



# Wait, what? 14-Clusters and 72-Sub Clusters...

## No Problem At All!

Shelly Mowinkel

Millford Jr/Sr High School  
NCE Conference | 6/8 | 2:00 pm



# Wait, what? 14-Clusters and 72-Sub Clusters... No Problem At All!

Shelly Mowinkel

Milford Jr/Sr High School

NCE Conference | 6/8 | 2:00 pm



# Goals for Today

- Philosophy of the Class
- Outline of Class
- Reflecting on Us
- Connecting to High School Classes & Organizations
- THE NEW Career Grouping Fields
  - Two-Week Outline
  - Sample Activities for the Clusters/Sub-Clusters



# MILFORD PUBLIC SCHOOLS

*Everyone has a story...*

*Make yours worth telling*

**Milford Public Schools is committed to supporting every student in identifying and developing passion, purpose, and skill to write their best story.**



# Why Careers 8 Class?

*Everyone has a story...make yours worth telling*

Explore → Experience → Engage

*This is an 18-week course.*



Let's Be Honest...

We *ALL* have those topics

we *LOVE* to teach.

And then there are those we *are unenthusiatic about.*

---



M

I *want* to create lessons of **interest**.

Many times the ideas come from a  
small lightbulb moment.

*Learning > Failing > Relearning > Failing Again > Relearning*

---



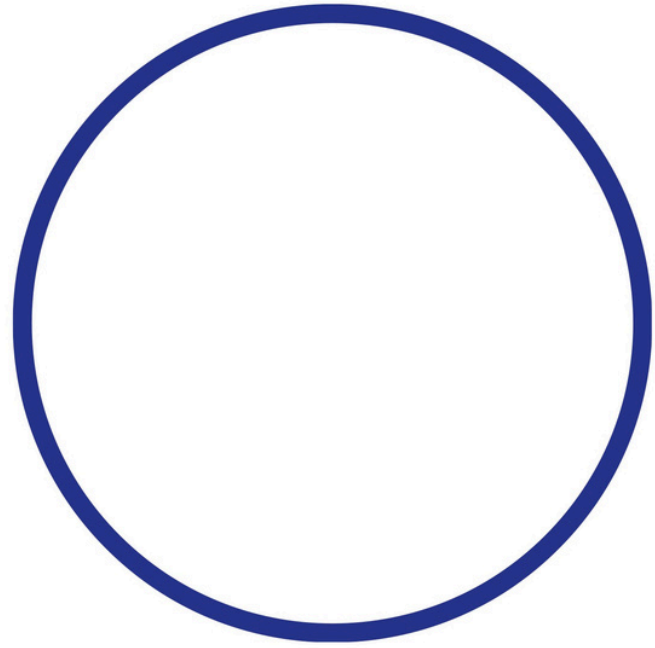
M

Part 1 -

Reflecting Upon Who We Are

## MY LIFE PIE

Divide the circle below into everything that defines/identifies your life.



# PERSONALITY



Shape Personality



Color Personality

**TOY BOX**  
LEADERSHIP



Toy Box Leadership  
by: Ron Hunter, Jr &  
Michael E. Waddell

FOR YOUTH, JR & MICHAEL E. WADDELL



16 Personalities

Copyright © 2011  
11/08/11 11:08 AM

# SWOT

Strengths

Weaknesses

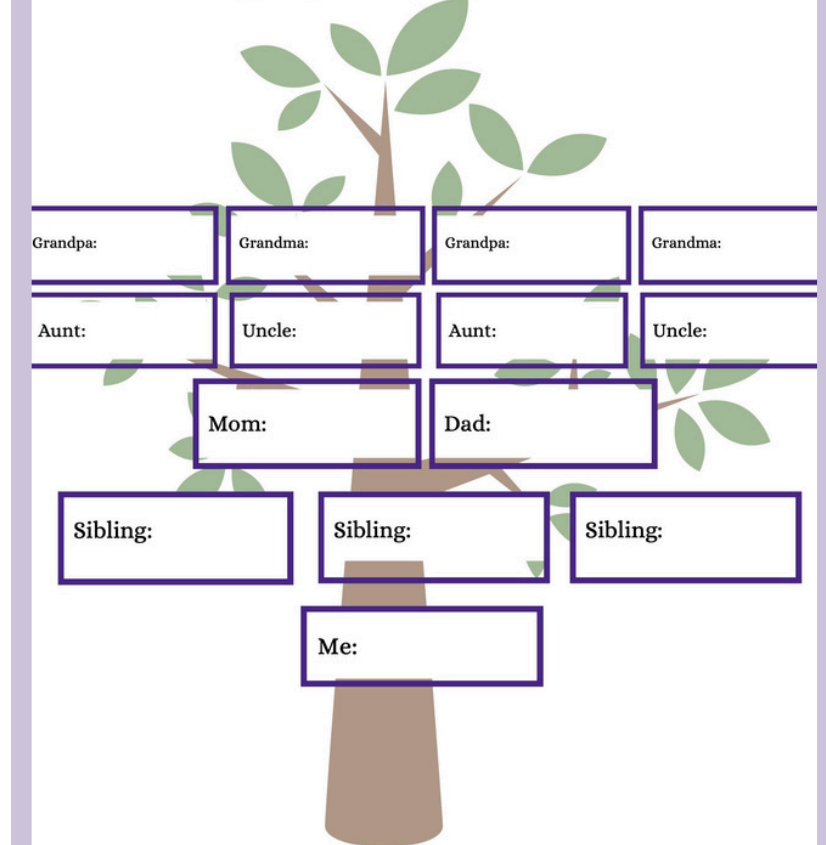
Opportunities

Threats (or Distractions)

(c) Shelly Mowinkel

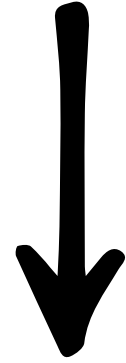
## CAREER FAMILY TREE

Investigate your family career choices.

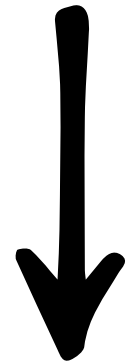


# Implementing New Model

Career Groupings (6)



Career Clusters (14)



Sub-Clusters (72)



# Resources

Motivators - Career Interest

Career Cluster Survey



M

# Motivators - Career Interest

## Career Interest Survey: Motivators Edition



### EXPLORE YOUR FUTURE WITH MOTIVATORS

Your motivators are what give you energy and guide what you enjoy doing, such as helping people, learning new things, or being creative. They help explain why some careers or activities feel exciting to you.

This activity connects what motivates you to find real-world careers through Advance CTE's [National Career Clusters® Framework](#), helping you explore paths where you will feel engaged and fulfilled.

As you go through the survey, think about what kinds of things give you energy and purpose. Your answers will help you discover Career Clusters and career pathways that excite you for your future!

### **Social** – I like helping and working with people

Statement	Score
I like helping friends with problems	<input type="text"/>
I get involved when people need support	<input type="text"/>
I get energized by working with others	<input type="text"/>
I want to make a difference for others	<input type="text"/>
I feel good when I can be kind or helpful	<input type="text"/>
<b>Total for Social:</b>	<b>0</b> / 10

### **Traditional** – I care about values, beliefs, and doing what feels right

Statement	Score
I feel better when I know the rules	<input type="text"/>
I care deeply about family, culture, or faith	<input type="text"/>
I prefer doing things the “right” way	<input type="text"/>
I like doing things that match my values or beliefs	<input type="text"/>
I respect rules and traditions	<input type="text"/>
<b>Total for Traditional:</b>	<b>0</b> / 10



# Career Cluster Survey

## Career Interest Survey: Cluster-by-Cluster Edition



### EXPLORE YOUR FUTURE WITH CAREER CLUSTERS

Career Clusters are a way to explore the world of work by grouping similar careers and industries together—such as digital technology, design, or education. This helps you see how your interests and strengths connect to real opportunities in real life, careers do not always fit into neat boxes. Skills you build in one Cluster can transfer to others, and many work across multiple fields.

This activity is based on Advance CTE's [National Career Clusters® Framework](#), which is used in schools and Career Education (CTE) programs to help learners like you explore options, build skills, and get ready for what comes next. If you plan to go to or continue college, start a job, or explore hands-on training, CTE programs can help you take the

### Career Cluster Key - Discover Your Top Clusters!

1. Look at the three "Total # Checked" boxes where you had the highest number of checked items.
2. Look at the Cluster number above each table. Match it to the Career Cluster name below to reveal your top Clusters.
3. Use the Career Cluster List to learn more about each Cluster!

Cluster 1: <a href="#">Advanced Manufacturing</a>	Cluster 2: <a href="#">Agriculture</a>	Cluster 3: <a href="#">Arts, Entertainment, &amp; Design</a>
Cluster 4: <a href="#">Construction</a>	Cluster 5: <a href="#">Digital Technology*</a>	Cluster 6: <a href="#">Education</a>
Cluster 7: <a href="#">Energy &amp; Natural Resources</a>	Cluster 8: <a href="#">Financial Services</a>	Cluster 9: <a href="#">Healthcare &amp; Human Services</a>
Cluster 10: <a href="#">Hospitality, Events, &amp; Tourism</a>	Cluster 11: <a href="#">Management &amp; Entrepreneurship*</a>	Cluster 12: <a href="#">Marketing &amp; Sales*</a>
Cluster 13: <a href="#">Public Service &amp; Safety</a>	Cluster 14: <a href="#">Supply Chain &amp; Transportation</a>	*Also a Cross-Cutting Career Cluster

### Career Cluster 1

Things I like to do	Statements that describe me	Problems I want to solve in the world	Total # Checked
<input type="checkbox"/> Building or fixing things	<input type="checkbox"/> I pay attention to small details	<input type="checkbox"/> How do we make things faster and better?	Cluster
<input type="checkbox"/> Using machines or tools	<input type="checkbox"/> I'm careful and focused	<input type="checkbox"/> How can we use less waste in workplaces?	
<input type="checkbox"/> Following step-by-step directions	<input type="checkbox"/> I enjoy solving technical problems	<input type="checkbox"/> How can we make the things people need closer to home?	
<input type="checkbox"/> Creating new inventions or products	<input type="checkbox"/> I like figuring out how things work	<input type="checkbox"/> How do we make safer tools and products?	
<input type="checkbox"/> Making processes work faster and smoother	<input type="checkbox"/> I'm good at using tools	<input type="checkbox"/> How can we fix broken machines quickly?	

### My Top Career Clusters

Which three Career Clusters had the most checks (highest scores)?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



Part 2 -  
Transitioning to  
High School & Beyond

# Transitioning to High School & Beyond

- Define Career Fields
- Define Educational Ladder (*How does this look different in careers?*)
- Professionalism (*Does this look different in each career, and if so, how?*)
- Employability Skills/Soft Skills (*Beyond the Degree*)

MILFORD PUBLIC SCHOOLS

## Career Education Courses

<b>Caring for Communities</b> FCS 7 & 8 Child Development Child Development Practicum I Child Development Practicum II Relationships & Family Strengths Nutrition & Foods Culinary Skills/ProStart 1 & 2 Fashion Design Fashion Design II Fashion Design Entrepreneurship Interior Design Interior Design II Interior Design Entrepreneurship Biology Chemistry I and II Anatomy & Physiology Physics Healthy Lifestyles* SENCAP	<b>Investing in Yourself</b> Careers 8* Accounting I Principles of Accounting II Introduction to Business Personal Finance* SENCAP	<b>Connecting &amp; Supporting Success</b> Entrepreneurship Management & Leadership Information Technology I Information Technology II
<b>Creating &amp; Experiencing</b> Computer 7* Screen Printing Digital Media/Journalism Digital Design Broadcasting Speech*	<b>Cultivating Resources</b> Agriculture Education 8 Intro to AFNR 9 Horticulture/Plant Science Agronomic Science Animal Science I Animal Science II Natural Resources Wildlife Management SENCAP	<b>Building &amp; Moving</b> STS Shop 7 STS Shop 8 Wood Technology I Wood Technology II Welding Advanced Welding Building & Construction I & II CNC Machine Tool Power Mechanics I Robotics SCC Career Exploration

\*Denotes Required Course

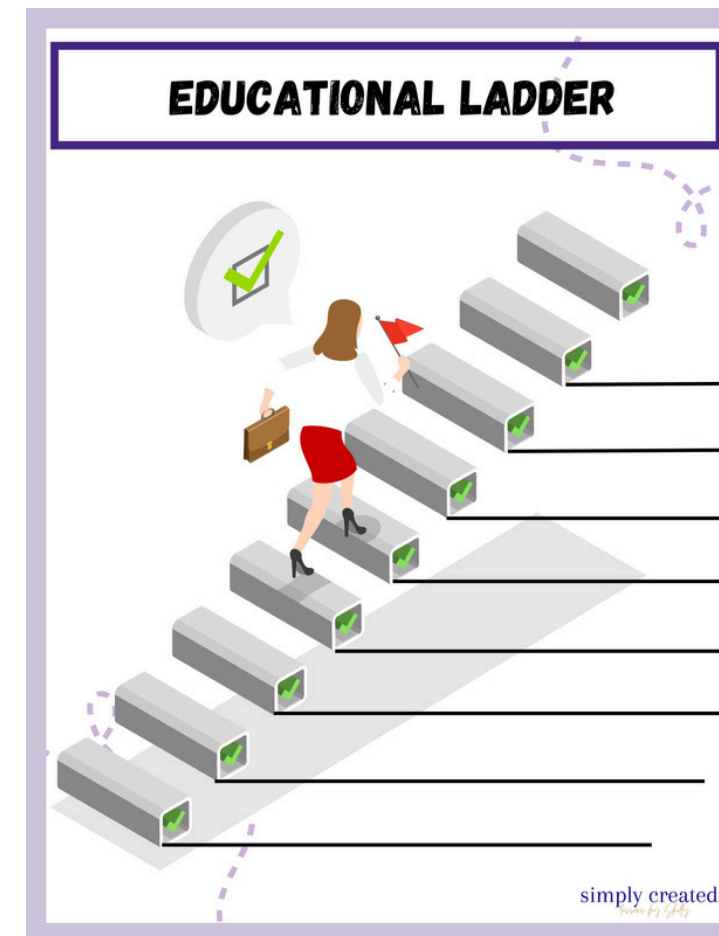
CTE ORGANIZATIONS

MILFORD PUBLIC SCHOOLS

## Organizations

<b>Caring for Communities</b> FCCLA ProStart	<b>Investing in Yourself</b> FBLA	<b>Creating &amp; Experiencing</b> FBLA Art Club Broadcasting eSports Jazz Band Journalism Musical One Act Speech Show Choir
<b>Other Leadership Opportunities</b> Student Council Key Club Builders Club (JH) Archery Close Up JH Quiz Bowl SH Quiz Bowl JH FCA (Outside of School) SH FCA (Outside of School)	<b>Cultivating Resources</b> FFA Archery (7-12)	

CTE ORGANIZATIONS



## Career Ladder

Name: \_\_\_\_\_

Instructions: Determine the minimum level of education needed for each of the career opportunities below.

Physical Therapist	Surgery Technician	Electrician	Insurance Underwriter
Nurse	Data Scientist	Meteorologist	Fast Food Worker
Wind Turbine Service Technician	Your Choice:	Your Choice:	Your Choice:



# Two Week Planning Outline

**Day 1**  
Speaker

**Day 2**  
Career Occupation  
Engagement Activity

**Day 3**  
Career Occupation  
Engagement Activity

**Day 4**  
Career Occupation  
Engagement Activity

**Day 5**  
Career Occupation  
Research & Gallery  
Walk

**Day 6**  
Problem-Based  
Learning

**Day 7**  
Problem-Based  
Learning

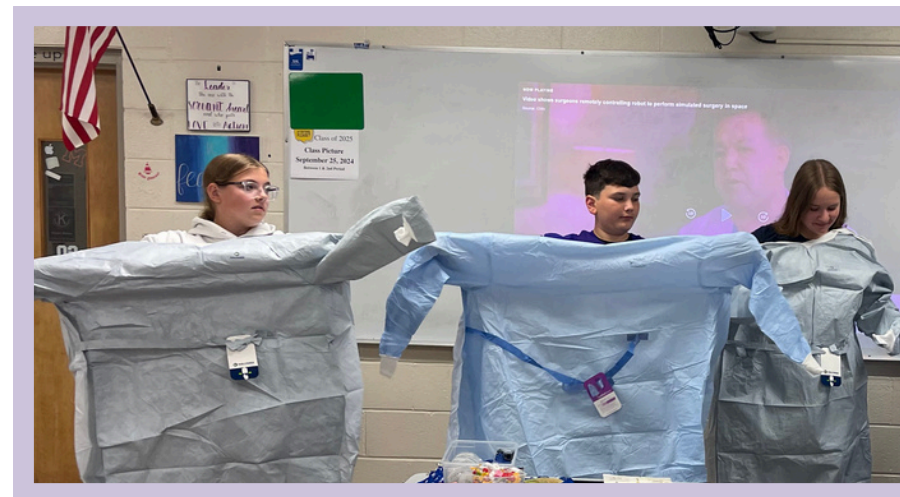
**Day 8**  
Problem-Based  
Learning

**Day 9**  
Reflection on Unit &  
Career Speaker

**Day 10**  
FOCUS



# Career Grouping Speakers



# Career Grouping Constants

- EXPLORE
  - Career Sub-Cluster Research
  - SWOT Analysis
  - Career Speaker
- EXPERIENCE
  - 2-3 Simple Activities as Career Grouping Overview
- ENGAGE
  - Problem-Based Learning Project
  - Pre and Post-Reflection on Unit

<b>Cultivating Resources</b>		<u>Image of Career</u>	<u>H3 Information for this Career Field</u>
<b>Cluster</b>	<b>Sub-Cluster</b>		
<u>Description of Career</u>			<u>MPS Classes</u>
<u>Educational Ladder for this Career Cluster</u>	<u>Skills Needed to Be Successful in This Career</u>	<u>Examples of Career Cluster in Milford</u>	
		<u>Examples of Career Cluster in Nebraska</u>	<u>Duties of T</u>
	<u>Average Salary</u>	<u>Global Example of Career Cluster</u>	

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit INQUIRY

Career Fields Overview

---

How I feel about this new unit

Skills I Predict I will Enhance:

Reason for my rating

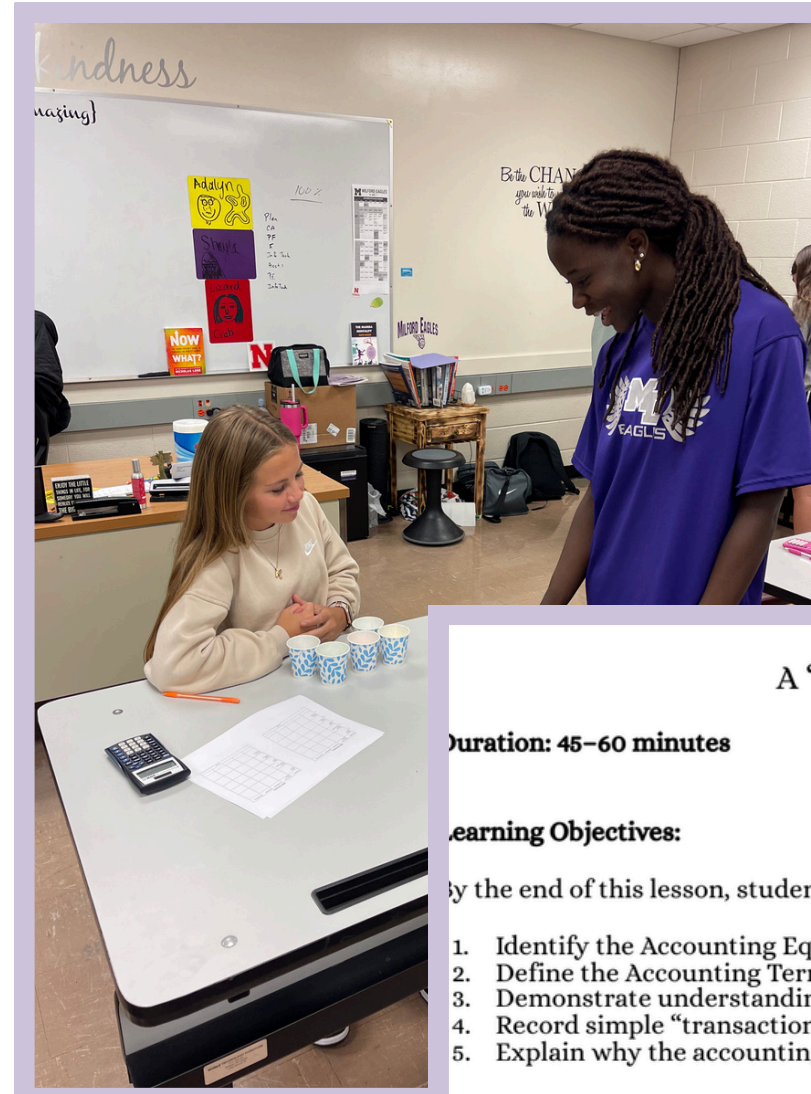
---

My goal for this unit:



# Investing in the Future

- EXPLORE
  - Occupation Sub-Cluster & Gallery Walk
- EXPERIENCE
  - Accounting/Inventory Activity
  - Investing Activity - Skittles
  - Hiring Activity
  - Supply & Demand Activity



## A "Smartie" Way to Introduce Accounting

**Duration:** 45-60 minutes

### **Learning Objectives:**

By the end of this lesson, students will be able to:

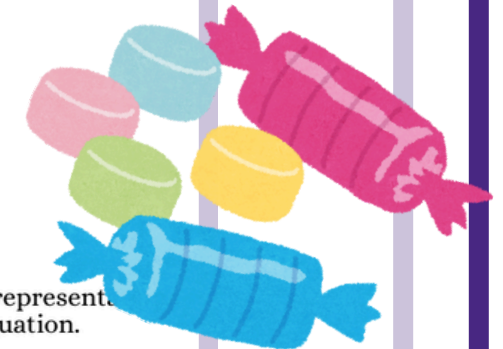
1. Identify the Accounting Equation:  $\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$
2. Define the Accounting Terms: Assets, Liabilities, and Owner's Equity
3. Demonstrate understanding of the accounting equation using Smarties as representative items.
4. Record simple "transactions" and show how they impact the accounting equation.
5. Explain why the accounting equation must always stay in balance.

### **Materials Needed:**

- Two Rolls of Smarties Per Student
- Paper or Mini Whiteboards
- Pencils/Pen
- Optional: Small Cups Labeled: Assets, Liabilities, Owner's Equity

### **Key Vocabulary:**

- **Assets:** Resources the business owns (cash, supplies, equipment).
- **Liabilities:** Debts or obligations owed to others.
- **Owner's Equity:** The owner's claim on the assets after liabilities are paid.

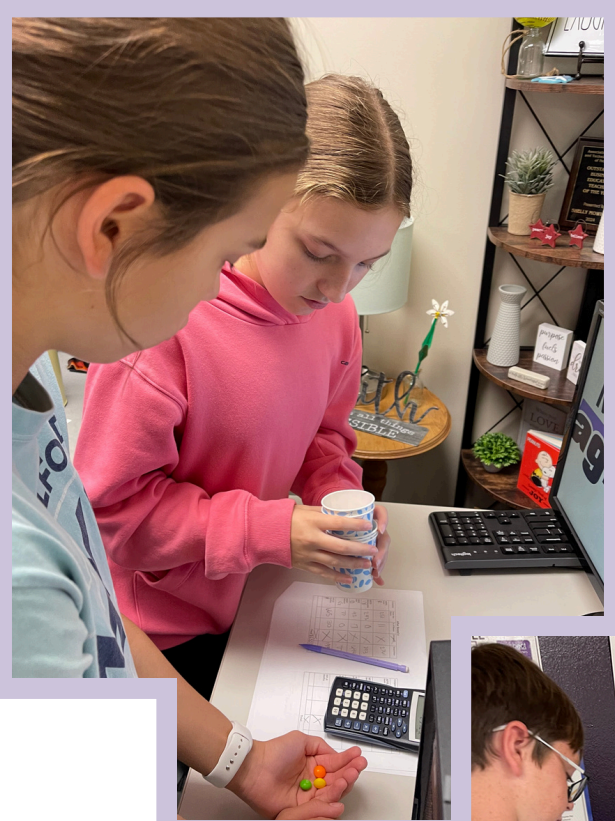


# Sample Experience - Investing

Colors of Skittles represent companies...

- Red - Apple
- Yellow - McDonalds
- Orange - Nike
- Green - Walmart
- Purple - Netflix

**Round 1**  
**Trading (2-3 minutes)**  
**Data after 12 months time**

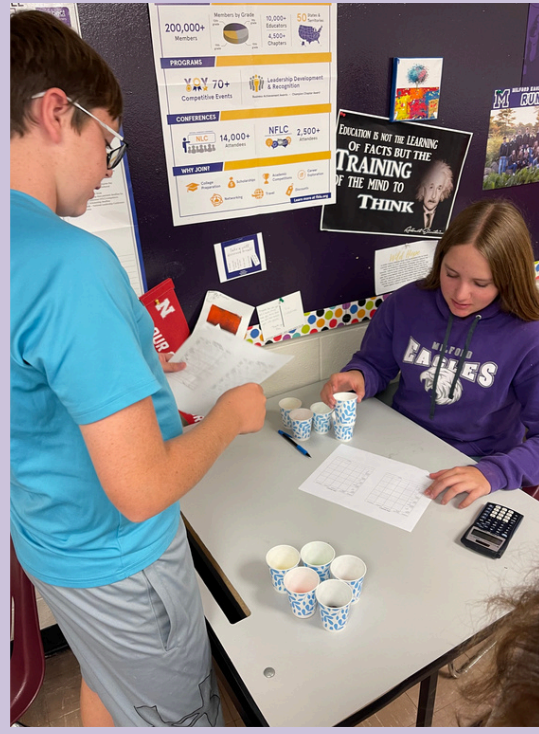


Initial Portfolio:

Company	Price Per Share	# of Shares	Dividend	Total P
APPL (Apple)				
MCD (McDonalds)				
NKE (Nike)				
WMT (Walmart)				
NFLX (Netflix)				
Total				

**Ending Prices September 2023**

- Apple: \$195
- McDonalds: \$293
- Nike: \$71
- Walmart: \$66
- Netflix: \$442



# Cross Cutting Cluster

## ENGAGE

- Marketing Activity 5' Ps of Marketing
  - Entrepreneurship & Management>Creating & Designing>Caring for Communities (Customer Service)>Investing in Future (Accounting)>Marketing & Sales>Hospitality>Digital Technology
- Researching Famous Entrepreneur from the Perspective of Their Failure

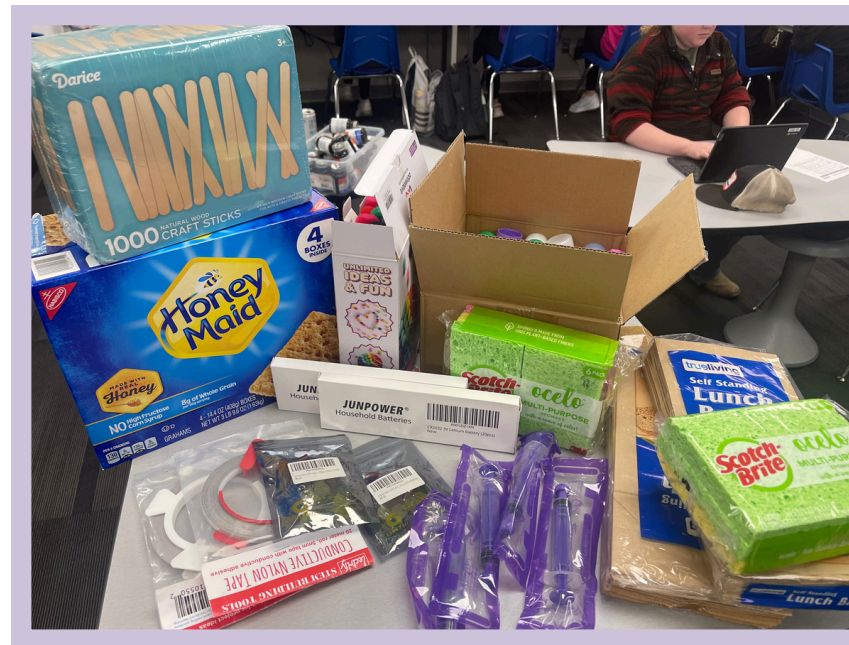
The worksheet is divided into several sections:



- Top Left:** A box for a "Photo of Entrepreneur" with a placeholder image of a landscape.
- Top Right:** A box for "Why Would Your Reader Want to Know About Your Entrepreneur? (HOOK)".
- Middle Right:** A "Place of Birth" field with a location pin icon and a box for "What Is This Entrepreneur Famous For?".
- Center:** A section titled "Create a Timeline of four LIFE EVENTS." with four colored circles (red, yellow, blue, purple) and a horizontal line connecting them. Below the line are three boxes labeled "Obstacle 1", "Obstacle 2", and "Obstacle 3".
- Bottom Right:** A box for "Learn from this entrepreneur, today?" and a yellow box for "Quote by Entrepreneur".
- Left Side:** A section with six lightbulb icons at the top. Below them are boxes for "Business Name", "Business Owners", and three boxes for "Owner's Expertise".
- Bottom Left:** Two boxes for "Business Idea(s)" and "Draw Ideas Here".



# Building & Moving

- EXPLORE
  - Occupation Sub-Cluster & Gallery Walk
- EXPERIENCE & ENGAGE
  - Umbrella - Engineering
  - Catapult - Engineering
  - Badges - Circuits & Electricity
  - Graham Crackers & Frosting - Welding



 **BEST UMBRELLA** 

Later this week the class is going to compete in the BEST UMBRELLA challenge. A toy figure will be placed in a bucket with each student's umbrella. We will test how dry the figurine is after water is dumped on the umbrella.

You will need to bring your supplies to class on: \_\_\_\_\_

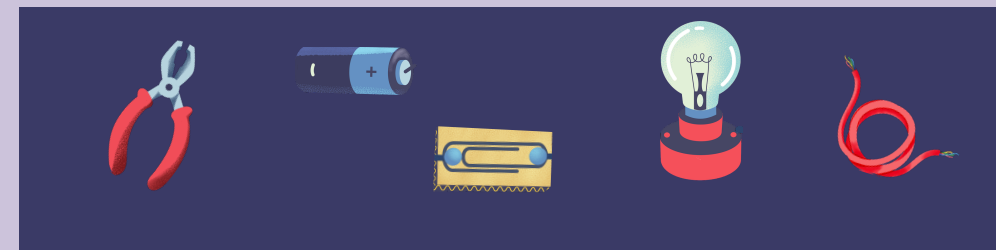
Experiment Date: \_\_\_\_\_

Requirements:  
Max dimensions: 4" in height and 2 1/2" in width

Supplies Needed to Build Your Umbrella:

- Sponge
- Cupcake holder
- Toothpick
- Coffee Filter
- Popsicle Sticks
- Straws

## LET'S BUILD CIRCUITS



# Brown Paper Bag Activity

## Brown Paper Bag House – Construction, Measurement & Technical Handwriting

### Objectives

- By the end of this lesson, students will be able to:
- Construct a simple 3D house using a brown paper bag and construction paper
- Measure all sides, angles, and features of their house using a ruler and protractor.
- Record measurements using technical handwriting/technical number style (uniform height, clarity, block-style digits).
- Apply geometric measurement vocabulary accurately (length, width, height, angle, perpendicular, parallel).

### Time Needed:

1–2 class periods (45–90 minutes)

### Materials:

- Brown paper bags (1 per student)
- Construction paper (roof, chimney, windows, doors, grass, sidewalk)
- Scissors
- Glue
- Rulers

### Architect Handwriting Practice

You will practice writing the letters below. You will trace four letters, then write four of your own. This practice leads into your house construction and floor plans.

-----B-B-B-B-----  
 -----D-D-D-D-----  
 -----F-F-F-F-----  
 -----H-H-H-H-----  
 -----T-T-T-T-----

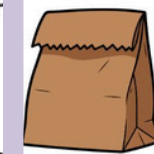
Name: \_\_\_\_\_

### Brown Bag House – Technical Measurement Recording Sheet

**Directions (Part 1):** First you will build your house with the brown paper bag and construction paper.

**Directions (Part 2):** Practice the technical lettering on attached sheet.

**Directions (Part 3):** Write all measurements using technical number writing. Label



Measurement 1: \_\_\_\_\_  
Brown Bag Height

Measurement 2: \_\_\_\_\_  
Brown Bag Width (front)

Measurement 3: \_\_\_\_\_  
Brown Bag Depth

Roof Edge Angles (Left/Right) \_\_\_\_\_°

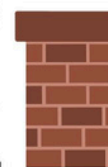
Measurement 4: \_\_\_\_\_  
Roof Length

Measurement 5: \_\_\_\_\_  
Roof Width

Chimney Height \_\_\_\_\_

Chimney Width \_\_\_\_\_

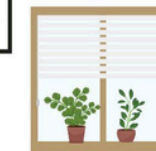
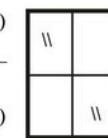
Chimney Material \_\_\_\_\_



Window 1 (H x W) \_\_\_\_\_ x \_\_\_\_\_

Window 2 (H x W) \_\_\_\_\_ x \_\_\_\_\_

Window 3 (H x W) \_\_\_\_\_ x \_\_\_\_\_



### Technical Measurement Recording Sheet Continued

**Directions (Part 4): House Diagram**  
 • Draw your house in simple outline form. Use technical handwriting for all dimension labels.  
 • Using graph paper, draw the layout of your first floor. Use technical handwriting to label the rooms, door, and windows.

**Directions (Part 5): Angle Measurements**  
 Using your protractor, record any angles you measured:  
 Roof Left Angle: \_\_\_\_\_°  
 Roof Right Angle: \_\_\_\_\_°  
 Door Angle: \_\_\_\_\_°  
 Front Window Angles: \_\_\_\_\_°  
 Side of Home Window Angles: \_\_\_\_\_°

**Directions (Part 6): Reflection**  
 Write 2–3 sentences using technical handwriting. Answering all questions:

Which part of your house required the most careful measuring and why?

Which measurement was most challenging?

How did technical number writing help with accuracy or clarity?

What did you do well this assignment? What could you improve on?

# Cultivating Resources

- EXPLORE

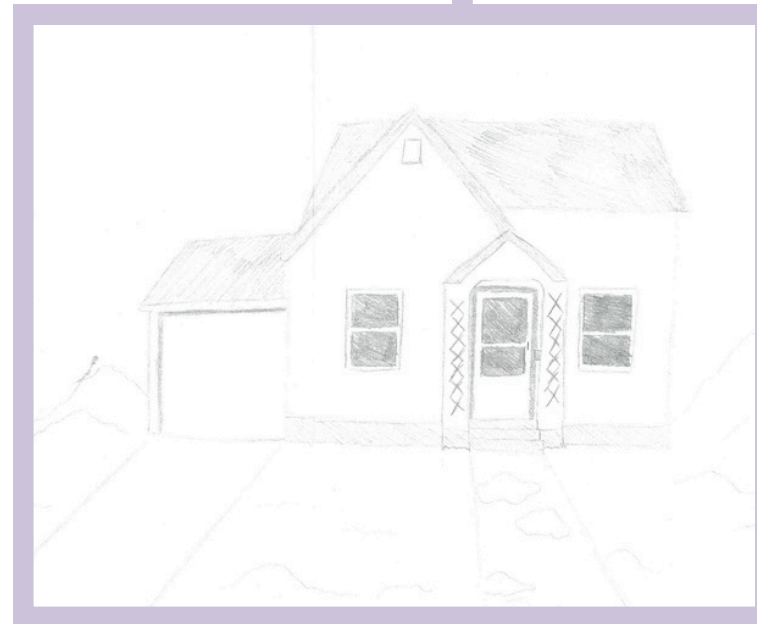
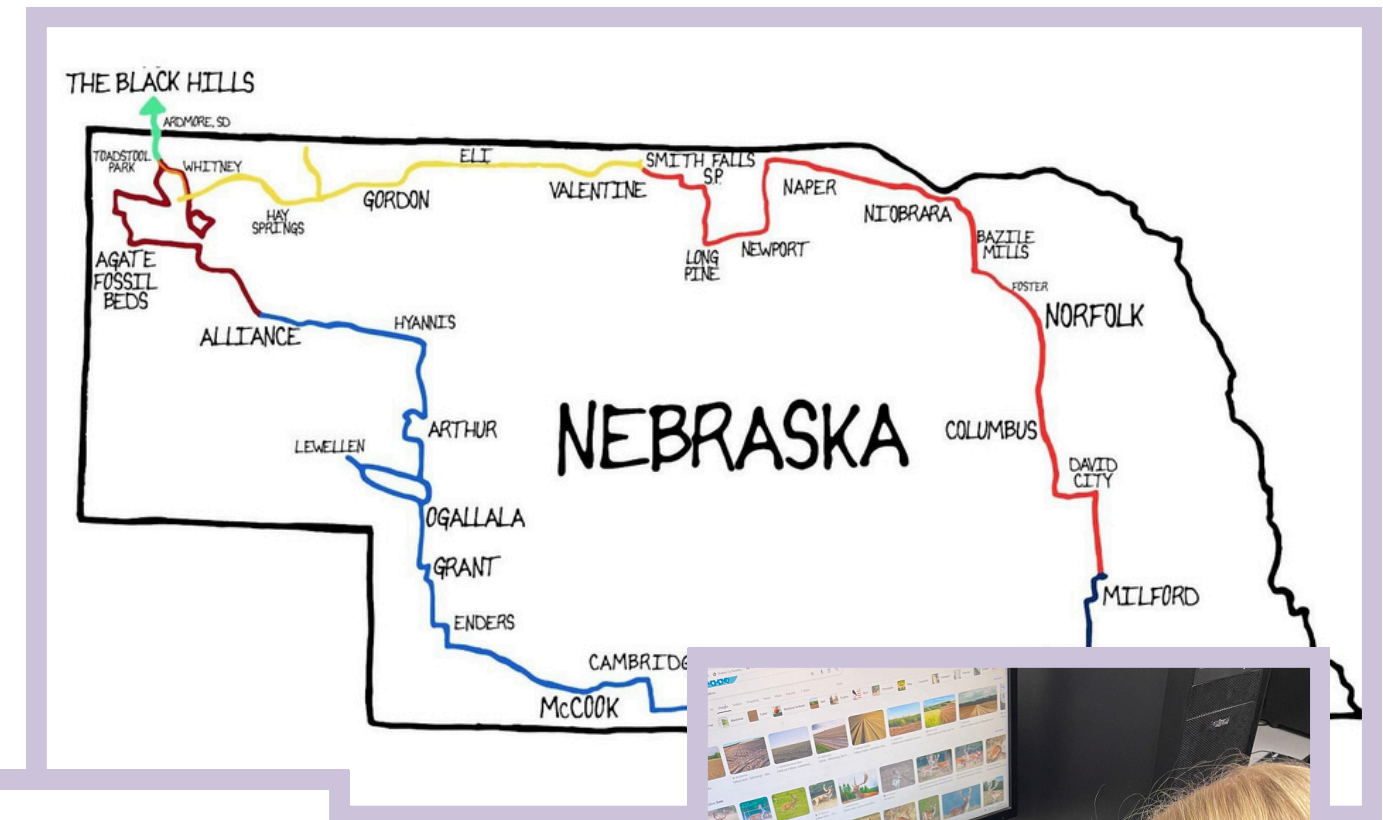
- Occupation Sub-Cluster & Gallery Walk

- EXPERIENCE

- Agriculture & Wildlife in Nebraska
- Landscaping - Investigating Trees & Flowers to Plant
- Did you know about this about Nebraska?

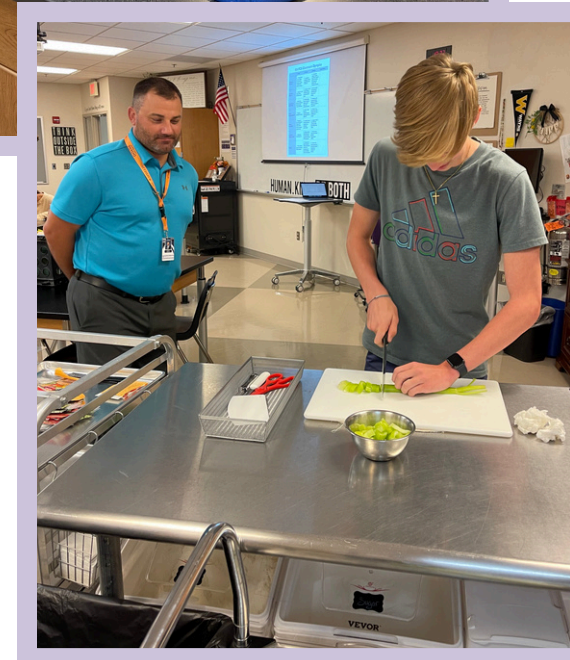
- ENGAGE

- Growing Beans to Create Hummus
- Preparing Hummus with FCS Teacher

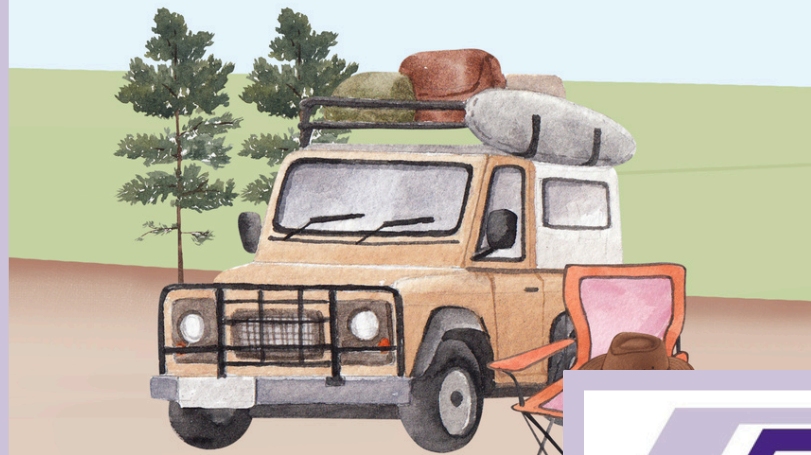


# Caring for Communities

- EXPLORE
  - Occupation Sub-Cluster & Gallery Walk
- EXPERIENCE & ENGAGE
  - Elements of Design
  - Sketch A Room or Clothing
  - Maslow's Hierarchy of Needs
  - Teacher Lesson Plan
  - Athletic Training
    - All Supplies Purchased to Have Students Experience This Field

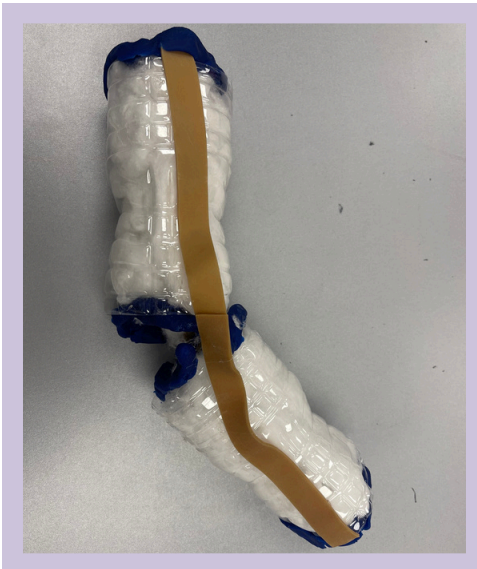


ARE YOU READY FOR AN ADVENTURE?  
**ROAD TRIP**



YOU ARE GOING ON A THREE-WEEK ROAD TRIP THROUGH THE MOUNTAINS AND FORESTS.

- YOU NEED TO CREATE A FIRST AID KIT FOR YOUR VEHICLE. YOUR FIRST AID KIT MUST INCLUDE 25 ITEMS YOU WILL NEED IN CASE OF AN INJURY, EMERGENCY, ETC.
- YOU WILL PRINT OFF IMAGES AND CREATIVES TO USE IN YOUR FIRST AID KIT.
- GOOGLE CLASSROOM HAS ALL THE DETAILS.



**INJURY & RECOVERY**

High Ankle Sprain	Recovery Options
Physical Therapy Treatment	

Name: \_\_\_\_\_



Dear: Health Engineering Students

I am an eighth-grade student who has broken my ulna. My cast is beyond itchy. I need your help designing a new cast to fix my problem. Please hurry, as I do not think I can handle five more weeks of my itchy cast.

Cordially yours,

A Suffering Student  
 Crabtree Acres High School

**Supplies**

- Half can of Play-Doh™
- 4 Popsicle™ sticks
- 6 to 8 recyclable materials: fabric, cotton batting, egg cartons, toilet paper or paper towel rolls, toothpicks, plastic bottles, milk cartons cut in pieces, rubber bands, straws, plastic tubing
- Poster board
- Markers
- Digital Scale



# Caring for Communities

- EXPLORE
  - Occupation Sub-Cluster & Gallery Walk
- EXPERIENCE
  - Brain Surgeon
  - Physical Therapist
- ENGAGE
  - Road Trip
  - Biomedical Engineer



# Creating & Experiencing

← Algorithms →

Definitions:


Algorithm:

Ambiguous:

Efficiency:

Evaluate:

★



- EXPLORE
  - Occupation Sub-Cluster & Gallery Walk
- EXPERIENCE/ENGAGE
  - Algorithm Activity
  - Cyber Security
  - Carcutterie Board Experience
  - *Try Again!* – Poetry Jam with a “Coffee Shop” Feel
    - Creating & Experiencing > Arts & Entertainment
    - Design > Performing Arts & Design (Sub-Clusters)



# Creating & Experiencing



- EXPERIENCE/ENGAGE

- Carcutterie Board Experience

- *Clusters –*

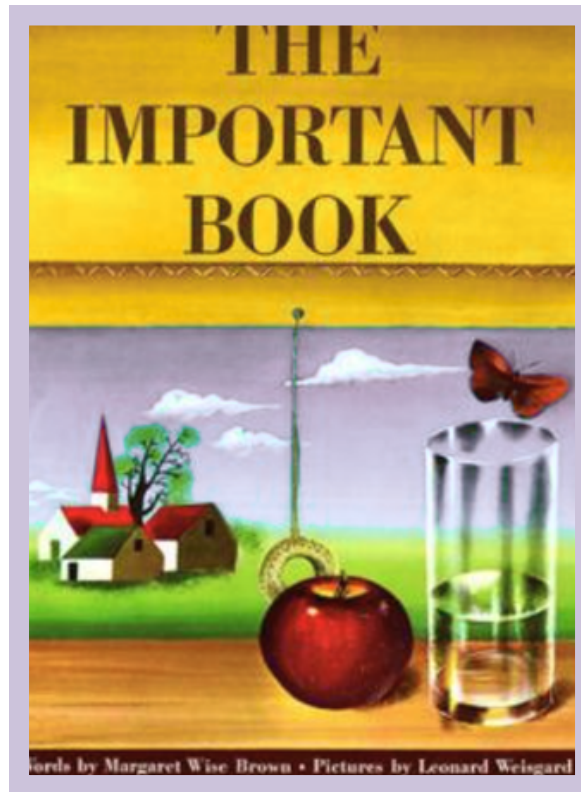
- *Creating & Experiencing*
      - *Caring for Communities*
      - *Connecting*

- *Sub-Clusters*

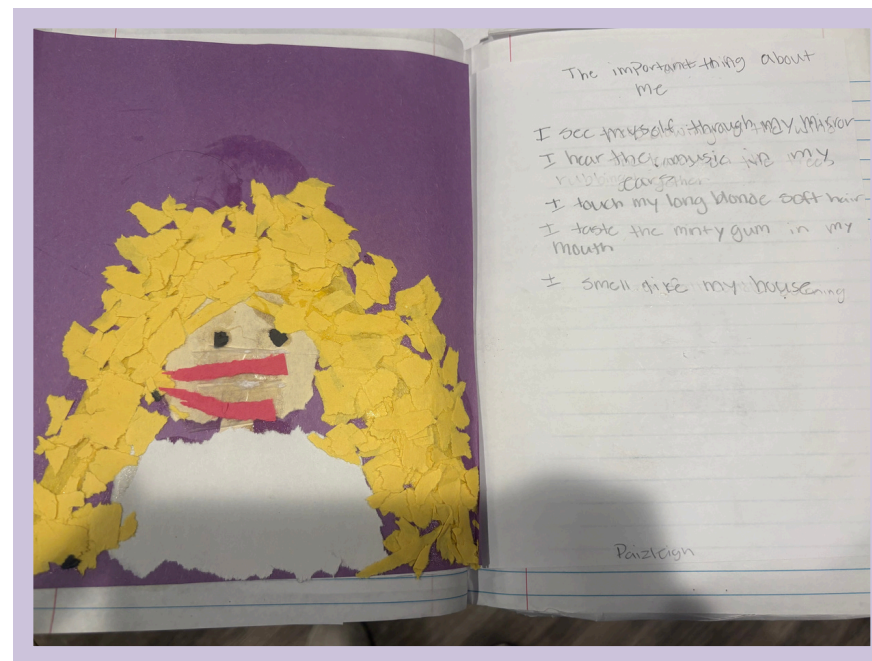
- *Hopitality & Tourism*
      - *Design Elements*
      - *Dietician*
      - *Entrepreneurship*



# Creating & Experiencing



By: Margaret Wise Brown



## POETRY SLAM ACTIVITY

### Objective

Students will learn elements of design, listen to a story about "being important," write an original poem about what makes them important, use construction paper to recreate a simple school-photo-style portrait using design elements, and read their poem aloud to the class.

### Materials

- The Important Book by Margaret Wise Brown
- Construction paper (various colors)
- Scissors and glue sticks
- Markers, crayons, or colored pencils
- A printed or projected story about "being important" (teacher-selected)
- Lined paper or notebooks for writing drafts
- A simple template for a school photo (optional)
- Pencil and eraser
- Timer or clock

**Lesson Plan Timeframe** 2 - 47 minute class periods

### Prepare (5 minutes)

- Teacher gathers materials and places a copy of the story where everyone can see or hands out printed copies.

### Listen to the Story (10 minutes)

- Teacher reads aloud **Important Book** by Margaret Wise Brown
- While listening, students quietly note words, phrases, or images that show why the character feels important or what "being important" means.

### Write the Poem Draft (15 minutes)

- Students write a story about about being important. Remind them to following the outline:
  - The important thing about me is...
  - Feel
  - Smell
  - See
  - Taste
  - Touch
  - But the important about is me...
- Keep language simple and clear.
- Teacher circulates, offers one or two quick suggestions, and checks for clarity.



## • EXPERIENCE/ENGAGE

### ◦ Poetry Jam Session

#### ■ Clusters -

#### • *Creating & Experiencing*

#### • *Supporting & Connecting Success*

#### ■ Sub-Clusters

#### • *Design Elements*

#### • *Performing Arts*

### ◦ *Epic FAIL*

A large, stylized letter 'M' inside a circular frame. The 'M' is white with a blue outline, and the circle is blue with a white outline.

# Semester In Review

- PRESENTATION
  - Career Interest Currently
- Research Major Corporation
  - Find all Career Clusters
- BUILDING BLOCKS TO SUCCES
  - Opporutnity for Students to Reflect on All They Accomplished in a Semester



Eppley Airfield - Omaha Nebraska				
Occupation	Career Grouping	High Value in Nebraska	Annual Salary OR Hourly Wage	Career Ladder (Education Level)
Pilot	Building & Moving	Not High Value	\$219,140	FAA Certification Industry Standard College Degree
Landscaper	Building & Moving	High Value	\$60,324	Bachelor's Degree
Ground Crew	Caring for Communities	Not High Value	\$18.06/hour	N/A
Police	Caring for Communities	High Value	\$107,360	High School Diploma; Police Academy Graduate

## SALARY & BENEFITS

**SALARY**

Avg. Annual Wage-  
\$123,260

Entry Annual Wage-  
\$71,104



**BENEFITS**

- High demand
- Salary
- Flexible schedule
- Transferable career skills
- Job security



And, THANK YOU for joining me today.  
Any Questions?

Shelly Mowinkel – [shelly.mowinkel@milfordps.org](mailto:shelly.mowinkel@milfordps.org)

