# Caesar Rodney School District—Snow Day Activity Board

<table>
<thead>
<tr>
<th><strong>Reading</strong></th>
<th><strong>Math-Grade Level Practice Problems</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>30 Minutes of Rider Reading Time</strong></td>
<td>All students will work on grade level practice problems based on previously taught concepts.</td>
</tr>
<tr>
<td>All students will bring home their Rider Reading Bags with 3-5 books to support reading and power goal work. Please complete the 100 Book Challenge Reading Log.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Science</strong></th>
<th><strong>Writing/Word Study</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will work on the science extensions.</td>
<td></td>
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<table>
<thead>
<tr>
<th><strong>Social Studies</strong></th>
<th><strong>Grades K-2</strong>: Students will work on word study activities based on previously taught concepts.</th>
<th><strong>Grades 3-5</strong>: Students will work on writing activities based on previously taught concepts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades K-2: Students will create a story map using key memorable events of their life. <em>(See Example)</em></td>
<td></td>
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<td>Grade 3: Students will interview members of their household or community. <em>(See Example)</em></td>
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<tr>
<td>Grades 4-5: Students will think of problems, challenges, or issues that affect your school or community. Create a business that will solve a problem.</td>
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</tbody>
</table>

*Students can use the Clever platform to access apps including i-Ready, ARC bookshelf Reading, SORA, EPIC, etc.*
Design the book jacket for your ideal fiction book. Make sure to include all the essential literature text features.
Write the plot summary that would appear on the back of the book jacket you just designed.
Section A: Practice Problems

1. Pre-unit
   a. Locate $\frac{6}{4}$ on the number line.

   ![Number Line]

   b. Explain or show why your point represents $\frac{6}{4}$.

2. Pre-unit
   Shade $\frac{3}{4}$ of the rectangle. Explain or show your reasoning.

   ![Rectangle]

3. Pre-unit
   Explain or show why $\frac{4}{3} = 4 \times \frac{1}{3}$.
4. Pre-unit

Each workbook is $\frac{3}{8}$ inch thick. How many inches thick is a stack of 5 workbooks? Explain or show your reasoning.

5. Pre-unit

a. There are 36 fish in 4 aquariums. There are the same number of fish in each aquarium. How many fish are in each aquarium? Show or explain your reasoning.

b. There are 24 dogs at a shelter. There are 4 times as many dogs as cats at the shelter. How many cats are there at the shelter? Show or explain your reasoning.
6. **Pre-unit**

A bottle holds \(\frac{2}{10}\) liter of water. How much water do 6 bottles hold? Explain or show your reasoning.

---

7. **Pre-unit**

What is the area of the rectangle? Explain or show your reasoning.
8. a. 3 students equally share 18 sheets of construction paper for an art project. How many sheets of paper does each student get? Explain or show your reasoning.

b. 3 students equally share 1 tube of glue for an art project. How much glue does each student get? Explain or show your reasoning.

(From Unit 2, Lesson 1.)

9. a. 4 hikers equally share 3 liters of water. How many liters of water does each hiker drink? Explain or show your reasoning.

b. 4 hikers equally share 5 liters of water. How many liters of water does each hiker drink? Explain or show your reasoning.

(From Unit 2, Lesson 2.)
10. a. Jada cuts an 11 inch strip of paper into 5 equal parts. How many inches long is each part?

b. Jada cuts a strip of paper into 5 equal parts. Each part is $\frac{2}{3}$ inches long. How long was the strip of paper?

(From Unit 2, Lesson 3.)

11. a. Describe a situation that the diagram could represent.

______________________________

______________________________

b. Write an equation that represents the diagram and the situation.

(From Unit 2, Lesson 4.)
12. Decide whether each equation is true or false. Explain or show your reasoning.
   a. $3 \div 7 = \frac{3}{7}$.

   b. $18 \div 5 = \frac{5}{18}$.

   c. $15 \div 6 = 2\frac{1}{2}$.

   (From Unit 2, Lesson 5.)
13. **Exploration**

a. Describe a situation in the classroom or at home where you share something equally with your classmates or family that results in fractional size parts.

b. Draw a picture to represent the situation.

c. Write a division equation to represent the situation.
14. **Exploration**

Elena is traveling to visit her grandparents who live 125 miles away.

a. Elena stops for lunch \( \frac{2}{3} \) of the way. How far has Elena traveled? Explain or show your reasoning.

b. Elena enters the city where her grandmother lives after 110 miles. Is she more or less than \( \frac{9}{10} \) of the way there? Explain or show your reasoning.

15. **Exploration**

a. Describe a situation that represents the equation \( 4 \div 6 = \frac{4}{6} \).

b. Draw a diagram to represent the situation.
Section A: Practice Problems

1. Pre-unit

There are 63 students in the cafeteria. There are 9 students at each table.

a. At how many tables are the students seated?

b. Write a division equation to represent your answer.

2. Pre-unit

What is the area of this figure? Explain your reasoning.
3. **Pre-unit**

Select all expressions that are equivalent to \( \frac{12}{5} \).

A. \( 6 \times \frac{2}{5} \)

B. \( 5 \times \frac{1}{12} \)

C. \( 12 \times \frac{1}{5} \)

D. \( 8 \times \frac{4}{5} \)

E. \( 4 \times \frac{3}{5} \)

4. **Pre-unit**

Jada has 8 pennies. Each one weighs \( \frac{5}{2} \) grams. How much do Jada's pennies weigh altogether? Explain your reasoning.
5.  
   a. Shade $\frac{1}{2}$ of $\frac{1}{5}$ of the square.

   b. Explain where you see $\frac{1}{2}$ of $\frac{1}{5}$ in your drawing.

   (From Unit 3, Lesson 1.)

6.  
   a. Write an expression for how much of the square is shaded.

   b. Find the value of your expression.

   (From Unit 3, Lesson 2.)
7.  
   a. Write an equation representing the shaded part of the diagram.

   b. Explain how the diagram shows each part of your equation.

(From Unit 3, Lesson 3.)

8.  
   a. Write an expression for the shaded region of the square.

   b. Explain how your expression matches the shaded region.

(From Unit 3, Lesson 4.)
9. a. Write an expression for the area of the shaded region.

b. Explain how the diagram shows your expression.

(From Unit 3, Lesson 5.)

10. a. Write a multiplication expression for the area of the shaded region. Explain your reasoning.

b. What is the area of the shaded region in square units?

(From Unit 3, Lesson 6.)
11. Find the value that makes each equation true.

   a. \( \frac{7}{10} \times \frac{3}{5} = \) ___

   b. \( \frac{2}{5} \times \) ___ = \( \frac{8}{45} \)

   c. ___ \( \times \frac{4}{9} = \frac{28}{45} \)

   (From Unit 3, Lesson 7.)

12. This flag of Sweden is 3 \( \frac{1}{5} \) inches wide and 2 inches tall. The rectangle in the upper right is \( \frac{9}{5} \) inches wide and \( \frac{4}{5} \) inch tall.

   a. What is the area of the whole flag?

   b. What is the area of the rectangle in the upper right?

   (From Unit 3, Lesson 8.)
13. **Exploration**

On this American flag the width of the blue rectangle is \( \frac{2}{5} \) the width of the flag. What fraction of the area of the flag is the blue rectangle? Explain or show your reasoning.
14. **Exploration**

Jada folded a square piece of paper in half many times, sometimes horizontally and sometimes vertically. She shaded the folded piece of paper and then unfolded it. Here is a picture.

What fraction of the paper did Jada shade? Explain how you know.
Fifth Grade

Science
In this unit, we’re going to take a closer look at the stars and use what we observe to help a museum solve a mystery.
The museum is a museum of archaeology.

These scientists are **archaeologists**. They study people who lived a long time ago by looking at things they made or built.

We call the things that archaeologists study artifacts.

What do you notice or observe about these artifacts?
Archaeologists at the museum uncovered this artifact.

What do you notice or observe about it?

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To: Student Astronomers  
From: Dr. Sabri, Museum of Archaeology  
Subject: Mysterious Artifact

Our museum’s field research team located an artifact, and we think it might be more than 1,000 years old. We believe it shows something about the sun and the stars, although one section is missing. Would you be able to help us figure out what the missing section looked like?

We want to put the artifact on display at the museum, and it would be nice to show people how it might have looked before it was broken.

A map is attached to show you where the artifact was found, in case that is helpful.
The artifact was found in central Asia, about halfway around the planet.

You will take on the role of an **astronomer** to help the museum understand their artifact by investigating **stars** and other things we see in the sky as we’re standing on Earth.
We will be learning new **science words** to help with our investigation in this unit.

Now we will think more about two of the new words we are learning.

**astronomer**

a scientist who studies stars, planets, and other objects in the universe
star

a huge object in space that gives off heat and light
As astronomers who are studying and thinking about stars, we are going to be learning ideas that will help us answer this question:

**Unit Question**
Why do we see different stars at different times?

As **astronomers**, we are trying to figure out what the missing piece of this artifact might look like. To figure this out, we need to be aware of **when things appear in the sky**.
Think about these questions.

If you went outside right now, what would you see in the sky? Would you see stars? The sun?

What if you waited until dark, what do you think you would see in the sky then?

The people who made this artifact 1,000 years ago would have depicted what they saw in the sky.

Do you see anything on the artifact that might also be something you can see in the sky?
Either the sun or the stars appear in each section of the artifact, but they never appear together. That’s similar to how you would see the sun if you went outside right now, but you would not see other stars.

To explain to the museum why the artifact looks the way it does and what might be in the missing piece, we will need to investigate this question:

**Chapter 1 Question**

Why don’t we see a lot of stars during the daytime?
If we want to understand what we see in the sky, we should first think about Earth's shape.

These are two models of Earth.

Photographs of Earth from space support the idea that Earth is a sphere like the globe, rather than flat like the map. However both models of Earth are useful at different times.
This is a word we will use a lot in this unit.

**model**

something scientists make to answer questions about the real world

Since we know Earth is a sphere, we will investigate this question to think about the location of the stars with respect to Earth.

**Where are the stars in space?**

This might help us better understand the artifact.
To help us answer our question, we will read this book about the sizes and distances between objects in space.

As we read, we will visualize to understand the size of objects in space and the distances between them.
Read page 3. Then visualize the size of the beluga whale. For example, make a picture in your mind of a car and then imagine a beluga whale next to the car.

Optional: You can access a digital version of the book here or watch a video recorded at tinyurl.com/AMPPES.01

Turn to page 4.

Did the picture you made in your mind look like this?
visualize

to make a picture in your mind using information from different sources

Read the rest of the book. As you read, visualize to understand the size of objects in space and the distances between them.
How Big Is Big? How Far Is Far?

by Carolyn Jaynes and John Erickson

[Image: Earth and Sun from space]

[Image: Beluga whale]

[Text: How big is big? Everyone knows whales are big. A beluga whale is longer than a car and weighs about 1,000 kilograms (more than 2,000 pounds). That's big. Or is it?]

[Table: This book is the property of:]

- State
- Province
- County
- Parish
- School District
- Other

[Formulas and equations]

- 1: Diving depth
- 2: Distance travelled
- 3: Speed of sound
Look at a blue whale, which is the biggest animal that has ever lived on Earth. If you lined up cars, they would be about as long as a blue whale. A blue whale can weigh up to 200 tons more than a blue whale.

What’s big? It depends. A blue whale is big, but it would take about five of them lined up to be as long as a blue whale. Whether you call something “big” depends on what you’re comparing it to.

It’s the same in space....

Far example, think about how big the Moon is. It’s hard to tell what size the Moon is when you look at it in the sky. But if you stood it on the surface of Earth, its surface area would be more than 3,000 square miles, about 80 times larger than the size of New York City. Looking at it from Earth, it is too far to see.

The astronauts who visited the Moon recorded this view to keep from losing track of places.

At the same time, the Moon is small, much smaller than Earth. In fact, you would need to line up four Moons side by side to be about as wide as Earth.

Imagine two kids are arguing about the size of Earth, and one kid says Earth is big, while the other says Earth is small. Who is right? Both kids are correct! Actually, they are both right. Because it all depends on what you're comparing Earth to. Earth is huge compared to a blue whale, a house, a city, or even a whale's country.

- There are about 200 different countries on Earth.
- There are thousands of cities on Earth.
- If whales were more than 3,000 times longer, they would be longer than Earth.
This picture shows the sizes of the planets compared to one another.

Jupiter is the biggest planet in our solar system, and its diameter is about 11 times bigger than Earth's. That means if you lined up 11 Earth-sized planets side by side, they would be about as wide as Jupiter. Jupiter really is big, right? It might seem that way, but there's something even bigger in our solar system that makes even Jupiter look small.

This is the sun! The sun is so big that if you were to put Jupiter next to it, it would still be dwarfed by the sun. In fact, the sun's diameter is about 110 times the diameter of Jupiter and about 100 times the diameter of Earth. The sun is the biggest object in our solar system, and our solar system is just a small part of the universe. Is there anything out there that could make the sun look small?

When you look out into the night sky, you may see many stars. They look like tiny specks of light, but are they really tiny?
Arcturus is one of the brightest stars you can see in the sky on a summer night. If you lined up 28 stars the size of the sun, they would be about as wide as Arcturus, which means Arcturus is definitely big.

By now, you probably know that there’s always something bigger out there. On winter nights, you can see a bright star called Betelgeuse. You would have to line up 40 stars the size of Arcturus to be as wide as Betelgeuse.

Is the sun big? As the only star in our solar system, it seems big, but when you find out how big some other stars are, the sun doesn’t seem to big anymore. Let’s look at some data on different star diameters.

<table>
<thead>
<tr>
<th>Star</th>
<th>Diameter in kilometers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proxima Cenetr</td>
<td>200,000,000</td>
</tr>
<tr>
<td>Betelgeuse</td>
<td>1,800,000,000</td>
</tr>
<tr>
<td>Sirius</td>
<td>1,600,000,000</td>
</tr>
<tr>
<td>Arcturus</td>
<td>36,000,000,000</td>
</tr>
<tr>
<td>Polaris</td>
<td>90,000,000,000</td>
</tr>
<tr>
<td>Betelgeuse</td>
<td>300,000,000,000</td>
</tr>
</tbody>
</table>

We’ve discovered that things in space are very big. Things in space are also very far away. But how far is far away? It’s hard to know, especially if you’re close to your school, and someone asks you if you’re close to your school. In places where people’s homes are close together, many students live close to school—sometimes just a block or two away. In these places, people might say students walk from school if they have to walk more than half an hour to get there.

In places where people’s homes are farther apart, some students may have to walk a long way or take a bus or a car to get to school, and it can take a long time to get to school if they have to walk more than half an hour to get there.

Do you live close to your school or far away? That depends on what you’re comparing the distance to. It’s the same in space.
As you may have guessed, you can say Earth is close to the sun and you can say Earth is far from the sun. Either way, you're right. Compared to some of the other planets, Earth is very close to the sun. The furthest planet is more than 4 billion kilometers away from the sun. That's a lot of distance! Can definitely say is far can't we?

<table>
<thead>
<tr>
<th>Planet</th>
<th>Distance from the Sun in Kilometers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>58,000,000</td>
</tr>
<tr>
<td>Venus</td>
<td>108,000,000</td>
</tr>
<tr>
<td>Earth</td>
<td>150,000,000</td>
</tr>
<tr>
<td>Mars</td>
<td>228,000,000</td>
</tr>
<tr>
<td>Jupiter</td>
<td>778,000,000</td>
</tr>
<tr>
<td>Saturn</td>
<td>1,429,000,000</td>
</tr>
<tr>
<td>Uranus</td>
<td>2,871,000,000</td>
</tr>
<tr>
<td>Neptune</td>
<td>4,495,000,000</td>
</tr>
</tbody>
</table>

The table above shows the distances of the planets from the sun in kilometers. The distances are given in scientific notation.

Is the sun near Earth or far away? From our perspective the sun is far from Earth, but it is extremely close for a star. Compared to the sun, the other stars are much farther away. Besides the sun, the next closest star is called Proxima Centauri. It is the closest star to the sun. Proxima Centauri is only 4.24 light-years away from the sun. A light-year is the distance light travels in one year. In that time, it travels about 9.46 trillion kilometers (6 trillion miles). That's a very long distance. If a spacecraft could travel at the speed of light, it would take about 4 years to travel from Proxima Centauri to Earth.

The fastest spacecraft ever launched is called New Horizons. It does not carry people.

There is something that travels much faster than any spacecraft. Light. In a year, light travels about 9.46 trillion kilometers (6 trillion miles). That's a very long distance. If a spacecraft could travel at the speed of light, it would take about 4 years to travel from Proxima Centauri to Earth. In 1 year, light travels a distance of 9.46 trillion kilometers.

Light takes 4 years to travel this far.
It's hard to visualize how far away stars are. A long time ago, people thought that all the stars were the same distance from Earth. They thought the stars were attached to an enormous sphere that surrounded Earth like a giant shell, and the stars on the sphere surrounded Earth in all directions. They thought the stars were stuck to the sphere and never changed their positions on the sphere.

The diagram shows how everything was understood then. For the eye to imagine that all the stars were the same distance from Earth.

People were right that the stars are all around Earth in every direction. You can imagine why they thought that the stars were stuck to something. After all, we see the stars in the same arrangement in the sky. Moreover, if we look at a different star, the stars are not all in the same place, but the same distance from Earth. Each one of them is quite a distance away from Earth. For example, the three stars that people call Orion's Belt look like they are right next to each other, but they aren't.

**Distances to Stars in Orion's Belt**

<table>
<thead>
<tr>
<th>Star</th>
<th>Distance to Earth (light-years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betelgeuse</td>
<td>460 light-years</td>
</tr>
<tr>
<td>Bellatrix</td>
<td>500 light-years</td>
</tr>
<tr>
<td>Alnilam</td>
<td>1,300 light-years</td>
</tr>
</tbody>
</table>

In this book, you have seen a diagram representing distances in our solar system. You can use the diagram on page 21 to compare how far Earth and other planets are from the sun.

You have also seen a diagram representing distances beyond the solar system. You can use the diagram on page 21 to compare how far away the nearest star is compared to the distance from Earth.

It might seem like a good idea to end the book with a diagram comparing distances inside the solar system and beyond the solar system at the same time, but there's a problem with trying to do that. The distance between Earth and the sun is about 150 million kilometers. If we make a diagram that represents that distance as 1 centimeter, how far away on the page do we have to put a picture of Proxima Centauri?

We would have to put Proxima Centauri 2.7 light-years away—about 1.1 million kilometers away from Earth on the same page. There is no way to fit a diagram comparing those distances nicely. And if we exaggerate the diagram too much, the book would have to be much too big.

Are Earth and the sun close together? Is Earth really close to the sun? Are the stars far away? Is there anything more interesting than the sphere? Big or small, close together or far apart... whatever you think about it, it's worth looking into.
Now you will discuss some of the **data** from the book.

You will **need a partner** for this. Your partner can be a family member, a friend on the phone, or even a pet or stuffed animal!
Look at the data in this table from page 12 of the book.

Is the sun the **largest** star, based on the information in this table?

| Star            | Diameter in Kilometers*
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phecys</td>
<td>200,000</td>
</tr>
<tr>
<td>Sun</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Sirius</td>
<td>540,000,000</td>
</tr>
<tr>
<td>Arcturus</td>
<td>86,000,000</td>
</tr>
<tr>
<td>Polaris</td>
<td>50,000,000</td>
</tr>
<tr>
<td>Denub</td>
<td>200,000,000</td>
</tr>
<tr>
<td>Betelgeuse</td>
<td>1,400,000,000</td>
</tr>
</tbody>
</table>

*All diameters are approximations.

Look at the data in this table from page 19 of the book.

Which star is **closest** to Earth? How far away is it?

| Star            | Distance from Earth on Light Years*
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>0.000018</td>
</tr>
<tr>
<td>Proxima Centaur</td>
<td>4</td>
</tr>
<tr>
<td>Sirius</td>
<td>9</td>
</tr>
<tr>
<td>Arcturus</td>
<td>37</td>
</tr>
<tr>
<td>Prox</td>
<td>433</td>
</tr>
<tr>
<td>Betelgeuse</td>
<td>643</td>
</tr>
<tr>
<td>Donub</td>
<td>3230</td>
</tr>
</tbody>
</table>

*All distances are approximate.
<table>
<thead>
<tr>
<th>Star</th>
<th>Distance from Earth in Light Years*</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
<td>0.000016</td>
</tr>
<tr>
<td>Proxima Centauri</td>
<td>4</td>
</tr>
<tr>
<td>Sirius</td>
<td>9</td>
</tr>
<tr>
<td>Alpha Centauri</td>
<td>37</td>
</tr>
<tr>
<td>Polaris</td>
<td>433</td>
</tr>
<tr>
<td>Betelgeuse</td>
<td>643</td>
</tr>
<tr>
<td>Deneb</td>
<td>3,230</td>
</tr>
</tbody>
</table>

*All distances are approximate.

Which star is **most distant**?

How far away is it?

Based on this data, what can you say about the **distance** of the sun and the other stars from Earth?
Based on what you read, where are the stars located?

We now have a new understanding of what the sun and solar system are.
sun

the only star in our solar system

solar system

the sun, the planets that orbit the sun, and other objects that orbit the sun
End of @Home Lesson
CREATE: A Business Idea

Congratulations, you are interested in starting your own business! The only problem is that you are unsure of what business idea you want to pursue. One approach to creating a successful business is to use the "Problem/Solution Lens" to identify needs in your community.

Part I: Identify Problems, Challenge, Issues
Think about some common issues that arise in your daily life that may also affect other people. Identifying common problems, challenges, and issues is a great place to start when coming up with problem-solving business ideas.

1. Think of as many problems, challenges or issues that affect you, your school, or your community. Create a list of as many of these issues that come to mind. At this phase, aim for quantity over quality and let your imagination run wild!
PART II: Brainstorm Solutions

Now that you have identified common issues that affect you, your school, and your community, let’s identify the best ideas and take a closer look at some potential solutions.

1. Let’s start by cutting down your list. Consider the following questions and remove items from your list of ideas as necessary:
   - **Is there already a well established solution to this problem that you cannot improve upon?** If there is already a well established solution then this might not be the best business idea.
   - **Is this a problem that you are passionate about solving?** If not, then it might be best to remove it from you list of ideas.
   - **Is this a problem that you have the time and money to help solve?** If not, then you might want to remove it from your list.

2. Select the top 2 issues for each category (you, your school, your community) from the remaining list. Put the 6 issues in the middle column of the table below.

3. Complete the right column by brainstorming 3 potential solutions for each problem. **Hint:** Consider the following elements when brainstorming potential solutions:
   - Who are the people that are affected by these problems?
   - Are there currently existing solutions for these problems?
     - i) If not, how do you envision a solution?
     - ii) If so, how can you improve upon existing solutions?

<table>
<thead>
<tr>
<th></th>
<th>Problem</th>
<th>Potential Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Community</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part III: Select a Business Idea

Now that you have a list of potential business ideas, it's time to start thinking about which one interests you and what skills you already have that you could use to grow that idea.

1. From the list of potential business ideas you brainstormed above, select what you consider to be the best business idea and explain why.