

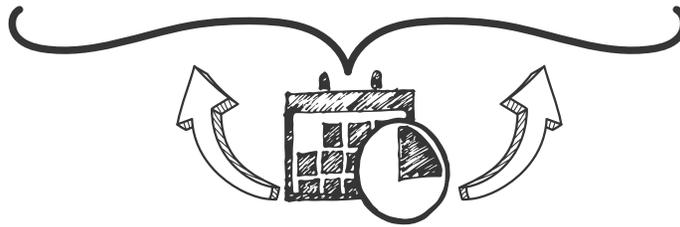
Join the National Conversation!

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word
generation

WordGen WEEKLY



SERIES 3 *Part A*

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This week's issue:

SHOULD SCHOOL BE A PLACE FOR DEBATE?

In room 207, Mr. Smith is teaching his students about the civil rights movement. He asks the students questions such as, "Who were the freedom riders?" or "What year was the Montgomery bus boycott?" It is easy for students to find the answers in their textbooks. Mr. Smith tells the students whether they are right or wrong. On Friday, they will have a quiz about these facts.

In room 209, Ms. Miles is also teaching about the civil rights movement. She asks her students, "Is peaceful protest the best way to make things change for the better?" The students have a **debate**. Some think Martin Luther King Jr. was right to tell protesters to avoid violence. Others believe that sometimes violence is necessary when people will not listen to reason. They ask Ms. Miles for the right answer, but she says there is no right answer.

Some people believe that kids in school should only learn about facts. These people think students should get information from their textbooks or teachers and memorize it. That way, some argue, all students will learn the same things and they will all be able to do well on tests.

Other people think debates can be hard because there are no right answers. Sometimes everybody learns different things from a debate. This makes it hard for teachers to give a test to find out what students have learned. Debates also take a lot of time. Teachers who have debates may not be able to cover as many topics in class. Then, students may not learn all of the facts in the textbook.

However, debates may help students understand why the facts they learn in school are important. We live in a democracy, where everyone needs to know how to form and **justify** opinions in order to work together to make decisions. Young people will not always have a teacher or a textbook to give the right answers, so students need to learn to think for themselves. Each person has a unique **perspective** defined by his or her knowledge, experience, and attitudes. Even teachers and textbook authors have their own perspectives. Through a classroom debate, students hear their classmates' opinions. Students justify their opinions with evidence from texts and from their own experiences. Sometimes, hearing from classmates who disagree with them makes students learn about their own **biases** and understand a problem in a new way. Hearing classmates' perspectives during a debate can help students understand the complexity of many important issues. Whether it is better to have teachers teach from the text or to have students engage in debates is a continuing **controversy** in education.

What do you think? Should students learn only facts in school? Or should debates be an important part of their education?



SHOULD SCHOOL BE A PLACE FOR DEBATE?



controversy | justify | perspective | bias | debate

USE THE FOCUS WORDS *and alternate parts of speech

debate (*noun*) a discussion of a problem where different sides are presented

➡ **Sample Sentence:** In Ms. Miles' classroom, students had a **debate** about whether junk food should be sold in schools.

🗣️ **Turn and Talk:** Can you think of a **debate** that caused you to change your mind? What was it about?

***debate** (*verb*) to argue about an issue; to consider different options in order to make a decision

➡ **Sample Sentence:** Cecelia **debated** whether to drive or take the bus to the concert.

🗣️ **Turn and Talk:** Have you ever **debated** cutting your hair short or growing it long? What was your decision?

controversy (*noun*) major disagreement or dispute among many people

➡ **Sample Sentence:** The biggest **controversy** in the sixth grade last year was whether or not students would be required to wear school uniforms.

🗣️ **Turn and Talk:** Why is there so much **controversy** surrounding school uniforms?

perspective (*noun*) point of view, way of looking at things

➡ **Sample Sentence:** All of my friends have a unique **perspective** about which teacher is the best.

🗣️ **Turn and Talk:** What's your **perspective** on whether or not people should be able to keep wild animals as pets?

justify (*verb*) to defend, explain, or show to be right

➡ **Sample Sentence:** Carl **justified** his decision to punch Roger by explaining that Roger punched him first.

🗣️ **Turn and Talk:** Do you think people are **justified** in using violence after others use violence against them first?

bias (*noun*) the belief that some people or ideas are better than others, prejudice

➡ **Sample Sentence:** Jonas' **bias** against school uniforms comes from his experience in a very strict private school.

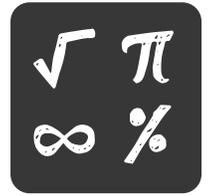
🗣️ **Turn and Talk:** Do you expect history books to have **bias**? Why or why not?

***bias** (*verb*) to strongly influence someone for or against something

➡ **Sample Sentence:** Raphael didn't want to **bias** his friends against the band, so he decided not to mention that they don't write any of their songs.

🗣️ **Turn and Talk:** Does hearing about musicians' bad behavior **bias** you against their music? Explain.

SHOULD SCHOOL BE A PLACE FOR DEBATE?



controversy | justify | perspective | bias | debate

DO THE MATH

Option 1: In the Urban **Debate** League, students from city schools **debate** controversial issues. A skillful debater can **justify** more than one **perspective**. For example, a debater might start by arguing that her school should have a dress code. Then, she can change positions and argue that her school should not have a dress code. The debater puts personal **biases** aside.

A total of 56 students participated in the Urban **Debate** League championships. They were:

- ▶ 10 ninth graders
- ▶ 14 tenth graders
- ▶ 20 eleventh graders
- ▶ 12 twelfth graders

What percentage of the students were in tenth grade?

- A. 14%
- B. 25%
- C. 55%
- D. 75%

Option 2: Urban Debaters **debate** controversial issues in teams of two. In each **debate**, a team either argues from an affirmative or negative **perspective**. Teams must be affirmative in some **debates**, and negative in others. Even if a debater is **biased** toward one opinion, she must skillfully argue both sides. Judges choose the winning team based on how well team members **justify** each **perspective**.

In a **debate** round, each of the 4 debaters talks 3 times: an 8-minute speech, a 5-minute response, and a 6-minute question period. Gabriel is organizing a school **debate**. He wants to know how many whole **debate** rounds can happen in 4 hours if everybody uses all their time. Write an inequality that would help him figure this out. You can let r = the number of **debate** rounds.



Discussion Question: High school debaters tend to get good grades and go to college. Some people say this **justifies** using **debate** in the classroom. Others have a different, controversial **perspective**. They say that kids join **debate** teams because they are already smart and motivated. They say **debate** won't help regular kids. What do you think?

SHOULD SCHOOL BE A PLACE FOR DEBATE?



controversy | justify | perspective | bias | debate

THINK SCIENTIFICALLY

Ms. Lexie Kahn and Mr. Paul E. Seemy are two science teachers who work together. Being science teachers, they encourage their students to be curious and ask a lot of questions. Some of their students like to ask questions about national **controversies**. Others ask questions about experiences that have made them wonder about something.

Ms. Kahn and Mr. Seemy themselves often have different **perspectives**, and they like to **debate** each other. They try not to let personal **biases** get in the way of exchanging ideas, so they use evidence to **justify** their opinions.

Both teachers believe that **debating** develops intelligence just as physical exercise develops muscles. They think that you become smarter by working through challenging problems. Some of their students agree with this, but others do not. The doubtful students seem to believe that people have a fixed amount of intelligence that stays the same no matter what.

Mr. Seemy's student Joon found this topic very interesting, so he decided to survey the students at his school.

Joon wants to find out:

What mindset have middle school students developed about whether or not intelligence grows?

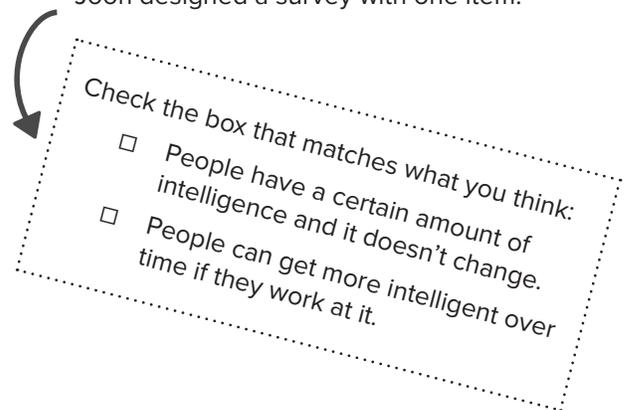
Procedure:

1. Distribute surveys to all students at school.
2. Ask students to place completed surveys in a box in the library labeled "completed surveys."
3. Tally the survey results.

Data:

	Fixed Mindset (intelligence does not change)	Growth Mindset (intelligence can change with effort)
Sixth Grade	122	75
Seventh Grade	99	110
Eighth Grade	80	78

Joon designed a survey with one item.



What do the data from Joon's survey tell you?

How would you answer Joon's survey? Why?

Do you think that Joon's survey provides enough information to determine a student's mindset? Why or why not?

Stanford University professor Dr. Carol Dweck reports from her research that people with a "growth mindset" live less stressful and more successful lives. Discuss this idea with your class.

SHOULD OUR USE OF PAPER OR PLASTIC BE REGULATED?



cite | research | data | phase | strategy

USE THE FOCUS WORDS *and alternate parts of speech

cite (*verb*) to refer to as an example or as proof

➞ **Sample Sentence:** My principal **cited** alarming statistics about what happens to people who are bullied and who do the bullying.

🗣️ **Turn and Talk:** Why is it important to **cite** evidence when you are making an important argument?

research (*noun*) systematically collected information; systematic investigation into a subject

➞ **Sample Sentence:** Greg examines online **research** before buying new items like skateboards and video games.

🗣️ **Turn and Talk:** When conducting **research** online, how can you tell if the information is true or not?

***research** (*verb*) to collect and analyze information about a subject

➞ **Sample Sentence:** In **researching** the North and South Pole, Gayle learned that the polarities have reversed several times in the last million years.

🗣️ **Turn and Talk:** Think of some animals that you might see in an African safari. Of these animals, which would you most like to **research**?

data (*noun*) facts, information, statistics

➞ **Sample Sentence:** Before changing the cafeteria lunch menu, the school collected **data** about the kinds of food that students like.

🗣️ **Turn and Talk:** Imagine you had to plan a class party. What kind of **data** would you collect to make sure that everyone had a good time?

phase (*verb*) to do gradually in steps according to a plan

➞ **Sample Sentence:** Many countries have started **phasing** out the use of traditional light bulbs and are replacing them with new, energy-efficient bulbs.

🗣️ **Turn and Talk:** How might a person **phase** in a good exercise routine?

***phase** (*noun*) a step in a process; a short period of time

➞ **Sample Sentence:** The first **phase** of Juan Camilo's exercise plan included doing twenty sit-ups and push-ups each morning. In the second **phase**, he would increase the number to thirty.

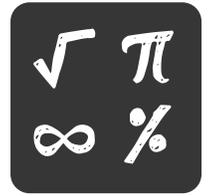
🗣️ **Turn and Talk:** Eden's mother dismissed her poor behavior by saying, "She's going through a **phase**." What do you think she meant by that?

strategy (*noun*) a systematic plan or method

➞ **Sample Sentence:** Changing your passwords frequently is a good **strategy** to stay safe online.

🗣️ **Turn and Talk:** With your partner, think of a **strategy** that you could use to convince your teacher to have a class party.

SHOULD OUR USE OF PAPER OR PLASTIC BE REGULATED?



cite | research | data | phase | strategy

DO THE MATH

Option 1: *The Washington Post* wrote an article about cities that are **phasing** out plastic shopping bags and switching to paper bags. The people in these cities think that this **strategy** will help the environment. However, the article **cites data** that might make them change their minds. Researchers discovered that 2,511 BTUs* of energy are used to make a paper bag and just 594 to make a plastic bag. Therefore, the article recommends that a better **strategy** to save energy is for shoppers to bring reusable bags from home.

How much more energy is spent making a paper bag than making a plastic bag?

- A. 2,000 BTUs
- B. 817 BTUs
- C. 1,918 BTUs
- D. 1,917 BTUs

Option 2: Taylor is making her weekly trip to the grocery store. Despite the **research** on the benefits of reusable bags, she still uses paper and plastic. She bags her own groceries in two **phases** using a special **strategy**: meats and cheeses in plastic bags, fruits and vegetables in paper.

Write an equation that shows the relationship between the number of paper and plastic bags Taylor uses and the total number of BTUs it took to make those bags. Use the **data cited** in Option 1. Let p = the number of paper bags, c = the number of plastic bags, and b = the total number of BTUs.

 **Discussion Question:** Researchers have pointed out problems with using paper bags as well as plastic bags. The **data cited** above illustrate one of those problems: Making bags takes energy. To protect the environment, some cities passed laws to **phase** out plastic bags. Was this the best **strategy**? Can you think of a better one?

* BTU (British Thermal Unit) is a standard measurement for heat energy.

SHOULD OUR USE OF PAPER OR PLASTIC BE REGULATED?



cite | research | data | phase | strategy

THINK SCIENTIFICALLY

Mr. Seemy and his class were talking about the plastic and paper bags that most people get from the grocery store each time they go. Chantel **cited** her reason for using paper bags instead of plastic. “Most plastic bags take at least a hundred years to break down and be absorbed by the earth.”

“Interesting point, Chantel,” responded Mr. Seemy, “but I just read about a new kind of plastic made from corn that is supposed to break down more quickly. It’s biodegradable.”

“Switching to corn plastic could be a **strategy** to help with the problem of too much trash in landfills,” said Chantel. “I think we should **phase** out regular plastic bags.”

“Not so fast, Chantel,” said Mr. Seemy. “You shouldn’t make a claim just because your teacher mentioned an article. Let’s do some **research** to find out more. Maybe someone in our class can help by doing an experiment and collecting some data.”

Chantel volunteered with her friend Angelo to create an experiment that buried bags in dirt.

Question: Do paper bags, regular plastic bags, and biodegradable plastic bags break down at different rates?

Hypothesis: Paper bags and biodegradable plastic bags will break down faster than regular plastic bags.

Materials:

- ▶ Samples of each bag material
- ▶ Scale
- ▶ Labels to stick in dirt
- ▶ Work gloves
- ▶ Shovel
- ▶ Small plot of land

Procedure:

1. Cut out a portion of a paper bag with a mass of 2,000 milligrams (2 grams). Do the same with regular plastic and with biodegradable plastic.
2. Bury them close to each other and label each spot.
3. Every two weeks, dig up each sample and measure the mass. Then rebury each sample.

Chantel and Angelo's Data

	Paper	Regular Plastic	Biodegradable Plastic
Starting mass	2,000mg	2,000mg	2,000mg
After 2 weeks	1,568mg (moist)	2,500mg (couldn't get all the dirt off)	1,792mg
After 4 weeks	600mg (difficult to find all pieces)	1,968mg	928mg
After 6 weeks	can't get good measurement - traces of paper only	1,984mg	328mg

Do Chantel and Angelo’s **data** tell you anything that relates to their hypothesis?

Even if paper bags biodegrade quickly, it doesn’t necessarily mean that they are the best choice for the environment. Why do you think these issues are so complex? Do you think scientists can help?

The students cut out 2,000 milligram samples of each bag material. Why is it important that the samples have the same mass? How is mass different from size? Do you think the samples were all the same size?

IS AN EXTENDED SCHOOL DAY THE RIGHT CHOICE FOR U.S. STUDENTS?



extend | radical | crucial | attain | initiative

USE THE FOCUS WORDS

extend (*verb*) to stretch out; to make longer

➞ **Sample Sentence:** You can **extend** your goldfish's life by keeping its water clean.

🗣️ **Turn and Talk:** What are some steps you could take to **extend** a plant's life?

radical (*adjective*) extreme

➞ **Sample Sentence:** The 1990s rap group Kris Kross had a **radical** style: They wore their clothes backwards!

🗣️ **Turn and Talk:** How would you feel if your teacher had a **radical** hairstyle, like an unusual color or a Mohawk?

crucial (*adjective*) very important, essential

➞ **Sample Sentence:** Reading and writing are **crucial** skills for doing well in school.

🗣️ **Turn and Talk:** Is owning a cell phone **crucial** to having a good social life?

attain (*verb*) to achieve or reach a goal

➞ **Sample Sentence:** It took a year of hard work as class president for Vicky to **attain** the admiration and respect of her classmates.

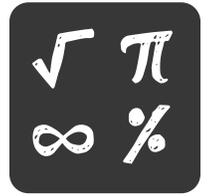
🗣️ **Turn and Talk:** What are some goals that you would like to **attain** by the time you graduate from high school?

initiative (*noun*) a plan to solve a problem

➞ **Sample Sentence:** The late Senator Ted Kennedy proposed an **initiative** that included extending the school day.

🗣️ **Turn and Talk:** Propose an **initiative** to improve the health of middle school students.

IS AN EXTENDED SCHOOL DAY THE RIGHT CHOICE FOR U.S. STUDENTS?



extend | radical | crucial | attain | initiative

DO THE MATH

Option 1: Senator Ted Kennedy thought it was **crucial** for Massachusetts schools to improve. He thought it would take **radical** change to **attain** that goal. He started an **initiative** to **extend** the school day.

Most American students now go to school for 180 six-hour days. How many total hours is this?

- A. 1,080
- B. 680
- C. 6,080
- D. 186

Option 2: Senator Kennedy's **initiative** proposed **extending** the school day by 30%—a **radical** increase. If each 6-hour school day were **extended** according to Senator Kennedy's plan, each day would be how many hours?

There are alternative ways to **attain** the goal of **extending** school time by 30%. For example, schools could add days to the school year instead of changing the length of each individual school day. If the 180-day school year were **extended** according to this plan, each year would be how many days?

 **Discussion Question:** Which would be a more **radical** change: more hours each school day, or more days each school year? Which kind of **initiative** would win more support from parents? Which one would do a better job of helping students **attain** academic excellence? Some students think it's **crucial** to have a long summer vacation. Do you agree?

IS AN EXTENDED SCHOOL DAY THE RIGHT CHOICE FOR U.S. STUDENTS?



extend | radical | crucial | attain | initiative

THINK SCIENTIFICALLY

Principal Tim Wernentin at Rock Island High School in Illinois noticed that middle school students coming to his high school were not prepared to succeed in ninth grade. Many of his freshmen were not able to **attain** passing grades in **crucial** areas such as math and language arts. He considered **extending** the school day for all ninth graders, but that idea seemed too **radical**. Instead, he created an **initiative** for his incoming students called “Rock Solid.”

For the Rock Solid program, Principal Wernentin decided to offer students moving up from middle school an option to get started at Rock Island High before all the tenth, eleventh, and twelfth graders arrived. Ninth graders got the whole school to themselves during the last few weeks of summer. So instead of **extending** the school day, he **extended** a special welcome! During the Rock Solid session, ninth graders got tours of the school, met with the teachers they would have, and received free tutoring sessions for any academic areas they struggled with.

Mr. Seemy’s class thought that this was a brilliant idea. In fact, they thought the middle school should offer a Rock Solid program for elementary school students moving up to middle school.

In order to plan a program like Rock Solid effectively, you must identify the problems and think about solutions in a detailed way.

Step One: Think silently for a minute about what was difficult for you when you moved up to middle school from elementary school.

Write it down here: _____

Step Two: Get into groups of four. Share what you wrote. Ask other students in your group if you need to clarify anything for them.

Step Three: As a group, select one problem that you think might be solved by a program like Rock Solid.

Write it down here: _____

Discuss the following questions as a group, and then write down your responses individually.

 What would be your approach for addressing the problem? _____

 Do you think that elementary school students entering middle school would like your idea? _____

 How would you be able to tell if your approach was effective? _____

This week's issue:

SHOULD ADOPTION INFORMATION BE KEPT FROM CHILDREN?



Twelve-year-old Phelan was **adopted** as a baby. He loves his adoptive parents, but he has questions they cannot answer. Will he be tall or short when he grows up? Do health problems like diabetes, high cholesterol, or cancer run in his biological family? He wishes he could ask his birth parents, but he is not allowed to know who they are.

Phelan's situation is called a "closed" adoption. This means that the child and the adoptive parents have no contact with the birth family. Phelan's birth records will be kept secret for the **duration** of his life. Sometimes, in other closed adoptions, the child's birth records will become available once he or she turns 18.

People prefer closed adoptions for a variety of reasons. Sometimes, birth parents believe it will be too painful to see the child they gave up. In some cases, birth parents may not tell friends or family that they have had a baby. A closed adoption **ensures** that the child cannot appear someday and reveal the secret.

Sometimes adoptive parents are the ones who want adoptions to be closed. They might fear **tension** between the two families. They worry that the birth parents will disagree with the adoptive parents' parenting decisions. They also worry that the birth parents may be involved with drugs or alcohol, or may disappoint the child.

Other people, however, believe that adoptions should be "open." This means that the child can have contact with the birth parents. In many cases, the child and the birth parents exchange letters and photographs. Some adoptive parents choose open adoptions because they want to be straightforward with their child about the adoption. They want to be able to answer all the child's questions. Some birth parents **consent** to open adoptions because they still want to be involved in the child's life.

Should all adopted children like Phelan have the right to know their birth parents? Or should some parents be allowed to keep adoption information private?

SHOULD ADOPTION INFORMATION BE KEPT FROM CHILDREN?



adopt | ensure | tension | consent | duration

USE THE FOCUS WORDS *and alternate parts of speech

adopt (*verb*) to take as one's own

➞ **Sample Sentence:** Twelve-year-old Phelan was **adopted** from Ireland. He loves his adoptive parents, but he has questions they cannot answer.

🗣️ **Turn and Talk:** Why is it important to **adopt** a new attitude when faced with a difficult situation?

ensure (*verb*) to make sure that something happens; to make certain of something

➞ **Sample Sentence:** A closed adoption **ensures** that the child cannot appear someday and reveal the biological parents' secret.

🗣️ **Turn and Talk:** How can you **ensure** that you will get accepted to a college or university?

tension (*noun*) a state of stress or unfriendliness between individuals or groups; a feeling of stress or strain

➞ **Sample Sentence:** Jamila's adoptive parents worried about **tension** between the families after Jamila decided to contact her biological parents.

🗣️ **Turn and Talk:** What causes **tension** among groups of students at your school?

consent (*verb*) to agree to

➞ **Sample Sentence:** Some birth parents **consent** to open adoptions because they still want to be involved in the child's life.

🗣️ **Turn and Talk:** What is an example of something to which you recently **consented**?

***consent** (*noun*) permission

➞ **Sample Sentence:** School field trips require parental **consent** before the child is allowed to go.

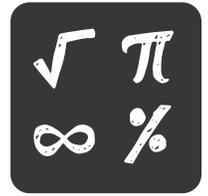
🗣️ **Turn and Talk:** If someone asked to use your picture in an advertisement, would you give your **consent**? Why or why not?

duration (*noun*) the length of time something exists or lasts

➞ **Sample Sentence:** In a closed adoption, birth records are kept secret for the **duration** of the child's life.

🗣️ **Turn and Talk:** What can you do to get good grades for the **duration** of your middle school years?

SHOULD ADOPTION INFORMATION BE KEPT FROM CHILDREN?



adopt | ensure | tension | consent | duration

DO THE MATH

Option 1: In the past, the secrecy surrounding closed adoptions was a source of great **tension**. Today, laws protect a child's right to information. In some states, for example, adopted children must be given their birth family's medical records. They do not need their birth parents' **consent**. This helps **ensure** that adopted children have information about inherited conditions that can help them stay healthy for the **duration** of their lives.

If a parent has a disorder called Familial Hypercholesterolemia, or FH, there is a 50% chance that his or her child will also have FH. Angelina was **adopted** as a young child, and her birth mother has FH. What are the odds that Angelina will have FH?

- A. 1/2
- B. 1/4
- C. 1/5
- D. 1/50

Option 2: Mr. and Mrs. Ruiz want to **ensure** that their family members have the best possible chances of staying healthy for the **duration** of their lives. Consequently, they think carefully about health risks. They **adopted** three siblings, and, at the time, did not **consent** to have them tested for Familial Hypercholesterolemia, or FH. Since then, they found out that their three children have one birth parent with FH. Now, **tension** is growing in the Ruiz house. Mr. Ruiz wants to have the children tested. Mrs. Ruiz wants to avoid an extra trip to the doctor.

If each child has a 50% chance of having FH, what are the odds that at least one of the three children has FH?

 **Discussion Question:** In most cases, no one can see your medical records without your **consent**. But some state laws **ensure** that adopted children have access to the medical records of the birth parents. The law resolved the conflict between the privacy rights of the parent and the information rights of the child, ruling in favor of the child. Why might people want their medical records to be private?

SHOULD ADOPTION INFORMATION BE KEPT FROM CHILDREN?



adopt | ensure | tension | consent | duration

THINK SCIENTIFICALLY

Mr. Seemy's class is discussing closed and open adoptions. Imani thinks that adoption records should not be opened without the **consent** of the biological parents. "We should **ensure** privacy for biological parents who don't want to be contacted," she says.

Raul disagrees. "It is unfair to keep children who were **adopted** from knowing their biological parents for the **duration** of their lives. Plus, not knowing if they have risks for genetic diseases can create **tension** for adopted children."

Mr. Seemy comments, "Excellent! Raul and Imani identified a conflict that exists between a right to privacy and a right to know the truth. But I wonder if we are making an assumption here. Do all children who were **adopted** want to find their biological parents? How could we go about researching this?"

Mr. Seemy's students Raul and Imani found this topic very interesting and decided to work together to do some research on the internet. They found that the United States has open adoption records in some states, but not in others. In England, adoption records have long been available to adopted children once they turn 18. They examined statistics about the number of English adopted children who have requested information about their biological parents.

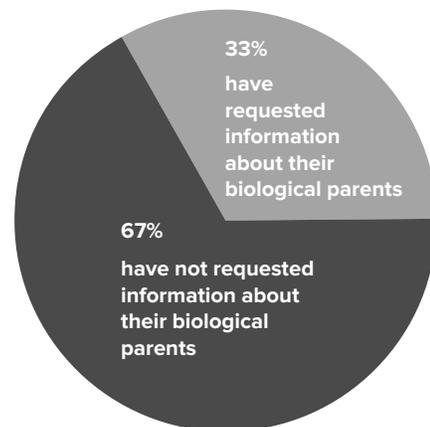
Here is a write-up of their work

Question: How common is it for adopted children to search for their biological parents?

Data Source: Records from adoption agencies in England (where adoption records are open).

Procedure:

1. From the records, figure out the total number of children who were **adopted**.
2. From the records, figure out the number of children who were **adopted** who have asked at least once to see information about their biological parents.
3. Calculate the percentage of children who were **adopted** who have asked about their biological parents.



Raul and Imani found out that, in England, over 70,000 adopted children have requested information about their biological parents after turning 18, when it became legal for them to do so. At first, Raul and Imani thought it had to be over half because it's such a large number, but that's not true. With a little more research and some careful calculations, they were able to make the graph above to share with the class.

 Raul and Imani do not have a title for their graph yet. Can you help them? They want people to know the following when reading their graph:

1. The information is from England.
2. The data used is from 1975 to 2008.
3. The graph is about requests made by adopted children after they turned 18.

This week's issue:

SHOULD SECRET WIRETAPPING BE LEGAL?

Whenever Alina talks to her cousins in Mexico, she wonders if someone from the government is listening in. She heard on the news that the government was **wiretapping** international phone calls. After the September 11th attacks, the government passed the USA Patriot Act, which allowed the National Security Agency (NSA) to tap phone calls, email accounts, and text messages of **suspicious** individuals under certain conditions. The Act required the NSA to ask judges for permission to access communications between people in the U.S.

But those in charge of protecting American security thought the limitations on surveillance of suspicious people were too strict. In 2006, a court secretly approved collecting, storing, and analyzing phone records from all the major phone companies. In fact, Verizon had to turn over all information on all phone calls in its system every day. With the growth of the internet, the records collected soon included much more than information about who was calling whom. Facebook, YouTube, Google, Skype, and other companies handed over their data to the NSA. Anything could be tapped and stored if there was a reasonable suspicion that a “non-U.S. person” had “foreign intelligence information.” Government officials argued that all the information collected came from **sources** that might reveal terrorist plans. Only a few members of the government knew, though, how much data was being collected, and from how many people!

That situation changed in 2013, when a British newspaper reported that the NSA collected phone

records from millions of customers every day. NSA contractor Edward Snowden was soon revealed as the source of this information. Snowden was opposed to the massive NSA surveillance, and felt it was his duty as a **patriot** to reveal its existence. That act led to widespread anger about the U.S. policy and a demand to **eliminate** government wiretapping.

Though many viewed Snowden as a traitor, his actions led to important changes. Many members of Congress and prominent judges have begun to take action against NSA surveillance programs. In addition, some major tech companies like Google have developed increased security and privacy measures. Meanwhile, Edward Snowden fled the U.S. to avoid arrest. He stated he was acting out of patriotism, but he has made himself an ex-patriot by accepting refuge in Russia. He may never be able to return to the U.S. without facing arrest.

What do you think? Was Snowden a patriot? Should wiretapping to help the government catch terrorists be legal? How much privacy are we willing to give up? Where do you stand? Remember, someone may be listening!



SHOULD SECRET WIRETAPPING BE LEGAL?



wiretapping | patriot | eliminate | suspicious | source

USE THE FOCUS WORDS *and alternate parts of speech

wiretapping (*noun*) the act of connecting to a telephone to listen in on conversations

➔ **Sample Sentence:** Sometimes government officials use **wiretapping** to find out whether terrorists are planning attacks.

🗣️ **Turn and Talk:** How can police use **wiretapping** to catch suspected criminals?

Wiretapping can also be used as a verb (“wiretap”)! *The NSA has been **wiretapping** phones in the U.S. and abroad.*

patriot (*noun*) a person who supports and defends his or her country

➔ **Sample Sentence:** There is considerable controversy about whether whistleblowers like Edward Snowden are **patriots** or traitors.

🗣️ **Turn and Talk:** What are some ways that you can be a **patriot**? Do you think people who expose crime inside government offices are **patriots** or troublemakers?

eliminate (*verb*) to get rid of, to remove

➔ **Sample Sentence:** The virus smallpox was **eliminated** by vaccines.

🗣️ **Turn and Talk:** If you were a scientist, what disease would you try to **eliminate** from the world?

suspicious (*adjective*) appearing dishonest or potentially dangerous

➔ **Sample Sentence:** In 2001, the National Security Agency (NSA) began to pay attention to conversations between Americans and foreigners who the government thought were **suspicious**.

🗣️ **Turn and Talk:** What words or phrases in a phone conversation, text, or email might seem **suspicious** to the police or the FBI?

source (*noun*) something or someone that supplies information; where something comes from; origin

➔ **Sample Sentence:** The Protect America Act allowed officials to tap phone calls, email accounts, and text messages as **sources** of information.

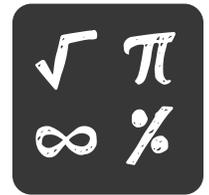
🗣️ **Turn and Talk:** What **sources** do detectives use to track down suspected criminals?

***source** (*verb*) to get from a specific person, place, or thing

➔ **Sample Sentence:** Cocoa beans (used to make chocolate) are often **sourced** from African and South American countries.

🗣️ **Turn and Talk:** Would you rather eat fruits and vegetables that are **sourced** from your state or a different state? Explain.

SHOULD SECRET WIRETAPPING BE LEGAL?



wiretapping | patriot | eliminate | suspicious | source

DO THE MATH

Option 1: After the September 11th attacks, the National Security Agency (NSA) began **wiretapping** American telephones and email messages in secret. Government officials decided it was important to keep watch over people who seemed **suspicious**. They said that secret **wiretapping** would help **eliminate** terrorist attacks. They suggested that true **patriots** would not object to giving up a bit of privacy in order to improve security. Despite this explanation, many Americans oppose secret **wiretapping**, saying that it is a violation of privacy.

According to a 2015 Washington Post-Pew Research center poll, 56% of Americans approve of the NSA secretly **wiretapping** millions of Americans in order to investigate terrorism. Which fraction is closest to 56%?

- A. $\frac{1}{4}$
- B. $\frac{1}{5}$
- C. $\frac{1}{2}$
- D. $\frac{1}{3}$

Option 2: In March of 2010 a judge ruled that **wiretapping** without a warrant was illegal. Before the trial, the U.S. Justice Department had requested that the case be thrown out of court. Despite this request, the judge heard the case and made his ruling on this section of the **Patriot Act**. He said that allowing the government to spy on **suspicious** people without warrants would **eliminate** an important limit on executive power. The judge wrote a 45-page opinion on the case.

Luka just wrote a 10-page paper on **wiretapping**. He used government documents as **sources** of information. His 10-page paper took him a total of 36 hours. If he worked at the same rate, how long would it take him to write a 45-page paper?

 **Discussion Question:** The judge mentioned in Option 2 above says the warrantless **wiretapping** program must be **eliminated** because it breaks a federal law made in 1978. In 1978, people suspected that spying on U.S. citizens would enable the government to become the **source** of too much power. Government officials must follow the rules, the judge said, despite the threat of terrorist attacks or other dangers. Do you agree with his decision? Or, in times of national trouble, should we allow the government to bend the rules?

SHOULD SECRET WIRETAPPING BE LEGAL?



wiretapping | patriot | eliminate | suspicious | source

THINK SCIENTIFICALLY

Students in Ms. Kahn’s class were reading an article about how many Americans are upset that the United States government could be reading their email or **wiretapping** their phones. However, there are other **sources** of threats to our privacy besides the government! Criminals sometimes try to steal money or learn personal information about people by guessing the passwords for their online accounts. Despite this danger, many unsuspecting internet users choose passwords that are very easy to guess. One study found that some of the most common passwords are “password,” “password1,” “123abc,” and “abc123”! Experts in online privacy have come up with ways to help **eliminate** the chance that a stranger could guess your password. The best passwords are longer than 12 characters, are not words you can find in the dictionary, and include some numbers and symbols.

“We should probably look at the passwords we use and make sure they are secure!” said Ryan after reading about this issue.

Eva wondered how many internet users had unsafe passwords. To find out, she did some research and found a report online that had data on 435,564 passwords cracked over the course of one year.

Question: How safe are the passwords chosen by internet users?

Hypothesis: Since safety is a concern, most people will create passwords with 10 or more characters.

Procedure:

- Using the online report as a **source**, record the number of passwords with each given length.
- Calculate the percentage of passwords with each length. Round to the nearest tenth of a percent.

Password Length (Characters)	Number of Passwords	Percentage of Passwords
1 to 6	4,720	1.1%
7	17,853	4.1%
8	170,781	39.2%
9	97,686	22.4%
10	69,241	15.9%
11	37,113	8.5%
12	22,417	5.1%
13	8,091	1.9%
14	5,141	1.2%
15 to 26	2,521	0.6%

Data Source: 2015 Trustwave Global Security Report

Is Eva’s hypothesis supported by the data she found? How do you know?

Which password length is the most common? Why do you think this is?

The length of a password impacts how secure it is. For example, Trustwave reports that eight-character passwords can be easily cracked in one day, whereas 10-character passwords could take 19.5 months to decode. Do you think that the mixture of character types used (letters, symbols, and numbers) will also affect the time required to crack a password? If so, which do you think is more important for password security: length or character type?

This week's issue: WHEN SHOULD THE U.S. SEND TROOPS TO OTHER COUNTRIES?

Less than a month after the September 11th attacks, the U.S. military began a war in Afghanistan. This country had provided a safe place for the terrorists to plan and organize their attack on the United States. Because nearly 3,000 people died as a result of 9/11, most people in the U.S. supported this war. They believed that military action was the only way to make sure that the terrorists could not plan more attacks against the U.S. As of June 2015, over 2,300 U.S. troops have died trying to make Afghanistan a **stable** country where terrorists can never plan another attack on the U.S.

In 2003, the United States also went to war in Iraq. Members of the U.S. government claimed that the Iraqi **regime** had weapons of mass destruction that could be used against Americans. Many people in the U.S. were not convinced that these weapons existed and did not support this war. Some people believed that the war in Iraq was more about protecting an oil supply to support the American economy. In the end, the weapons of mass destruction were never found and over 4,400 members of the U.S. military died fighting for this cause.

Some people believe that the U.S. government should only send troops into a war when there is a clear threat to the safety and welfare of its people. They think that American men and women should only be asked to sacrifice their lives if there is a known threat, as was the case in Afghanistan after 9/11. They think that wars that are not clearly protecting the safety of the American people are also too costly. They point to the expense of the Iraq War. According to some **estimates**, the cost of this war to the U.S. government was \$1 trillion. Many

Americans think that this money should have been used for domestic issues, like improving American schools.

Other people think that the U.S. should consider military action when the safety of people from other countries is threatened by violent government actions. For example, during much of the time that Americans were fighting in Iraq, people in the Darfur region of Sudan were being murdered and forced to leave their villages by their government. Approximately 2.7 million people were **displaced** by these actions, resulting in nearly 300,000 deaths from disease and starvation. Many Americans thought that U.S. military action in Sudan could have **diminished** the suffering of the Sudanese people. They claim that there was no U.S. military action because this African country offered little economic benefit to America.

What do you think? When should the U.S. government send troops to another region of the world? Should we only get involved when our safety is threatened? Should we commit troops when our economic interests are threatened? Or should we engage in military action when the safety of others is threatened?



WHEN SHOULD THE U.S. SEND TROOPS TO OTHER COUNTRIES?



displace | regime | diminish | stable | estimate

USE THE FOCUS WORDS *and alternate parts of speech

displace (*verb*) to force from one's home or homeland

➞ **Sample Sentence:** The destruction caused by Hurricane Sandy **displaced** more than 40,000 people.

🗣️ **Turn and Talk:** What services should governments provide to people who are **displaced** by natural disasters?

regime (*noun*) a government in power

➞ **Sample Sentence:** In 2003, members of the U.S. government claimed that the Iraqi **regime** had weapons of mass destruction.

🗣️ **Turn and Talk:** How can a powerful **regime** cause problems for its citizens?

diminish (*verb*) to make smaller; to become smaller

➞ **Sample Sentence:** Many Americans thought that U.S. military action in Sudan could have **diminished** the suffering of the Sudanese people.

🗣️ **Turn and Talk:** In your opinion, does student motivation **diminish** after elementary school?

stable (*adjective*) not easily changed

➞ **Sample Sentence:** As of June 2015, over 2,300 U.S. troops have died trying to make Afghanistan a **stable** country where terrorists can never plan another attack on the U.S.

🗣️ **Turn and Talk:** Think about your most **stable** friendship. Why has it lasted so long?

estimate (*noun*) a rough calculation

➞ **Sample Sentence:** According to one **estimate**, about 700,000 people attended the San Francisco Giants World Series parade.

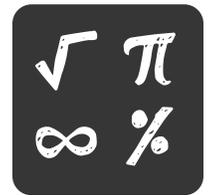
🗣️ **Turn and Talk:** The U.S. population was 319,000,000 as of 2014. Does that seem like an exact number or an **estimate**? How do you know?

***estimate** (*verb*) to roughly calculate the amount of something

➞ **Sample Sentence:** Samuel **estimated** that it would take him 20 minutes to bike to soccer practice.

🗣️ **Turn and Talk:** **Estimate** the amount of time it would take you to walk to school.

WHEN SHOULD THE U.S. SEND TROOPS TO OTHER COUNTRIES?



displace | regime | diminish | stable | estimate

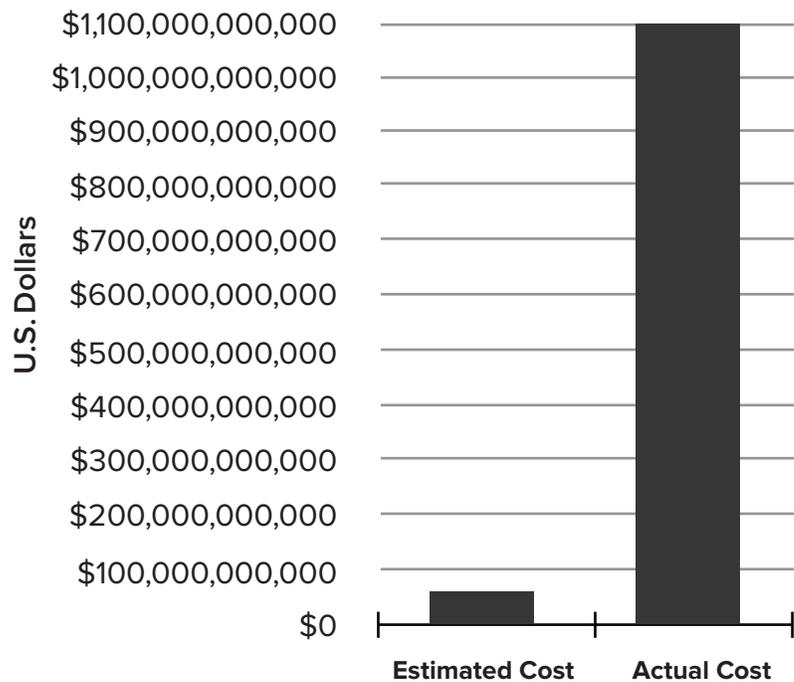
DO THE MATH

Option 1: At the beginning of the Iraq War in 2003, the administration of President George W. Bush **estimated** that it would cost 60 billion dollars to end Saddam Hussein's **regime**. In 2010, Iraq held its first democratic election as part of its effort to develop a **stable** government. Millions of Iraqi refugees who had been **displaced** by the war were still unable to return home. After several years of fighting, American support for the war had **diminished**. At that point, the war had already cost \$1.1 trillion.

Which of the following shows 1.1 trillion written in standard form?

- A. 1 trillion, one hundred million
- B. 1,000,000,000 + 1,000,000
- C. 1.1×10^{12}
- D. 1,100,000,000,000

Estimated vs. Actual Costs of the Iraq War



Option 2: According to some **estimates**, there are over 2 million internally **displaced** people, or IDPs, in Iraq. IDPs are people who have fled their homes, but stayed within their home countries. Another 2 million Iraqi refugees have sought stability in neighboring countries. Returning these people to their homes is one of many problems faced by the new Iraqi **regime**. As time goes on, the chances that these people will be able to resume their old lives **diminishes**. The population of Iraq is about 30 million. What percentage of the population has been **displaced** according to the **estimates** above?

Discussion Question: Who is responsible for **displaced** people? The **regime** of the home country? The **regime** of the country to which they flee? Hundreds of thousands of Iraqi refugees on the streets of Syrian and Jordanian cities are threatening the stability of these countries. (While it is difficult to count refugees, it is **estimated** that 1.2 million refugees fled to Syria, and around half a million fled to Jordan.) Resources in these host countries are **diminishing**. The U.S. has ended its operation in Iraq, but should we help these people return home?

WHEN SHOULD THE U.S. SEND TROOPS TO OTHER COUNTRIES?



displace | regime | diminish | stable | estimate

THINK SCIENTIFICALLY

Ms. Kahn and her class became interested in how U.S. soldiers are trained. The U.S. military is one of the most highly trained militaries in the world. An elite Army unit called Army Rangers conducts special missions, like helping to **displace** enemy **regimes** in Panama, Iraq, and Somalia. The Rangers' nine-week intense training prepares them to lead a group of soldiers even while working in unstable, unpredictable, and physically challenging situations. They get an **estimated** 3.5 hours of sleep and eat two meals or less each day during training sessions.

Raj asks, "Wouldn't lack of sleep and hunger cause slower reaction times?"

Ms. Kahn responds, "I doubt the intense training would **diminish** the quick-thinking skills of these elite members of the service. But we could test to see if our reaction times might be affected!"

Raj enjoys setting up experiments, so he set up an experiment that would help find an answer to his question.

Question: Does hunger affect reaction time?

Hypothesis: Students have better reaction times when they are not hungry.

Materials: 30 cm ruler.

Procedure:

1. Set up testing sessions with test subjects right before lunch and right after lunch.
2. Have the subjects hold their fingers and thumb at the zero mark of the ruler without actually touching it.
3. Let go of the ruler without warning and see how quickly they can catch it as it falls.
4. Record the centimeter mark where each subject caught the ruler.
5. Repeat same test after lunch.

Here are Raj's data so far:

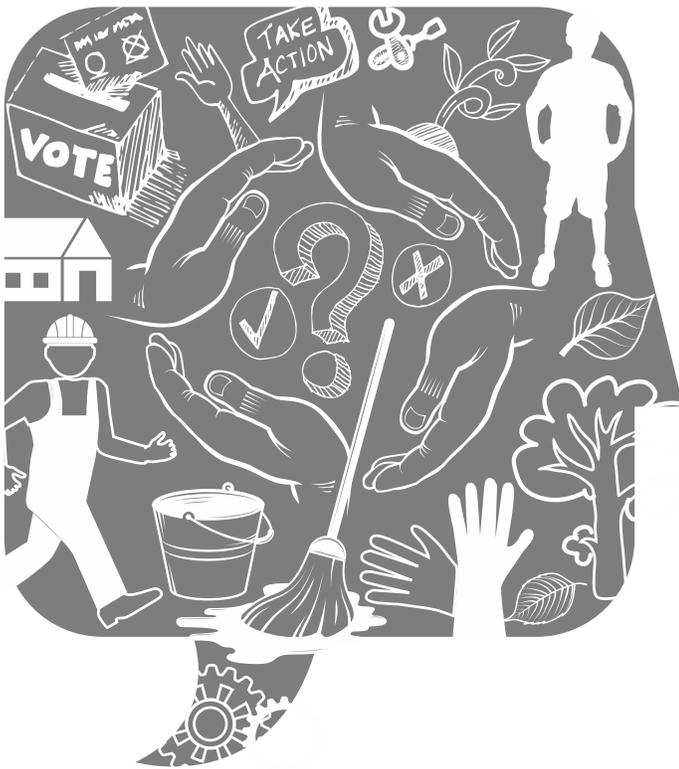
Person tested	Alan	Bak	Cherise	Dava	Eldridge	Fernando	Gisela
Before lunch	5	17	3	6	6	20	12
After lunch	8	5	5	10	4	13	15

Raj is a bit concerned about his experiment. He is wondering if it is fair. Here are his two main concerns:

1. He tested everybody only one time before lunch and one time after lunch.
2. People were already familiar with the reaction test when he tested them after lunch.

 Have a class discussion about how seriously Raj should take his concerns. Do you have advice for Raj about a way he could improve his experiment?

This week's issue: SHOULD THE GOVERNMENT IMPOSE A MANDATORY YEAR OF SERVICE?



The year is 2020. Omar has graduated from high school. He plans to go to college to become a teacher. However, he must wait. A new law requires that all young people **allocate** one year to community service after high school. Teens can help clean up parks, register voters, or build houses for the poor. Omar chooses to spend his year doing **literacy** tutoring in an after-school program, which will be good experience before he begins teaching.

Some people want to create a mandatory service program. John Edwards, who ran for president in 2008, gave a speech about this idea in May 2007. He said, "One of the things we ought to be thinking about is some level of mandatory service to our country, so that everybody in America, not just the poor kids who get sent to war, are serving this country."

Some Americans dislike the notion of mandatory service because it limits individual freedom. They point out that a **rigid** requirement to spend time doing service could disrupt career or family plans. Some think that young people would get more out of going to college or entering a job-training program. In addition, some young people might need to earn money to help support their families. Others do support national service, but think that young people should be free to choose not to participate. For example, President Barack Obama wanted to develop national service programs. However, he believed participation should be **voluntary**.

People who do want youth service to be mandatory give several reasons. They say that mandatory youth service could be a tool for improving literacy rates and helping to protect the environment. It could help young people become better citizens, and some people predict that it would help reduce youth crime. People also point out that as young people plant trees or build homes, they would be learning valuable skills. Youth service might help them decide on a career or make contacts that could lead to a job.

We all enjoy freedoms and protections as Americans. Supporters suggest that it would only be fair to **impose** a requirement for each person to give back by serving the country. However, some say that our freedoms include the right not to serve. What do you think? Should you be required to serve your country after high school?

SHOULD THE GOVERNMENT IMPOSE A MANDATORY YEAR OF SERVICE?



voluntary | literacy | impose | allocate | rigid

USE THE FOCUS WORDS

voluntary (*adjective*) by one's own choice; not forced

➞ **Sample Sentence:** President Barack Obama wanted to develop national service programs; however, he believed participation should be **voluntary**.

🗣️ **Turn and Talk:** Should community service be a **voluntary** or mandatory part of school? Explain.

literacy (*noun*) the ability to read and write

➞ **Sample Sentence:** Volunteers improve community **literacy** by teaching reading and writing in after-school programs.

🗣️ **Turn and Talk:** What part of **literacy** do you prefer: reading or writing? Explain.

impose (*verb*) to force somebody to accept

➞ **Sample Sentence:** **Imposing** a requirement for each person to serve the country, supporters suggest, would only be fair.

🗣️ **Turn and Talk:** What consequence does your teacher **impose** for submitting late work?

allocate (*verb*) to set apart for a specific purpose; to distribute

➞ **Sample Sentence:** A new law requires that all young people **allocate** one year to community service after high school.

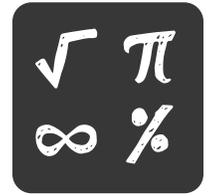
🗣️ **Turn and Talk:** About how much time do you **allocate** to doing homework each night?

rigid (*adjective*) strict or unbending

➞ **Sample Sentence:** They point out that a **rigid** requirement to spend time doing service could disrupt career or family plans.

🗣️ **Turn and Talk:** Would you describe your school dress code as flexible or **rigid**? Explain your answer.

SHOULD THE GOVERNMENT IMPOSE A MANDATORY YEAR OF SERVICE?



voluntary | literacy | impose | allocate | rigid

DO THE MATH

Option 1: Some people think the government should **impose** a **rigid** service requirement on young people. But many young people already **allocate** time to **voluntary** service.

Fifty-five percent of youth ages 12–18 volunteer. Suppose that 10% of these volunteers are **literacy** volunteers (people who help others learn to read and write). What percentage of youth ages 12–18 would be **literacy** volunteers?

- A. 5.5%
- B. 10%
- C. 5%
- D. .55%

Option 2: Youth perform **voluntary** service for many reasons. Sometimes, schools **impose** a service requirement. Many students argue that this kind of “**voluntary**” service isn’t **voluntary** at all! Some schools have **rigid** community service rules and require students to **allocate** a certain number of hours to service before they can graduate. Others require service as part of a class or a special project.

Yuri is interested in how many students volunteer during school. He found the following statement online: “About 10.6 million youth, or 38% of the youth population, have performed service as part of a school activity.” If this statement is true, what is the total youth population?

 **Discussion Question:** Should schools **impose** service requirements on their students? Is it okay for a teacher to **allocate** a few hours of class time to service for a special reason, like reading with kids as part of a unit on **literacy**, or cleaning up a park during a unit on pollution? What about a **rigid** requirement for all students, like 100 hours of service before graduation? Is it wrong to make “volunteering” mandatory?

SHOULD THE GOVERNMENT IMPOSE A MANDATORY YEAR OF SERVICE?



voluntary | literacy | impose | allocate | rigid

THINK SCIENTIFICALLY

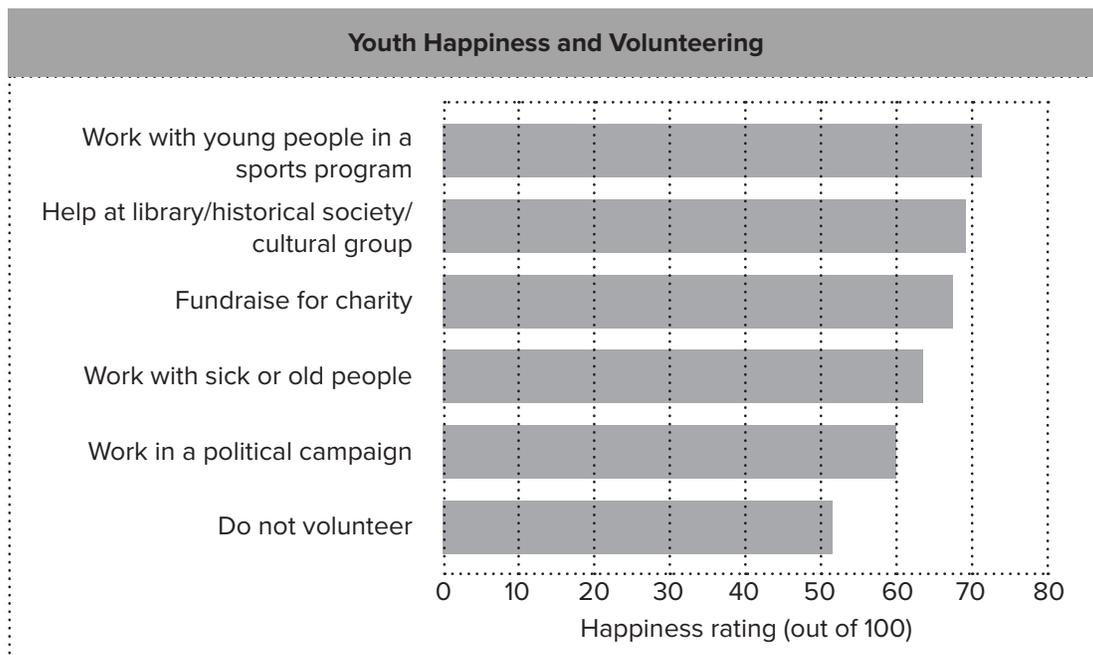
Students in Mr. Seemy’s class were talking about community service. The class was divided on the question of whether the government should **impose** a service requirement for all young people. Malik commented, “That seems kind of **rigid** to me. I think service should be **voluntary**.”

Halley responded, “I basically agree, but our school should **allocate** more time for volunteering. That way, students could really commit to projects. Right now I help at the library by tutoring little kids to build up their **literacy** skills, but I feel like I could do a better job if I could be there more.”

Mr. Seemy commented, “That’s great, Halley! **Allocating** more time for youth service could benefit our community as well as the volunteers.”

Halley questioned her teacher: “What are you talking about, Mr. Seemy? How can volunteering benefit the volunteers themselves?”

Mr. Seemy decided to share results from a survey conducted by DoSomething.org in 2012. “DoSomething.org is an organization that helps young people take action on things that they care about. They gave surveys on the relationship between happiness and **voluntary** service to over 4,000 young people, most of whom were in high school. Let me draw a graph for you on the whiteboard.”



Based on the data, what is the relationship between happiness and volunteering? Why do you think that is?

How would you rate your own happiness? Can you think of a more accurate way to measure happiness?

Why do you think some kinds of youth service correspond to higher levels of happiness than others? Do any of these differences surprise you?

This week's issue: SHOULD THE GOVERNMENT REGULATE GENETIC TESTING?

For years, Michelle and Demarcus Kingston have dreamed of having one son and one daughter. Now that their first child, a son, is two years old, they want to ensure that their next child is a daughter. They do not want to leave the sex of their baby to chance. Current medical science allows them to choose the sex of their child before **conception**.

Scientists developed **genetic** screening to help families avoid having a child with fatal genetic disorders. Now, many families are using genetic screening to decide the number of boys and girls in their families. Scientists believe people will be able to screen for other traits within the next 10 to 20 years. In the future, parents may be able to determine a **range** of traits including their child's height and eye color, whether or not the baby will have attention deficit disorder, and even the child's personality type.

Groups opposed to genetic screening think people are “playing God” when they use science to choose a baby's traits. Science fiction authors have created worlds in which ongoing genetic testing is common. For example, in the movie *Gattaca*, people with less-than-perfect genes were denied good jobs and became a lower class of citizens called “Invalids.”

Many people fear having a baby will soon turn into a shopping trip, as parents create “designer babies” by choosing genes for eye and hair color, height, and IQ. Because genetic screening is very expensive, some

people worry that it will widen the gap between rich and poor. The rich may have future access to genetic screening, but the poor may not.

Supporters of genetic testing say our world is changing and people should change with it. However, few doctors currently consent to using genetic testing to select for traits such as eye color or height. They use the procedure only under certain **circumstances**. For example, doctors can use genetic screening to help families prepare for a child with special needs.

However, experts warn that screenings may indicate that an unborn child is at risk for a disorder even though it is actually fine. This rare “false positive” result can be alarming and add stress to a pregnancy. Similarly, a “false negative” result assures parents that the fetus is not likely to be affected by a condition, even though it is actually at high risk.

Countries around the world are dealing with the issue differently. In France, genetic testing is only allowed to be performed by doctors for medical purposes. In the United States, the government does not **regulate** genetic testing; only doctors and their patients make decisions about genetic screening. Do you think the government should regulate genetic testing?



SHOULD THE GOVERNMENT REGULATE GENETIC TESTING?



range | regulate | circumstance | conception | genetic

USE THE FOCUS WORDS *and alternate parts of speech

range (*noun*) the extent covered; variety

➞ **Sample Sentence:** The classroom walls show the **range** of vocabulary words that we've learned this year.

🗣️ **Turn and Talk:** Do you listen to a wide or narrow **range** of music genres? Explain.

***range** (*verb*) to include everything between two points

➞ **Sample Sentence:** The number of students per class in American schools usually **ranges** from 10 to 40.

🗣️ **Turn and Talk:** Would you enjoy living in a place where the average temperature **ranges** from 85°F to 95°F? Explain.

regulate (*verb*) to control with rules or laws

➞ **Sample Sentence:** In the United States, the government does not **regulate** genetic testing; only doctors and their patients make decisions about genetic screening.

🗣️ **Turn and Talk:** How does your school **regulate** student behavior in the hallways?

circumstance (*noun*) a condition or fact that affects a situation or event

➞ **Sample Sentence:** Depending on their **circumstances**, parents make different choices about whether or not to proceed with genetic testing.

🗣️ **Turn and Talk:** Describe the **circumstances** that led you to have an argument with a friend or parent.

conception (*noun*) beginning of a pregnancy; beginning of an idea

➞ **Sample Sentence:** After **conception**, a fetus can undergo genetic testing.

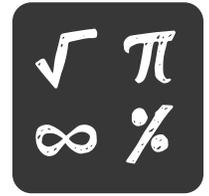
🗣️ **Turn and Talk:** What are some important things for women to do after **conception** to make sure that their baby will be healthy?

genetic (*adjective*) relating to or involving genes

➞ **Sample Sentence:** Scientists developed **genetic** screening to help families avoid having a child with fatal **genetic** disorders.

🗣️ **Turn and Talk:** Do you think **genetic** tests could be used to predict someone's personality? Explain.

SHOULD THE GOVERNMENT REGULATE GENETIC TESTING?



range | regulate | circumstance | conception | genetic

DO THE MATH

Option 1: After **conception**, a fetus can undergo **genetic** testing. Doctors can test for a **range** of conditions, including Down syndrome. Parents in different **circumstances** make different choices about whether to test. In some countries, the government **regulates genetic** testing.

Maternal age is the leading risk factor for whether a child will be born with Down syndrome. According to the National Down Syndrome Society, an adult woman's risk of having a child with Down syndrome **ranges** from about 0.05% at age 20 to 10% at age 49. For this reason, doctors often recommend that older pregnant women undergo **genetic** testing to find out if their fetus could have this condition.

Which of the following is equivalent to 0.05% – 10%?

- A. $\frac{1}{5} - \frac{1}{20}$
- B. $\frac{1}{5} - \frac{1}{2}$
- C. 1% – 20%
- D. $\frac{1}{2,000} - \frac{1}{10}$

Option 2: A **range** of **genetic** tests can be done before **conception**, too. For example, some people who are thinking about having children get tested for a mutation in a gene known as the CFTR gene. This mutation can lead to cystic fibrosis, or CF. The CFTR gene helps **regulate** sweat, mucus, and digestive fluids. If one parent does NOT have the mutation, then the other parent does not need to get tested; in this circumstance, their children will not have CF. If each parent has one CFTR gene, each child they produce will have a 25% chance of having cystic fibrosis.

Mr. and Mrs. Stein both have one CFTR mutation. If they have two children, what are the chances that both children will develop CF?

 **Discussion Question:** Either before or after **conception**, many parents consider a **range** of possible **genetic** tests. Others decide not to do any testing. Some people's decisions about these kinds of questions are **regulated** by their moral or religious beliefs. What **circumstances** might make people decide not to do **genetic** testing?

SHOULD THE GOVERNMENT REGULATE GENETIC TESTING?



range | regulate | circumstance | conception | genetic

THINK SCIENTIFICALLY

Ms. Kahn is teaching her science class about **genetic** testing. Her students have a **range** of opinions about whether or not **genetic** screening should be **regulated** by the government.

“I don’t think that pregnant women should have **genetic** tests for their babies,” says Shana. “It’s wrong to make choices about a baby’s future based on his or her genes.”

“I agree with you about a baby who is already conceived, Shana,” Colleen replies, “but some people might want to be tested even before they decide to have a child. Some **genetic** tests can tell adults if they are carriers for a fatal **genetic** disease like Spinal Muscular Atrophy. In the **circumstance** that both parents carry the gene, their child might have the disease when it is born. The parents might choose to adopt instead.”

Shana asks, “What does it mean to be a ‘carrier’ of the gene?”

“Maybe one of you can do some research to find out,” suggests Ms. Kahn.

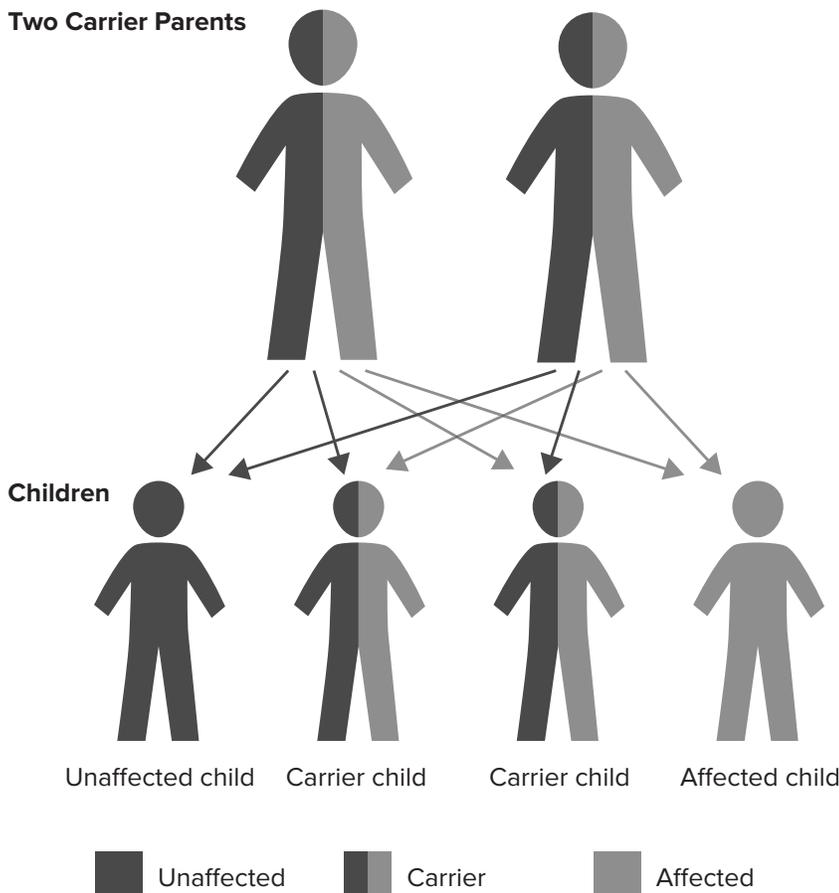
Shana found this topic very interesting and decided to investigate this question. She found the following graphic to help her understand the way genes can move from generation to generation.

Does the graphic help you understand more about **genetics**? What does it tell you?

What questions do you still have about **genetics**?

Science can help us understand reasons for things, but deciding whether something is right or wrong can be much more complicated. Have a class discussion about why issues related to **genetics** are controversial.

Two Carrier Parents



This week's issue:

SHOULD THE U.S. HAVE TIGHTER REGULATIONS ON GENETICALLY MODIFIED FOOD?



Before buying a snack, Alex checks the nutrition panel. He says that knowing the number of calories per portion helps him to make healthy choices. Nutrition panels are a relatively new feature on food packaging. In 1990, the U.S. government started requiring all food products to display information about sugar, fat, and other key ingredients. Now, about 90% of Americans want those labels expanded to show whether the food contains genetically modified (GM) ingredients.

Scientists genetically **modify** foods to make them tastier, healthier, or easier to grow. For example, to make “Bt corn,” scientists **extract** part of a bacteria’s **DNA** and insert it into corn DNA. Consequently, Bt corn produces a chemical that kills insects that try to eat it. Insects can destroy acres of crops and even cause starvation in some countries, but DNA modifications keep Bt corn safe from pests.

“Golden Rice” has been genetically modified to include vitamin A and iron, making it more nutritious than regular rice. GM foods like Golden Rice could help feed the 800 million **undernourished** people in the world.

Still, many are concerned that GM foods may not be safe to eat. They worry that consuming GM foods could have serious **consequences**, like causing allergies or cancer. They say that until long-term studies have proven GM foods safe, consumers should have the right to avoid them. For example, other advances in science—like adding lead to paint to make it shinier and last longer—were once celebrated, but later found to cause developmental problems in children. Over 60 countries require GM foods to be labeled, and most Americans think it is time that the U.S. does the same.

The Food and Drug Administration (FDA), a government agency that monitors food safety, insists that GM foods are similar to non-GM foods. The FDA says that no scientific evidence shows GM foods to be dangerous, so they don’t need to be labeled. Some people worry that these decisions are influenced by powerful businesses that produce GM foods. While waiting for the FDA to modify its position, many Americans are turning to their state governments to require GM labeling.

Genetically modified foods could help feed the hungry and help poor countries produce more food. But should we postpone enjoying the advantages of GM foods until we are absolutely sure they are safe? Should the U.S. government require GM foods to be labeled?

SHOULD THE U.S. HAVE TIGHTER REGULATIONS ON GENETICALLY MODIFIED FOOD?



consequence | undernourished | extract | modify | DNA

USE THE FOCUS WORDS *and alternate parts of speech

consequence (*noun*) a result or effect of something

➞ **Sample Sentence:** The **consequences** of eating genetically modified foods are unclear.

🗣️ **Turn and Talk:** What is a negative **consequence** of winning the World Series, Super Bowl, or NBA championship?

undernourished (*adjective*) without enough food for health or growth

➞ **Sample Sentence:** Genetically engineering food could help feed the 800 million **undernourished** people in the world.

🗣️ **Turn and Talk:** What can people do to help **undernourished** members of their community?

extract (*verb*) to remove

➞ **Sample Sentence:** Engineers **extract** a gene from one plant and put it into another plant's DNA.

🗣️ **Turn and Talk:** Why might a dentist have to **extract** a person's tooth?

***extract** (*noun*) a product made of the active ingredient of something

➞ **Sample Sentence:** Many cookie and cake recipes call for vanilla **extract**.

🗣️ **Turn and Talk:** Would you rather use herbal **extracts** or medication to cure a headache? Explain.

modify (*verb*) to make changes to, to alter

➞ **Sample Sentence:** Many of our favorite foods contain ingredients that have been genetically **modified**.

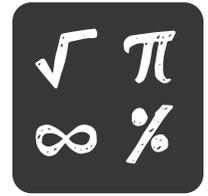
🗣️ **Turn and Talk:** How can a person **modify** his behavior to make more friends?

DNA (*noun*) an abbreviated name for deoxyribonucleic acid, the part of plants and animals that carries genetic information inside each cell

➞ **Sample Sentence:** Engineers extract a gene from one plant and put it into another plant's **DNA**.

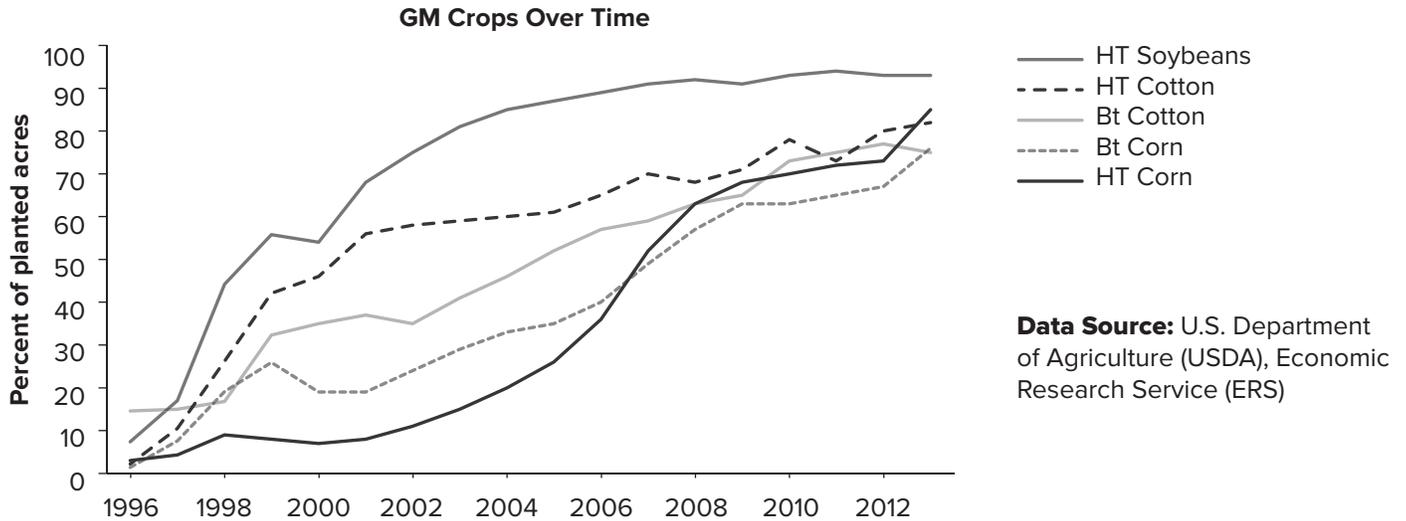
🗣️ **Turn and Talk:** Do you think everyone should have to register his or her **DNA** with the government? Why or why not?

SHOULD THE U.S. HAVE TIGHTER REGULATIONS ON GENETICALLY MODIFIED FOOD?



consequence | undernourished | extract | modify | DNA

DO THE MATH



Option 1: Soybeans are the second most common crop in the United States, but we don't normally see soybeans in their natural form. Typically, oil and proteins are **extracted** from soybeans and then used as ingredients in food products for people or farm animals. HT (herbicide tolerant) crops have had their **DNA modified** to protect them from herbicides, or chemicals that kill plants. Unwanted plants near crops can hog water, sunlight, and nutrients, leaving crops **undernourished** as a **consequence**. Farmers that plant HT crops can spray herbicides on their farms, killing unwanted plants and leaving HT crops to grow unharmed.

During which period did the percentage of HT soybeans increase most dramatically?

- A. 1997–1998
- B. 2000–2001
- C. 2004–2005
- D. 2011–2012

Option 2: About 80% of food sold in the U.S. contains ingredients that have had their **DNA modified**. For example, monoglycerides and diglycerides are common ingredients in processed foods that come from plant or animal sources. If you analyzed 45 food products from an American grocery store, how many products would you expect to contain GM ingredients?

Discussion Question: There are many possible **consequences** of **modifying** the **DNA** of our food. Simply **extracting** some **DNA** here and inserting it there could help feed millions of **undernourished** people. It could also result in the contamination of non-GM foods, as animals spread seeds from farm to farm. Who should decide whether GM foods are worth the risk? Scientists? Farmers? Politicians? Consumers? Why?

SHOULD THE U.S. HAVE TIGHTER REGULATIONS ON GENETICALLY MODIFIED FOOD?



consequence | undernourished | extract | modify | DNA

THINK SCIENTIFICALLY

Every living thing has **DNA**. **DNA** has the genetic codes necessary for life. Scientists can **modify** the **DNA** of living things by **extracting** genes from one organism, such as a carrot, and inserting them into another living thing, such as a tomato. Scientists do this to combine the helpful traits of different plants. Foods that have been genetically engineered are called transgenic foods.

For example, rice is an important food for lots of people around the world, but it doesn't include very many vitamins. On the other hand, daffodil flowers are full of vitamin A but are not good to eat. Mr. Seemy's class read an article about a group of scientists who invented a transgenic rice called "Golden Rice" that included a daffodil's gene for making vitamin A. The author of this article claimed that eating Golden Rice instead of regular rice would make people healthier by preventing them from being **undernourished**.

On a different day, Mr. Seemy assigned his class to read an article that was critical of transgenic foods. This skeptical author thought that producing more GM food could have unexpected and dangerous **consequences**.

Mr. Seemy drew a T-chart on the whiteboard. He also passed out slips of paper with statements about Golden Rice.

Benefits	Risks

Here are the statements about Golden Rice. Can you and a partner sort them into the correct sections of the T-chart? One has already been done for you as an example.

People might have allergic reactions to Golden Rice.

Golden Rice can serve as a source of supplementary vitamin A.

Golden Rice is easy to grow in many places around the world.

Golden Rice might have more vitamin A, but less of other important nutrients.

Getting enough vitamin A reduces the risk of heart disease, specific cancers, and serious eye problems.

Do the benefits of Golden Rice outweigh the risks?

SHOULD THE U.S. HAVE TIGHTER REGULATIONS ON GENETICALLY MODIFIED FOOD?



consequence | undernourished | extract | modify | DNA

DEBATE THE ISSUE

Pick one of these positions (or create your own).

A

The U.S. should have tighter regulations on food that has been genetically **modified**.

OR

B

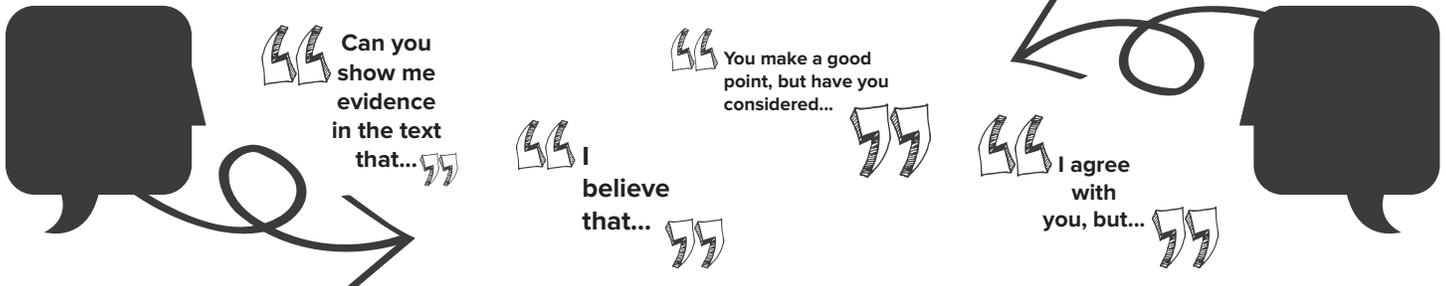
There is no need for extra regulations on food that has been genetically **modified**.

OR

CREATE YOUR OWN

Jot down a few notes on how to support your position during a discussion or debate.

Be a strong participant by using phrases like these:



This week's issue:

SHOULD PEOPLE CONTINUE TO EAT MEAT?

After reading the book *Charlotte's Web*, 10-year-old Alia made a big decision. She decided she would not eat meat anymore. She did not want animals to be killed for food. Her story is not unique. Lately many children are choosing to be vegetarian.

Vegetarians do not eat any beef, pork, chicken, fish, or other meats. Some vegetarians choose their meat-free diet for health reasons. Some choose this diet because of their concern for animals, and others because of their concern for the environment.

Meat consumption has been linked to health problems such as high cholesterol, high blood pressure, and increased rates of diabetes and heart disease. By replacing meat with beans and nuts, vegetarians eat a diet lower in saturated fat and higher in fiber than meat eaters.

Nonetheless, eating meat is an **efficient** way for people to get enough protein, iron, and vitamin B12, since it contains all of these nutrients. In contrast, vegetarians have to plan their meals carefully to get all their nutrients.

Some people say that meat doesn't just taste good; it is also part of the American way of life. A roasted turkey is **symbolic** of Thanksgiving. Hamburgers and hot dogs are traditional foods for Fourth of July barbecues. Beef chili, barbecued ribs, and southern fried chicken are all classic American foods. For some Americans, eliminating meat would be like giving up an essential part of our culture and traditions.

Could the American tradition of eating meat be hurting the earth? Raising animals and transporting meat creates almost one-fifth of the earth's greenhouse gases. This is more than the greenhouse gases produced by cars, trucks, trains, and airplanes combined. In addition, almost half of the water used in the U.S. goes to raising livestock.

Most of the beef produced domestically is eaten by Americans. However, **exports** are also increasing as more countries **integrate** meat into their daily diets. As a result, the meat industry is thriving. Reducing meat consumption could damage an important **domestic** industry, hurting the economy and taking away precious jobs.

Some people choose another option. "Flexitarians" are vegetarians who eat meat occasionally. Flexitarians believe that a diet should be mostly plant-based, but that meat and fish can be healthy and responsible choices if consumed in moderation.

With all of the benefits of vegetarianism, should people continue to eat meat? Are tradition and industry more important than the environment and health benefits?



SHOULD PEOPLE CONTINUE TO EAT MEAT?



export | symbolic | domestic | integrate | efficient

USE THE FOCUS WORDS *and alternate parts of speech

export (*noun*) a good or service sent to another country for sale

➞ **Sample Sentence:** **Exports** are increasing as people around the world add more meat into their daily diets.

🗣️ **Turn and Talk:** Why might having a lot of **exports** be good for a country's economy?

***export** (*verb*) to send something to another country, especially for sale

➞ **Sample Sentence:** China **exports** many goods that are sold around the world.

🗣️ **Turn and Talk:** What kind of transportation is needed to **export** large machines to far-away countries? (Machines are the U.S.'s number one export.)

symbolic (*adjective*) representative of something else, such as an idea

➞ **Sample Sentence:** A huge roasted turkey is **symbolic** of Thanksgiving.

🗣️ **Turn and Talk:** What is one thing that is **symbolic** of your city?

domestic (*adjective*) made in, done in, or otherwise related to one's own country

➞ **Sample Sentence:** Reducing meat consumption could damage an important **domestic** industry.

🗣️ **Turn and Talk:** Why do some people try to buy **domestic** rather than foreign products?

integrate (*verb*) to combine or unite into a whole

➞ **Sample Sentence:** Residents of more and more countries are **integrating** meat into their daily diets.

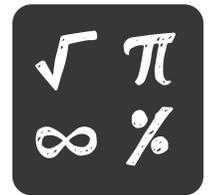
🗣️ **Turn and Talk:** Describe some challenges that immigrants might face when **integrating** into U.S. society.

efficient (*adjective*) productive without wasting time, energy, or resources; effective

➞ **Sample Sentence:** Nonetheless, a vegetarian diet is not a very **efficient** way for people to get enough protein, iron, and vitamin B12.

🗣️ **Turn and Talk:** Do you think that you are becoming more or less **efficient** at studying for tests?

SHOULD PEOPLE CONTINUE TO EAT MEAT?



export | symbolic | domestic | integrate | efficient

DO THE MATH

Option 1: Many Americans believe that a healthy diet **integrates** meat. After all, meat is an **efficient** source of calories and protein. Meat can also be a powerful symbol. For many Americans, a thick steak represents success, and hot dogs represent summertime baseball.

For many farmers and ranchers, meat production is also a way to earn a living. The U.S. **exports** billions of pounds of meat a year in addition to the billions of pounds sold in the **domestic** market for consumption. This table from beefusa.org shows the number of pounds of meat eaten by the average American during five different years.

Year	Average meat consumption per person
1985	200.4 lbs
1990	200.7 lbs
1995	207.7 lbs
2000	213.9 lbs
2005	220.2 lbs

How much more meat per year did the average American eat in 2005 than in 1985?

- A. 0.2 pounds
- B. 0.8 pounds
- C. 19.2 pounds
- D. 19.8 pounds

Option 2: For vegetarians, meat can be **symbolic** of cruelty to animals. While eating meat is an **efficient** way to take in calories, most people get enough calories anyway. A vegetarian diet that **integrates** beans, nuts, and vitamin supplements can be just as healthy as a diet with meat. Domestically, about 3% of young people ages 8–18 are vegetarian.

If two young Americans ages 8–18 are selected at random, what are the chances that both of them are vegetarian?

 **Discussion Question:** The U.S. produces billions of pounds of meat each year: some for **export**, and some to be eaten domestically. According to beefusa.org, most Americans have a diet that **integrates** over half a pound of meat a day. What will happen if more Americans become vegetarian? Which people might lose money and which people might earn more money? In order to feed people efficiently, how should the food industry change?

SHOULD PEOPLE CONTINUE TO EAT MEAT?



export | symbolic | domestic | integrate | efficient

THINK SCIENTIFICALLY

Sasha, a student in Ms. Kahn’s class, is vegetarian. “I can **integrate** all the nutrients I need into my diet without eating meat,” she says, “so why should any animals be harmed?”

Jamal is not vegetarian, but has decided to eat less meat. Jamal claims, “Raising livestock for food is not an **efficient** use of our resources. Over 50% of the corn and soybeans grown in the world are fed to animals instead of hungry people! The United States does not just **export** products to other countries; we **export** our ideas too. We should set a good example by trying to eat less meat.”

Anthony disagrees with the other students. “The way we eat is **symbolic** of being American!” he says. “Eating meat has always been an important tradition in this country.”

Sasha says, “I don’t think that’s right. I heard that Americans used to eat much less meat than they do today. That means there are so many more animals killed for food than there used to be.”

“No way!” said Anthony. “I’ll look it up.”

Anthony checked data from the U.S. Census and the Humane Society to investigate eating patterns in the U.S. over time.

Question: Has the number of animals killed for food per person in the United States gone up over time?

Hypothesis: The number of animals killed for food per person in the United States has stayed about the same from 1950 to 2000.

Procedure:

1. Record the total number of farm animals killed for food in the United States in 1950, 1960, 1970, 1980, 1990, 2000, and 2010.
2. Record the total population of the United States for each year listed.
3. For each year listed, calculate how many farm animals were killed for food per person.

Here are the data that Anthony found:

Year	Total Number of Farm Animals Killed for Food in One Year in the U.S.	Total United States Population	Number of Farm Animals Killed for Food in One Year, Per Person
1950	0.1 billion	152 million	less than 1 (about 0.7)
1960	1.8 billion	181 million	about 10
1970	3.2 billion	205 million	
1980	4.5 billion	227 million	
1990	6.4 billion	249 million	
2000	8.9 billion	281 million	
2010	9.2 billion	309 million	

Complete Anthony’s table above. Do you notice a trend? If so, what is the trend?

What would you predict the data to be this year? Do you have ideas about how you could find that data?



SHOULD PEOPLE CONTINUE TO EAT MEAT?



export | symbolic | domestic | integrate | efficient

DEBATE THE ISSUE

Pick one of these positions (or create your own).

A

People should not eat meat.

OR

B

People should include a limited amount of meat in their diets.

OR

C

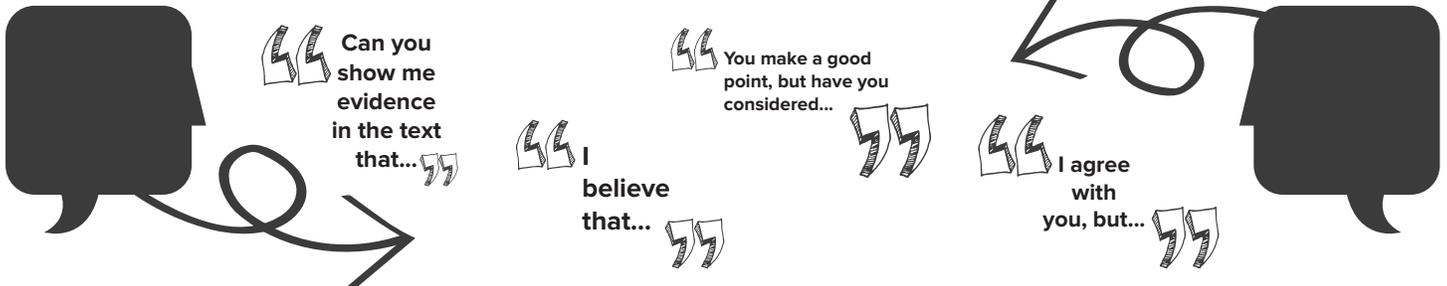
People should eat as much meat as they want.

OR

CREATE YOUR OWN

Jot down a few notes on how to support your position during a discussion or debate.

Be a strong participant by using phrases like these:



This week's issue:

DO THE BENEFITS OF RENTING A PET OUTWEIGH THE POTENTIAL HARM IT CAN CAUSE THE ANIMALS?



Davonte Reese wanted a dog, but his parents didn't think he was **capable** of taking care of one. Then they heard about a company that rents pets. Davonte's parents were glad the pet rental company gave them the chance to rent a Dalmatian for a day. Renting a Dalmatian helped them realize that Davonte was ready to own a dog. His parents then took Davonte to an animal shelter and adopted a mixed-breed dog named Lucky.

Some people say renting a dog should be illegal. They believe rental businesses are harmful to dogs. People who are against pet rentals give several reasons to support their position. To be happy, they say, a dog needs **ongoing** contact with one person. In addition, a dog likes to know its home. Dogs and people evolved together, so dogs depend on their human "family." They have some social skills that are like those of humans. People domesticated dogs to be socially **compatible** and live with humans. Therefore, people have a special responsibility to ensure that dogs have stable homes, and each dog has a special right to a permanent home with ongoing companionship. Also, they say, who will want rental dogs when they are sick or old?

Marlena Cervantes disagrees with the **notion** that pet rental is bad for dogs. She has a pet rental business. She buys mostly purebred dogs and then rents them for a fee. A dog can spend time with a different family every day of the week. **Whereas** people who own dogs leave them home alone, Marlena says people who rent dogs give the animals lots of attention. Also, families like Davonte's can use pet rentals to make an informed decision about whether to own a dog or not. Marlena's business also creates jobs.

Some states may make it against the law to rent pets. If you were going to write to a member of your state assembly about this issue, what would you say? Should it be illegal to rent a pet?

DO THE BENEFITS OF RENTING A PET OUTWEIGH THE POTENTIAL HARM IT CAN CAUSE THE ANIMALS?



whereas | capable | ongoing | compatible | notion

USE THE FOCUS WORDS

whereas (*conjunction*) although, in contrast with the fact that

➡ **Sample Sentence:** **Whereas** people who own dogs leave them home alone, Marlena says people who rent dogs give the animals lots of attention.

🗣️ **Turn and Talk:** How is middle school different from elementary school? (Try: In elementary school, _____, **whereas** in middle school, _____.)

capable (*adjective*) able to do or accomplish something

➡ **Sample Sentence:** Davonte Reese wanted a dog, but his parents didn't think he was **capable** of taking care of one.

🗣️ **Turn and Talk:** What is one thing that people say you are **capable** of? Do you agree or disagree with them?

ongoing (*adjective*) continuing without interruption

➡ **Sample Sentence:** Each dog has a special right to a permanent home with **ongoing** companionship.

🗣️ **Turn and Talk:** What is an **ongoing** argument or debate that you have with your friends?

compatible (*adjective*) able to exist together well

➡ **Sample Sentence:** People domesticated dogs to be socially **compatible** and live with humans.

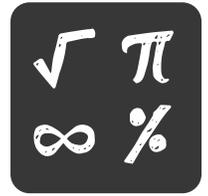
🗣️ **Turn and Talk:** What are some qualities of the people with whom you are most **compatible**?

notion (*noun*) idea or belief

➡ **Sample Sentence:** Marlena Davis disagrees with the **notion** that pet rental is bad for dogs.

🗣️ **Turn and Talk:** Do you agree with the **notion** that world peace is possible?

DO THE BENEFITS OF RENTING A PET OUTWEIGH THE POTENTIAL HARM IT CAN CAUSE THE ANIMALS?



whereas | capable | ongoing | compatible | notion

DO THE MATH

Even though the **notion** of putting unwanted pets to sleep is a sad one, millions of dogs and cats are put to sleep in shelters each year. People disagree about whether pet rental can help save these animals. Some people say that rescuing a shelter pet is better than renting, **whereas** others say pet rental keeps pets from going to the shelter in the first place. Pet renters can return a pet if it is incompatible with the renter's lifestyle, or if the renter is incapable of giving the pet **ongoing** care. This way, the unwanted pet goes back to the store instead of the shelter.

Option 1: About three million pets are put to sleep in U.S. shelters each year. Which of the following shows three million written in standard form?

- A. 3,000
- B. 300,000
- C. 3,000,000
- D. 3,000,000,000

Option 2: Cyprian loves dogs, but he knows that he is too busy to take care of a full-time pet. He tries renting a dog and finds that pet rental is **compatible** with his lifestyle. He recommends the same pet rental business to three of his friends, who try it a week later. They enjoy the experience, and each gets three of their own friends to try it the next week. At this rate, how many customers will the pet rental service have gained within 8 weeks of Cyprian's recommendation?

 **Discussion Question:** Pets are incapable of defending their rights. **Whereas** people have many rights, pets have very few. Do pets have the right not to be put to sleep? The right to be spayed or neutered? The right to **ongoing** care? Does the **notion** of pets' rights make sense, or are rights something that only people have? If pets have rights, are those rights **compatible** with pet rental?

DO THE BENEFITS OF RENTING A PET OUTWEIGH THE POTENTIAL HARM IT CAN CAUSE THE ANIMALS?



whereas | capable | ongoing | compatible | notion

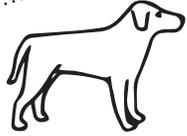
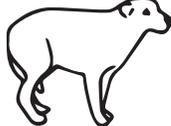
THINK SCIENTIFICALLY

Many people argue that families that rent pets don't have enough experience with pet needs and behaviors. Others think it is common knowledge that dogs are happy when they wag their tails and afraid when they lower their bodies and look down. Ms. Kahn's student Shatara agreed with this **notion**. She shared, "Our poodle, Toots, wags his tail whenever we take him for a walk around the neighborhood, **whereas** Rusty, our sheepdog, cowers and is never happy about going for walks. My mom says that Rusty's fear of city noises has been an **ongoing** problem since Rusty was a puppy."

Ms. Kahn chimed in, "My family's dog, Rex, is **compatible** with urban life, but he is afraid of new people inside our apartment. He'll actually hide when we have guests."

This got Shatara thinking about observing the behaviors of dogs. She sketched different ways that dogs held their bodies as she observed them. She was curious about how much she could infer from the posture of dogs. Examine Shatara's sketches to see if there is enough information for you to make an inference. If so, write it down.

Here are some of Shatara's sketches

	Possible Dog Feeling	Inference Statement
1 	<input type="checkbox"/> submissive <input type="checkbox"/> fearful <input checked="" type="checkbox"/> neutral/relaxed <input type="checkbox"/> aggressive <input type="checkbox"/> playful	Example: I think that sketch #1 shows a neutral/relaxed posture because the ears and tail are drooping down instead of pointing up.
2 	<input type="checkbox"/> submissive <input type="checkbox"/> fearful <input type="checkbox"/> neutral/relaxed <input type="checkbox"/> aggressive <input type="checkbox"/> playful	Your Inference: _____ _____ _____
3 	<input type="checkbox"/> submissive <input type="checkbox"/> fearful <input type="checkbox"/> neutral/relaxed <input type="checkbox"/> aggressive <input type="checkbox"/> playful	Your Inference: _____ _____ _____
4 	<input type="checkbox"/> submissive <input type="checkbox"/> fearful <input type="checkbox"/> neutral/relaxed <input type="checkbox"/> aggressive <input type="checkbox"/> playful	Your Inference: _____ _____ _____
5 	<input type="checkbox"/> submissive <input type="checkbox"/> fearful <input type="checkbox"/> neutral/relaxed <input type="checkbox"/> aggressive <input type="checkbox"/> playful	Your Inference: _____ _____ _____

Some people might say that sketching is not a very scientific way for Shatara to take notes about her observations. What do you think?

This week's issue:

SHOULD SINGLE-GENDER EDUCATION BE AN OPTION FOR EVERYONE?

Jenny lives with her mother, grandmother, and little sister. She is a junior at an all-girls high school where she is an excellent student. Jenny has applied to the University of New Mexico. She is concerned about living in a co-ed dorm. She has not spent much time interacting with boys her own age. Has Jenny's high school experience prepared her for the real world?

For years, many private schools have separated boys and girls. Today, single-gender education can also be offered in public schools, making it available to students who cannot afford to go to private schools.

Supporters of the single-gender **paradigm** in education say that boys and girls learn better in separate settings. Some research has shown that single-gender education improves learning. Supporters say that in coeducational settings, the pressure to impress the opposite sex distracts both **genders** from their studies. Students focus on looking attractive or acting cool instead of concentrating on schoolwork. Some students hesitate to participate in class because they worry about what students of the opposite sex will think.

Teachers of single-gender classes report that both genders pay attention and participate more when separated. Teachers can plan activities specifically to address boys' and girls' needs, such as adding movement and competition to lessons for boys and creating collaborative lessons for girls. The learning environment can also be tailored; classrooms for girls are

often kept warmer and quieter than those for boys. Having only one gender present can weaken stereotypes about boys being better at math and girls being better at literacy.

However, opponents say that single-gender schools actually reinforce gender stereotypes. In reality, some girls prefer competition, and some boys are collaborative learners. Some studies show that teachers interact with students differently in single-gender classrooms. Teachers might assign less reading to boys and easier math to girls. Opponents think it is better to work on improving student achievement without separating boys from girls.

Many people also point out that schools are supposed to prepare students for the future. Men and women **comprise** the workforce. If boys and girls grow up without working together, they may have trouble **adapting** to mixed-gender situations. For students to succeed as adults, they must learn how to **conduct** themselves around the opposite sex. What do you think? Do the academic advantages of single-gender education outweigh the social learning opportunities provided in regular schools?



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gender | comprise | adapt | conduct | paradigm

USE THE FOCUS WORDS *and alternate parts of speech

gender (*noun*) social category related to sexual identity

➡ **Sample Sentence:** A new law has made single-**gender** education available to students who cannot afford to go to private schools.

🗣️ **Turn and Talk:** Discuss a time when you were not allowed to participate in an activity because of your **gender**.

comprise (*verb*) to make up; to form

➡ **Sample Sentence:** Men and women **comprise** the workforce.

🗣️ **Turn and Talk:** Do you think it's important that a school be **comprised** of an equal number of boys and girls?

adapt (*verb*) to change to fit a new situation

➡ **Sample Sentence:** If boys and girls grow up without the experience of working together, they may have trouble **adapting** to mixed-gender situations.

🗣️ **Turn and Talk:** Why might students have a hard time **adapting** to middle school?

conduct (*verb*) to behave in a particular manner; to plan and carry out

➡ **Sample Sentence:** To prepare students to succeed as adults, they must learn how to **conduct** themselves around the opposite sex.

🗣️ **Turn and Talk:** Do you think it is dishonest to **conduct** yourself one way in front of some friends and differently in front of other friends?

***conduct** (*noun*) behavior

➡ **Sample Sentence:** The guide discussed appropriate **conduct** before allowing the class to enter the museum.

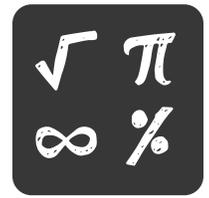
🗣️ **Turn and Talk:** How does your **conduct** change when you are in a classroom versus when you are at the shopping mall?

paradigm (*noun*) a model or example; a framework

➡ **Sample Sentence:** Supporters of the single-gender **paradigm** in education say that boys and girls learn better in separate settings.

🗣️ **Turn and Talk:** What are some rules that you would include in your personal **paradigm** for success?

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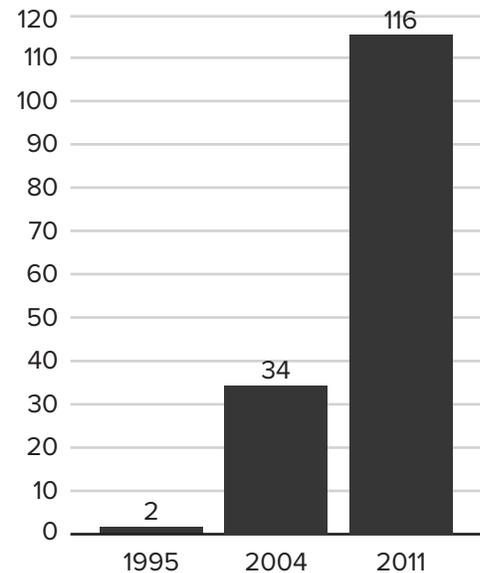


gender | comprise | adapt | conduct | paradigm

DO THE MATH

Option 1: American schools must **adapt** to a competitive world. Schools are looking for ways to boost achievement and improve student **conduct**. Schools or classes **comprised** of just one **gender** might help reach these goals. More public schools are considering the single-**gender paradigm**. In 1995, there were just 2 single-**gender** public schools. By 2011, there were 116.

Single-Gender Public Schools



Which of the following best describes what happened to the number of single-**gender** public schools?

- A. the number doubled
- B. the number decreased by one-third
- C. the number increased dramatically
- D. the number increased by 300%

Option 2: Dr. Leonard Sax has championed the single-**gender paradigm**. He claims that classes **comprised** of only girls or only boys allows teachers to **adapt** each class to boys' or girls' different needs. Researchers have **conducted** studies that have found that males prefer lower temperatures than females when wearing bathing suits. In regular clothing, Dr. Sax thinks males will prefer a temperature of 69°, and females will prefer a temperature of 76°.

Assume Dr. Sax is right. Let f = the preferred temperature for females. Let m = the preferred temperature for males. Write an algebraic expression that shows the relationship between the two variables.

 **Discussion Question:** Will **conducting** studies on **gender** differences help us do a better job of educating students? Should schools **adapt** to students, or should students **adapt** to school? Which **paradigm** seems right to you? Why?

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THINK SCIENTIFICALLY

Ms. Kahn gave her students many assignments to complete as groups. She wondered whether group work was an effective teaching **paradigm**. Every year, she asked her students to work in groups to design a bridge with toothpicks. This year, her class decided to **conduct** an experiment to see if groups built better bridges than individuals. They divided the class into two conditions, so that some students worked in groups and some worked individually. Then they rated each bridge on how long it took to build and how much weight it held. Ms. Kahn agreed that if students worked better in groups than alone, they would **adapt** their class plans to include more group activities.

Ms. Kahn's student Tanya worked with Ms. Kahn to investigate whether working in groups helped with problem solving.

Question: Is group work an effective way to solve challenging problems?

Hypothesis: The students who work in groups will build stronger bridges.

Materials:

- ▶ Toothpicks
- ▶ Glue
- ▶ Timers

Procedure:

1. Begin with a class of 15 students. Divide the students into two groups of 5 students each and 5 students working alone. Students in groups decide on their roles.
2. Monitor the amount of time the students spend building the bridges.
3. When the bridges are complete, measure how much weight the bridge can hold before it breaks.

Working as Groups

Working as Individuals

	Hours to complete the bridge	Mass held by bridge	
Working as Groups	A	17	30g
	B	18	25g
Working as Individuals	1	12	30g
	2	6	5g
	3	10	15g
	4	14	15g
	5	11	10g

Do the data give you information about the effectiveness of group work?

Could you change this experiment to compare **gender** groups instead of groups and individuals? How?

*Let's speculate that one **gender** learns better in single-**gender** classrooms and the other does not. If this were the case, do you think it would be fair to let people choose?*

Word Generation | Series 3 | Part A

FOCUS WORDS

Unit 3.01

controversy
justify
perspective
bias
debate

Unit 3.02

strategy
research
cite
phase
data

Unit 3.03

extend
radical
crucial
attain
initiative

Unit 3.04

adopt
consent
tension
ensure
duration

Unit 3.05

wiretapping
source
suspicious
patriot
eliminate

Unit 3.06

diminish
regime
displace
stable
estimate

Unit 3.07

voluntary
literacy
impose
allocate
rigid

Unit 3.08

genetic
conception
range
circumstance
regulate

Unit 3.09

modify
DNA
undernourished
consequence
extract

Unit 3.10

symbolic
export
domestic
efficient
integrate

Unit 3.11

whereas
capable
ongoing
compatible
notion

Unit 3.12

gender
conduct
adapt
comprise
paradigm



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