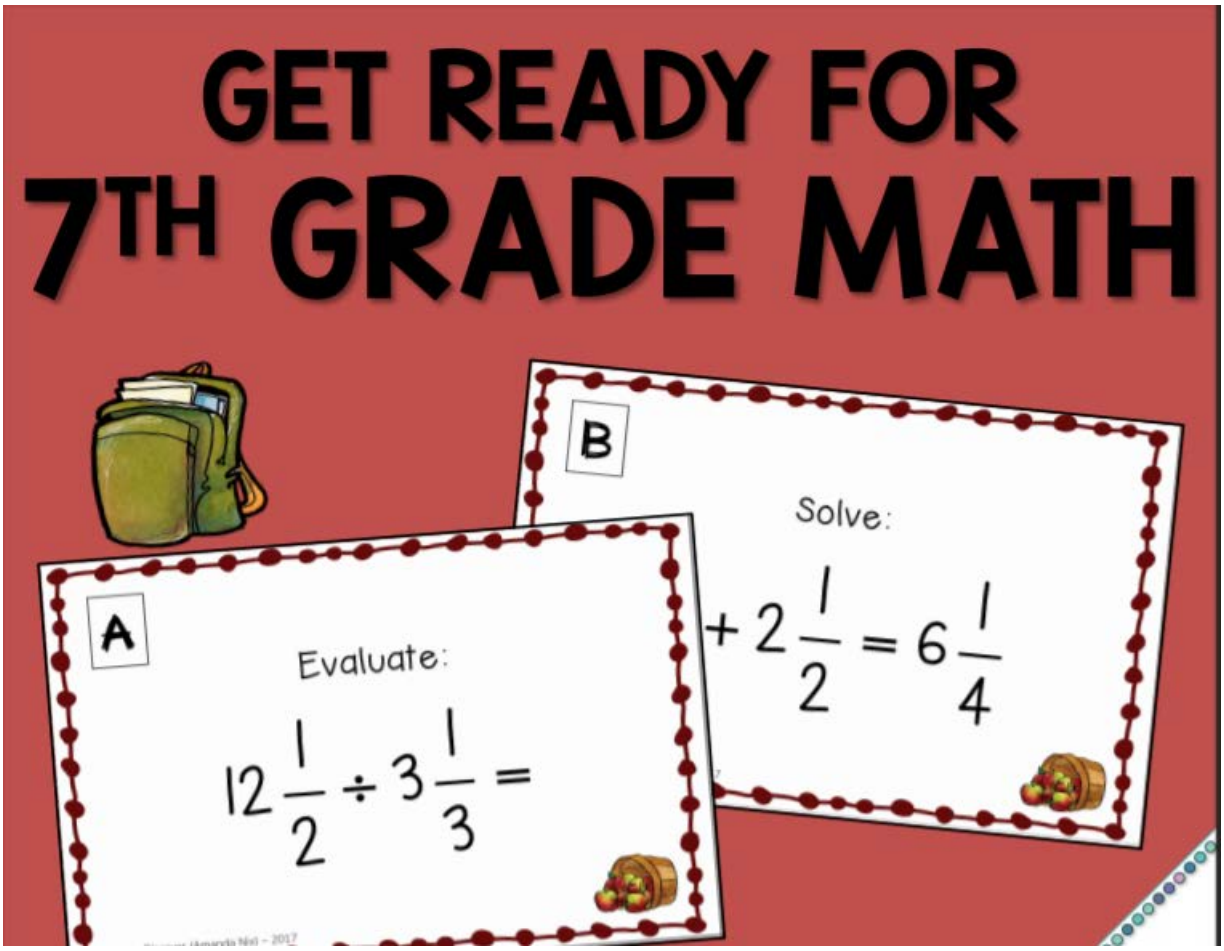
The following chart presents twelve sets of measurements of the pressure vs temperature for Abilene, TX, taken over a period of four days.

Air Pressure & Temperature for Abilene, TX

Temperature (°F)	Pressure (mb)
50	1009.9
53	1009.0
55	1008.8
56	1008.7
58	1008.4
62	1007.3
68	1006.4
74	1005.3
75	1004.8
76	1004.2
78	1003.8
79	1003.5

Which of the following is a scientific question that this data can answer?

- **A.** Why does pressure change?
- **B.** Does pressure increase when the temperature rises?
- **C.** Is the weather nice in Abilene, TX?
- **D.** What was the highest temperature in Abilene over the four days shown?



Work out the problems below! You may use the space around the equation to show your work, or if completing digitally, you can add text boxes as needed.

A

Evaluate:

$$3.4 \times 7.5 =$$

A

21 is 75% of what number?

A

Evaluate:

$$12\frac{1}{2} \div 3\frac{1}{3} =$$

A

A pitching machine used for batting practice can produce 30 pitches in 5 minutes. At this rate, how many pitches are produced in one minute?

A

Evaluate:

$$44.1 - 18.6 =$$

A

Solve:

$$16x = 96$$

A

Find the quotient:

$$47\overline{)1316}$$

A

Solve:

$$x + 3\frac{3}{4} = 9\frac{1}{12}$$