Balance Unit

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Theme
Balance (The unit will last for 5 weeks.)

Description of Theme
Driving Question-What can you do to make your voice heard?

Things we want the kids to think about during the unit:

- Feeling important and having your voice heard
- Making change in the school
- Why is imbalance important?

Culminating Activity-A school wide election to change a rule in the student handbook and Civics Day

Teachers Involved With the Unit

- Art
- English
- Gym
- Math
- Media Specialist (Library and Computers)
- Music
- Social Studies
- Science

Study Skills Emphasized During the Unit

- Seeking Information
- Keeping Records and Monitoring

Habits of Mind Emphasized During the Unit

- Cooperating and Collaborating
- Preserving and Having Self-Discipline

Project-Making a Change Within Your School
The project will begin at the end of September so as to coincide with election season. The project will extend past the 5 weeks of the unit.

The unit will start with the Blue Eyes/Brown Eyes simulation (**letter home to parents at least 2 weeks prior).**
Over two days of classes everyone (including teachers) will be treated poorly depending on the color of their eyes. Students will not really know what is going on and why.

On day 3 there will be an All Team Meeting (it will last a majority of the day) to discuss the simulation and introduce the project. The students will watch the Dateline video which will then be followed by a large group discussion.

During the discussion the teachers will ask the following questions:

- How did you feel when you wore the collar?
- How did people treat you when you did wear the collar?
- How did you treat people who wore it?
- How will this change the way you treat others?

After the discussion the teachers will introduce the idea of changing something within the school. The social studies teacher will review voting and government with the students (they have been working on this the past 2 days). We will then distribute questionnaires that give students a chance to pick which aspects of the project they would like to be involved in.

The groups available to them include:

- Creating, implementing, and analyzing a school wide survey (headed by Math teacher)
- Creating and distributing posters and advertisements (headed by social studies teacher)
- Building voter booths (headed by science teacher)
- Creating voting ballots and proposals for the administration (headed by English teacher)

The students will meet in their groups everyday during the one hour flex block they have at the end of the day. Every Friday the groups will meet together to share their progress and ideas with one another, this way all of the students know what the other groups are doing.

The culmination of the project will be a school wide Civics Day that will be planned and run by the students. The day will include a PowerPoint presentation of their election/survey results and a speech given by a state representative. Prior to the civics day the students will have meet with the administration and presented their results to them. Hopefully, by the Civics Day the administration will have made a decision about whether or not they will implement the changes voted on by the students. This project could grow to include the community depending on what the students chose to focus on.

Fieldtrip

Students will take a tour of the State House and then walk a portion of the Freedom Trail. The Freedom Trail will allow the students to see how the colonists were able to **tip the scales** in their own favor.

Group Games

Some of the games will be done during gym and some during flex blocks. The gym teacher and team teachers will work together to run these games. The gym teacher will come up during the flex period a few times and the team teachers will go down to the gym class a few times.
The games below are all related to the concept of balance.

- Mirrors
- Multi-Way Tug of War
- Lapsit
- Yurk Circle
- Team Juggling
- The Dimensional Load Problem
- Stranded
- Ropes Activities

Team Timeline

Week	Activities
1	ATM Video: “Never Cry Wolf” English and science teachers co-teach endangered species project
2	English and science teachers co-teach endangered species project Social Studies and Art co-teach a lesson in which the students create CD covers with songs that represent **balance and power**.
3	English and science teachers co-teach endangered species project-the students are collecting data in the library
4	Fieldtrip Social Studies and Math co-teach voting and Electoral College lessons
5	Finishing touches for Civics Day will be taken care of Students go to Elementary schools and read their endangered species books to the students

Subject Matter Lessons

Gym Teacher:

The gym teacher will be discussing aspects of physical balance with the students throughout this entire unit. The students will learn about their sense of balance and how it is connected to the ear. The teachers will have the students that participate in games that are directly related to balance, including the balance beam, gymnastics, and ropes. The gym teacher will also be working alongside the team teachers to facilitate the group games related to balance that are listed above.

Art Teacher:

The art teacher will focus on balance from the visual art perspective, i.e. color, shading, placement. The Art and Social Studies teacher will team up on creating a CD cover (**see Week 2 Social Studies plans**). The art teacher will also be involved in the advertising aspect of the team's election and Civics Day.

Media Specialist:

The media/library specialist will be helping students with many pieces of this unit. This specialist will be helping students with research for their Science/English project on endangered species. The specialist will also be able to work with the social studies and art teacher to help students with their balance CD project. The specialist can help students to download appropriate songs and burn them onto CDs. The media specialist can also be a helper or advisor to the advertising committee; working hand in hand with the art teacher. The students can make power points or websites to help their cause.

WEEK 1

Social Studies

Lesson 1: "*How does the Constitution protect freedom of expression?"*

Students learn why the Founders considered freedom of expression so important. Students also learn why it is important to them as individuals and to the preservation and improvement of our constitutional democracy. Students discuss *Tinker v. Des Moines School District (1969)* and complete a problem solving activity on **balancing rights and interests** by discussing *Hazelwood School District v. Kuhlmeier (1988).*

******** This lesson will be presented prior to the Team's first ATM about the Balance Unit, most likely during our Blue Eyes/Brown Eyes simulation. It is expected that this lesson will show our students that kids can make a difference too. Hopefully this will get them thinking about rules within the school that are unfair or need to be changed in some way.

Lesson 2: *"What is government?"*

Students are introduced to some of the basic ideas that were important to the Founders. They also learn why the Founders thought we needed a

government and how they believed the governments should be created and what they ought to do. In small groups students define and identify basic rights and how they should be protected. Students learn about John Locke, natural rights and state of nature. In small groups students imagine life in a state of nature (in the classroom), answer the following questions and then share their answers in a large group discussion.

1. *What might the advantages and disadvantages of living in a state of nature?*
2. *What might happen to people's rights?*
3. *What might life be like for everyone?*

Lesson 3: *"How can governments be organized to prevent the abuse of power?"*

Students learn how a constitutional government is intended to protect the people from abuses of power and some ways in which governments can be organized to make such abuses less likely. Students are introduced to the following vocabulary words: separation of power, checks and balances, legislative branch, judicial branch and executive branch. Students read and interpret quotes from the Founders to discover their views on governments' abuses of power. Students then answer the following questions: *What vie of human nature do these people share? What kinds of protections would you include in your government to prevent it from abusing its power?*

Science

Lesson 1: *"How the body is organized"*

Students are given an opportunity to express what they already know about the major organs of the human body and the systems to which those organs belong. Students will work in their groups of 4 to discuss and record the ideas about organs and body systems and the differences between them. They will generate a list of body organs and body systems with their group. Each group will share their ideas and we will make a class list. Then the students will come up with their own definitions of the terms body organ and body system. Students will read pages 16-21 in their book and answer the section review questions on page 21. The students should understand the levels of organization in the body: cell, tissue, organ, organ system.
(STC/MS Human Body Systems, Lesson 1)

Lesson 2: "*Human body mapping"*

The students will work in groups to create a human body systems poster onto which they will attach cutouts of 11 major body organs. These organs include the brain, gall bladder, pancreas, small intestine, heart, trachea, esophagus, stomach, large intestine, lungs, and liver. The students will draw an outline of a person and then they will label each of the organs with their appropriate names. Next, the students will use their prior knowledge of the body organs to tape the organs in their appropriate places. The students will not be able to use books or other resources to complete this activity. Each group will share their poster with the class and explain why they put the organs where they

did. The students will be given these posters back as we learn about each of the body systems. They will be rearrange the organs as they see appropriate and will keep a record of what they changed and why. Students will look back at their class definitions for body organs and body systems and makes changes as needed. The students will also read the article entitled "Humans: The Problem Solving Animals" and answer the questions at the end.
(STC/MS Human Body Systems, Lesson 1)
**During this week there will be an ATM, the students will be watching the video "Never Cry Wolf", and I will be co-teaching the endangered species project with the English teacher.

Math

ONE-STEP EQAUTIONS

Equations as being a literal balance: Students will solve one-step equations using a real balance.

1. Using the balance scale, the students will find the number of paper clips (one's) that a highlighter is equal to. The students will put a random number of paper clips on one side of the balance and a highlighter and put paperclips on the other side of the balance until they are balance. Then, the student figure out how many paperclips need to be taken away from the side with the highlighter in order to "get it alone". They then need to figure out what they have to do to the other side to retain the balance.
2. Students model the balance using algebra notation.

highlighter + 15 paperclips = 37 paperclips
h + 15 ones = 37 ones
h + 15 = 37
-15 -15
h = 22

It is important to model proper equation set up at this time. Notice the equal signs are lined up (this is the fulcrum in the equation), the same thing was done to both sides, and the final value was found.

3. Continue with several different examples using addition and finding the weight of items measured in paperclips.
4. Next, the students model multiplication equations with the balance scale. This time the students will have several of the same items on one side of the balance and an appropriate number of paperclips on the other side of the balance. It is important not to use used pens, pencils or markers for this activity because they may not all be the same weight after partial consumption.) Students could use protractors or other math manipulative around the room. One model could be 5 protractors are balanced with 220 paperclips. Students have to figure out what they could do to both sides to get one protractor alone. They must do THE SAME thing to both sides. The students will want to subtract 4 protractors to get one alone, but they realize they can't do it to both sides.

5 protractors = 220 paperclips (ones)

$$\frac{5p}{5} = \frac{200}{}$$

$$P = 40$$

5. Students will apply what they know to “Naked” one-step equation in the text and on worksheets. Students should be encouraged to revisit the balance to help with any problem.

English

Lesson 1: *“The Wonderful World of Open Response”*

Students will first be given an overview of how MCAS open response questions are scored and items that should be included in each answer. After Starting off the balance unit with the movie “Never Cry Wolfe” students will come to English class and answer open response (MCAS type) questions about what they saw. As a class we will begin to discuss endangered species and we will read two articles, “Ships in the Desert” by Al Gore and “Buffalo Days” by Janelle Stern. These two articles deal with endangered species and their habitats. Students will read the articles in class and then answer the open response questions that accompany the articles. After the open response students will be put into groups in order to grade their open responses. Certain open response answers will be chosen for the whole class to review.

Lesson 2: *“Elements of a Story”*

Students will begin by learning the elements of a story. After this they will read the short story “Charles” and will plot the story on a graph. Students will do a pair share to see where the pieces of the story are located.

WEEK 2

Social Studies

Lesson 4: *“Balancing three branches at once: our system of checks and balances”*

This lesson is a continuation of Lesson 3, focusing on checks and balances. There are three parts to this lesson. Part of this lesson will be taught in conjunction with the Art teacher. The students will analyze songs from ABC’s **School House Rock** (SRH) in the Social Studies classroom and then students will create a CD cover in the Art classroom with ten **appropriate** songs that deal with **balance and power.** Students then write up inside the CD cover why each song was chosen. The designing of the CD cover will begin on the day that Part 1 is introduced and continue on for the rest of the week. Students will work on ways in which they can visually symbolize (im)balance and power. Students may actually burn the CD if they have the software but this will NOT be a requirement. This lesson will most likely take the entire week.

By the end of this lesson students should be able to answer the following question: *"What are some ways the three branches of our government check one another?"*

Part 1: Students listen to "No More King" (SHR) as they follow along with the lyrics. Then a class discussion begins on the following questions: *According to the lyrics, what problems did the colonists have with British rule? What other problems are you aware of? Ho did the colonists attempt to solve the problems? How was the government for the new United States of America different from the British government?*

Part 2: Students listen to "Three-Ring Government" (SHR) as they follow along with the lyrics. Then a class discussion begins on the following questions" *What do they explain about the three branches of our government? What are the three branches? What is the main responsibility of each?* A discussion of the basic functions of the three branches of government continues; the main responsibilities of each are written on the board and students get this information into notebooks.

Part 3: In small groups, students review one of seven documents and then teach the rest of the class about it. They are to decide how their document represents a check by one of the branch on the power of another. Students should ask themselves: *Which branch of government is acting? Which branch of government can't do what it wants?* When all the documents have been analyzed and discussed the teacher reads some statements that represent possible abuses of power by one branch over another. For example, "I am the President; I can declare war on France." Students must then decide which document exemplifies how each particular action could be checked.

Science

Lesson 3: *"Making Models"*

To help students better understand that all the levels of organization work together (cell, tissue, organ, organ system) they will work in groups to build models of organized objects in which each level is composed of the levels before it. Students will brainstorm with their group their ideas for a model and will then work together to build their model. There will be a variety of materials available for the students to use to build their models. If the groups need additional materials then they must submit a list to me and I will get them for them to use during the next class.
(Prentice Hall: Science Explorer, Human Biology and Health)

Lesson 4: *"Keeping the body in balance"*

The students will complete the discover activity on page 23 of their text. This activity has students focus on what happens when they become startled or scared. The students all sit with their eyes closed and I tell that I have a balloon and will be popping it at any moment. I do not tell them when I will pop it however. The students are to pay close attention to how their bodies react when I pop the balloon. They should observe whether they jump and whether their heartbeat rate and breathing rate change at all. Then the students will observe

how their bodies return to normal again. The students should be recording all of this information in their notebooks. Once the students are done they will share their reactions with the rest of the class and we will discuss the similarities and differences between their reactions. Discuss the term homeostasis and how it relates to this activity.
(Prentice Hall: Science Explorer, Human Biology and Health)
**During this week I will also be co-teaching the endangered species project with the English teacher.

Math

TWO-STEP EQUATIONS

1. Using the same techniques and above, students will model and solve two-step equations with a balance scale. Example: One side of the equation has 4 magnets (of the same size, shape and weight) and 34 paperclips. The other side has 266 paperclips. How much does a magnet weigh in paperclips?

   4 magnets + 34 paperclips (ones) = 266 paperclips (ones)

   $$4m + 34 = 266$$
   $$-34 \quad -34$$
   $$\frac{4m}{4} = \frac{232}{4}$$
   $$m = 58$$

2. Continue with several different examples using multiplication combined with addition and finding the weight of items measured in paperclips.
3. Students will apply what they know to “Naked” two-step equation in the text and on worksheets. Students should be encouraged to revisit the balance to help with any problem.

English

Lesson 3: *“Back to the Classics”*

Students will be put into groups for a Fable Jigsaw Activity. Students will read models of fables from *The Aesop for Children* anthology and map out a story using the plot line graph. By practicing with models students will gain familiarity with organizer, review story elements, and gain experience with the genre of fables. Students will be grouped into **Expert** groups and **Home** groups. Everyone in the expert group will read the same fable. Students will meet in Home groups first and divide up the fables. Each student will independently read the fable and prepare the following information:

☺ Identify the moral of the fable
☺ Identify characteristics of each animal in the fable and explain why these animals are appropriate choices for the moral communicated
☺ Create a plot line graph that illustrates story elements.

WEEK 3

Social Studies

Lesson 5: *"What experiences led to the American Revolution?"*

Students learn about the growth of constitutional government in England and how British ideas on government were used in the colonial governments. Students will come to understand the reasons why the American colonists decided to fight for their independence. Students then participate in a debate where half the class is Patriots and half the class is Loyalists. In this activity the students discuss the reasons behind why each group was either for (Patriots) or against (Loyalists) going to war with Great Britain.

Lesson 6: *"What basic ideas about government were in the Declaration of Independence?"*

Students learn about the Declaration of Independence, which summarizes the colonists' ideas about government. Students learn about the three parts of the document (ideals, arguments, complaints against the king) and the main ideas contained in the document.

Lesson 7: "*List of Complaints in the Declaration of Independence"*

In small groups students review some of the complaints listed in the Declaration of Independence. Students rewrite the complaint in their own words and then explain the basis of the colonists' complaint.

Science

Lesson 5: "*Interpreting data: sugar concentrations:*

The students will complete the sharpening the skills activity on page 24 of their text. The students will study a table about sugar concentrations in the body of an animal. They will work with their group to interpret the information and to explain how data show homeostasis at work within the body. The students will then make a line graph to display the data presented in the table. Once all groups are complete we will discuss the table and how it shows homeostasis together as a class. We will also go over how stress is related to homeostasis. By themselves the students will also write down and describe two ways in which the body maintains homeostasis.
(Prentice Hall: Science Explorer, Human Biology and Health)

Lesson 6: *"The body in balance"*

Students will look at some of the functions that the body does automatically. We will begin by reading the short article "Making Adjustments" out loud as a class. The students will then discuss some of these functions that our body does automatically with their group. Students will share their responses and we will create a class list. Then the students will look at how difficult it can be to regulate certain automatic body functions such as internal temperature

control. They will need to work with their groups to keep a small quantity of water at a constant temperature for an extended period of time. Once they have completed this challenge they students will work together to answer 3 lab questions. The students will share their lab results and answer to the lab questions with the class. Students will read the article entitled "Lie Detectors: Tracking Reactions" and answer the questions at the end. After the lab is completed the students will reevaluate the original lists they comprised on the functions that our body does automatically.
(STC/MS Human Body Systems, Lesson 22)
**During this week I will also be working the English teacher to help the students finish up their books which they will then be reading to students at the elementary school.

Math

Week 3, 4 and 5: MULTI-STEP EQUATIONS
Students will apply what they learned about equations being balances and previous knowledge of order of operations and distributive property to more advanced equations.

Week 4: USING EQAUTIONS TO SOLVE WORD PROBLEMS AND PERCENT PROBLEMS.

1. Students will apply their knowledge of equations to solve word problems. There will be an emphasis on translating English to algebra.
2. Students will solve percent problems using translating to equations instead of proportions.

Three distinct types:

25% of 200 is what?	25% of what is 50?	What percent of 200 is 50?
.25 * 200 = n	.25 * n = 50	n * 200 = 50 Make sure to covert the answer to a percent in this type.

3. TEAM-TEACH: In conjunction with the social studies teacher, the students will calculate how many votes will be needed to result in change.

English

Lesson 4: *"Incorporating Farley Mowatt's Wolves"*
Students will work in small groups to write a fable using the research on wolves obtained from Never Cry Wolf. In groups students will create a collective set of notes that will be handed in with fable. Students will create a plot line for a fable with the wolf as the main character. Fables must have a moral or a lesson. Each group will write a fable according to the plot line graph, providing four representative illustrations. All members of the group will present their fable to the class. Each person must assume the role of an "expert" for some part of the process. The roles can be described as follows:

1. **Writer** – this person, wit help from the group, writes the fable.

2. **Illustrator** – this person illustrates the fable.
3. **Editor** – this person, working with the writer, assures that information from the notes is reflected in the fable.
4. **Presenter** – presents the fable.

Lesson 5: *"Let them Shine"*
Students will present their groups fable to the rest of the class.

WEEK 4

Social Studies

Lesson 8: *"Why did the Founders think a new constitution was needed?"*

Students learn about the Articles of Confederation and how its **imbalance of power** led to huge economic problems for the young nation. Students learn about the achievements and problems under the Articles, especially Shays' Rebellion of 1786. In four groups students discuss what position their delegates to the Philadelphia Convention should take. Group 1 defends the Articles, Group 2 thinks the Articles need to be revised and explain possible revisions, Group 3 thinks the Articles should be scrapped, Group 4 listens and lists arguments of the other three groups and decides on the position that their state's delegate should take.

Lesson 9: *"What was the federal system created by the Constitution?"*

Students learn about the federal system and will be able to explain what a federal system is and how it differs from other forms of government. Student will also identify the strengths and weaknesses of a federal system and also why the Framers created such a system of government. In small groups students view a cartoon that represents how a federal system works and answer questions on the cartoon and then share their answers with the class. *Where does power come from in this system of government? Who is power given to? What are the main differences between federal, unitary, and confederate systems of government? Why did the Framers choose this system of government?*

Lesson 10: *"Voting and the Electoral College"*

This lesson will be taught in conjunction with the Math teacher. In Social Studies students will discuss the voting process and voting requirements and why the Framers created the Electoral College by analyzing *Federalist Paper #68*. Students also learn about how the right to vote (suffrage) has been expanded since the Constitution was adopted.

In Math, students work on 1 and 2 step equations, that center around establishing electoral college votes for our school's election and figuring what proportion of the school needs to vote for our referendum in order for it to pass.

Science

Lesson 7: *"Stress and homeostasis"*

Students will work with their groups to brainstorm how stress may affect homeostasis. The groups will then share their ideas to come up with a complete class list. We will then discuss the body's physical responses to stress. The students will then work in small groups to describe how adrenaline and the fight-or-flight response affect various body systems. Each group will be assigned either one or the other to look at with their group. Each group will then need to create a presentation that will be done in front of the class explaining the part they were assigned. Each person in the group must have a role in preparing and presenting the information. On their own, the students will read pages 23-27 in their book and answer the section review questions on page 27.
(Prentice Hall: Science Explorer, Human Biology and Health)

Lesson 8: "*Newspaper advice column"*

Each student will imagine that he/she is writing a newspaper advice column called "Ask Dr. Wellness". They have received the following letter from a reader of their column:

Dear Dr. Wellness,

I am under a great deal of stress because I will soon be trying out for a major part in the school play. I want the part very badly. How can I deal with all of this stress?

Thank you for your help.

Aspiring Actor

Each student must write an answer to this letter that gives the Aspiring Actor some specific suggestions.

Math

See week 3.

English

Lesson 6: *"Review of Descriptive Language"*

Lesson 7: *"Writing Dialogue"*

Students are taking this time in class to write and illustrate a children's book which tells the plight of their selected endangered species which they have been researching in science.

WEEK 5

Social Studies

Lesson 11: *"The Constitutional Amendment Process"*

Students examine and define in their own words Article V of the Constitution. Through primary sources focusing on the 18th, 21st and 27th amendments, students examine the steps it takes to amend the Constitution.

Lesson 12:*"What is the right to equal protection of the laws?"*

Students are introduced to the equal protection clause of the 14th Amendment. Students will explain its purpose and describe some of the steps that have been taken to end unfair discrimination in the United States. Students also discuss the 13th Amendment, Jim Crow Laws, and *Brown v. The Board of Education*.

Lesson 13: *"What is the right to due process and how is it protected?*

Students examine the due process clause in the Constitution, which guarantees that the government will not interfere with an individual's right to life, liberty, or property without good reason. Students will be able to explain due process in general terms and how it is applied to the rights of juveniles who are accused of breaking the law. Students examine two cartoons about the role of state and federal governments and the application of the Bill of Rights and the 14th Amendment. (One cartoon shows the state governments ignoring the Bill of Rights because the 14th Amendment has not been passed yet. The other cartoon shows both the state and federal governments abiding by the Bill of Rights because the 14th Amendment has been passed.) In small groups, (1) students identify fair procedures of law by examining a case study, (2) list the unfair procedures used by the government officials in the case study, (3) identify the parts of Amendments 5 and 6 that should be applied to the procedures used in this case, (4) and take and defend a position of how the Supreme Court should have dealt with this case.

Science

Lesson 9: *"Balance PowerPoint"*

I will show the students a PowerPoint presentation that reviews all of the information that we have already discussed related to balance and the body. The PowerPoint will include notes, animations, and links to relevant websites. At the end of the PowerPoint I will show a 15 minute video entitled, "World of Nature: A Delicate Balance". The video is available at the UnitedStreaming website. The video will show students a different aspect of balance. It focuses on balance within nature rather than the body. We will discuss the video and its main points after the students have seen it. The students should take notes on the PowerPoint and the video. The students will have to write a short response to the video after the class discussion. Below is a description of the video:

> "The fragility of nature is demonstrated in Newfoundland, where the depletion of small fish called capelin due to weather changes and massive harvesting, has affected the birds that nest in the island's rugged coast." (This description was taken from the UnitedStreaming website).

Lesson 10: *"Wellness in the Balance"*

The students will look at how physical health, mental health, and social health all work together to keep the body well. The students will understand that a balance of all three components is necessary for their wellness. To begin this lesson, the students will brainstorm what the terms physical, mental, and social health mean with their groups. We will then make a class list of examples of each of these terms. Next, the students will work with their groups to develop definitions for each of these terms. The groups will share their definitions and we will come up with class definitions that everyone agrees on.
(Prentice Hall: Science Explorer, Human Biology and Health)

Lesson 11: *“*

Now that the students have a better understanding of physical, mental, and social health they will work on making a wellness mobile. The students will make mobiles that have 3 parts attached to them, one for each of the components of wellness. They will use one side of each of their mobile pieces to use words to describe the wellness component and on the other side they will use drawings and pictures. The students will need to work hard to create their mobiles and to make sure that they balance when hung up in the classroom. Once each of the students has completed their mobile they will present it to the class. The students will now look back on the definitions they came up with physical, mental, and social health and discuss whether or not they need to be modified at all.
(Prentice Hall: Science Explorer, Human Biology and Health)

Math

See week 3

English

See week 4