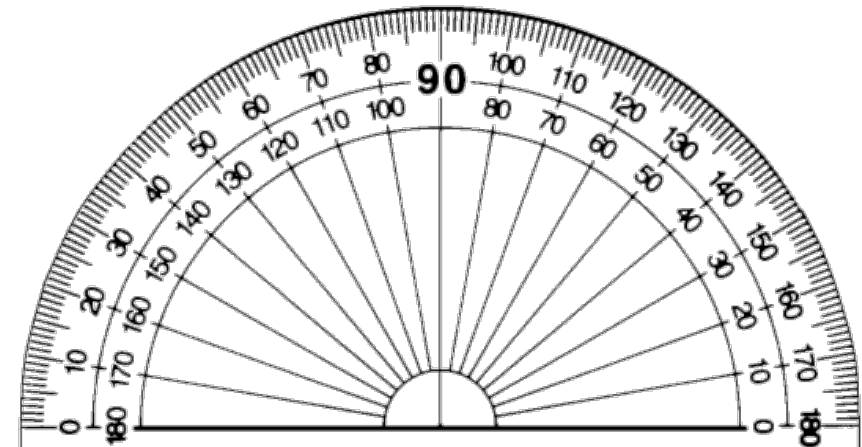
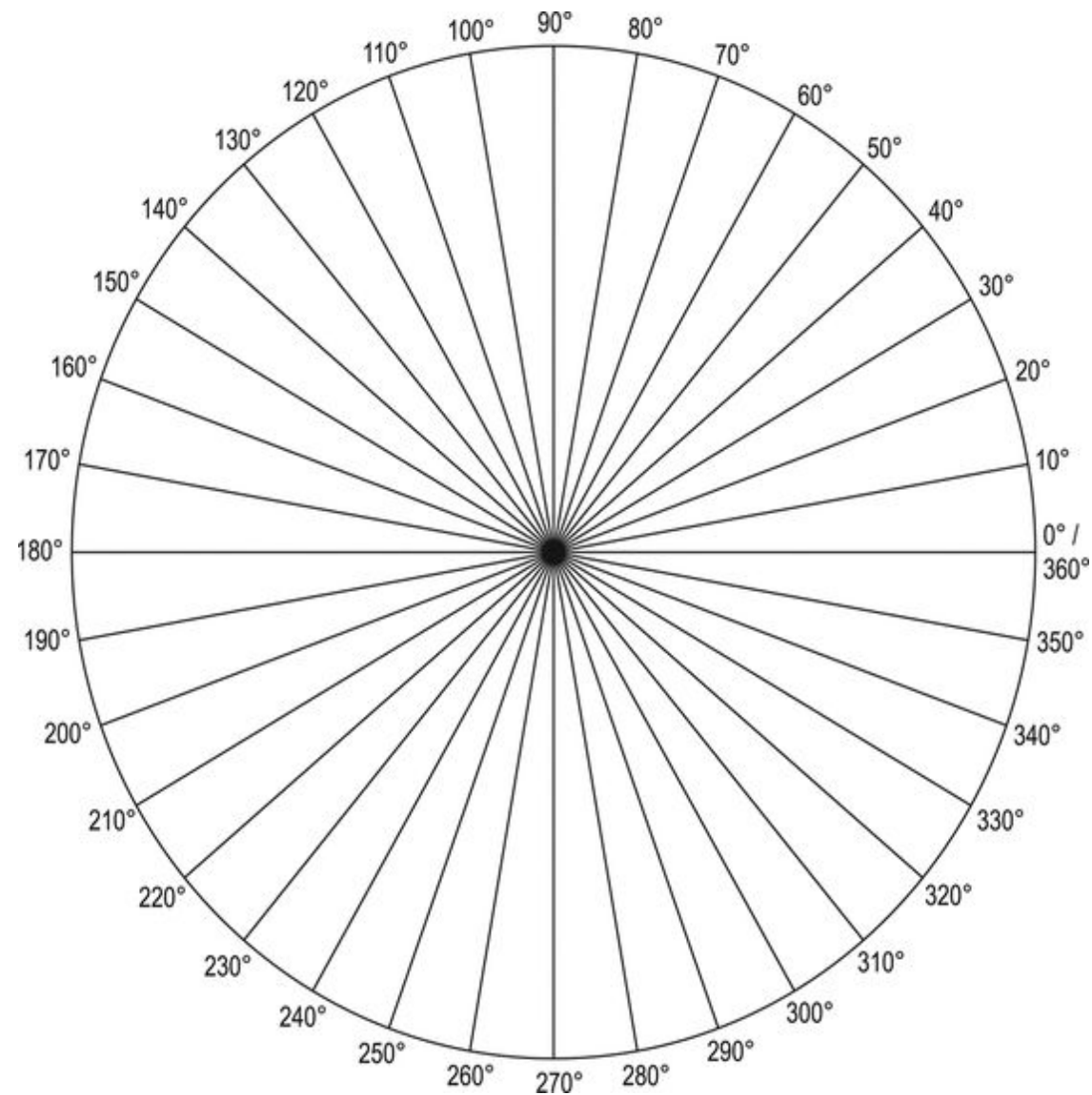


Ping Pong: Circles and Degrees



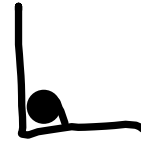
Think-Pair-Share #2

If you programmed your robot to move forward 2952 degrees. How many wheel rotations would this be? Write the number as a decimal and as a mixed number.

Think-Pair-Share #3

Your Robot's wheel has a circumference of 17.5cm. If you wanted your robot to travel 98cm, how many wheel rotations would you enter? Write the number as a decimal and a mixed number.

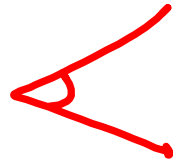
You want your robot to make a **right angle** turn. How many degrees is a right angle?



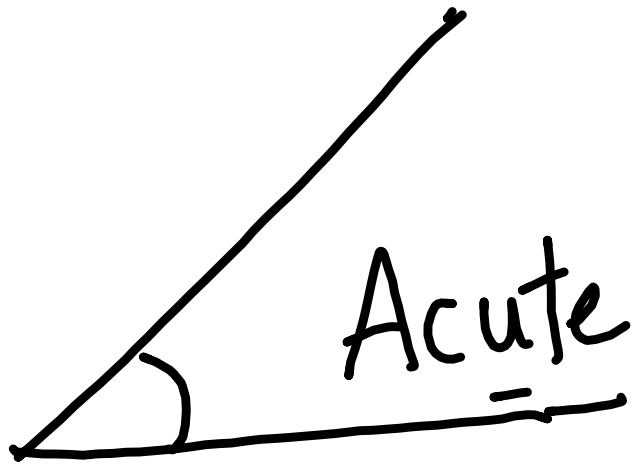
You want your robot to make a wide turn or an **obtuse angle** turn. What might the degree of your turn be?



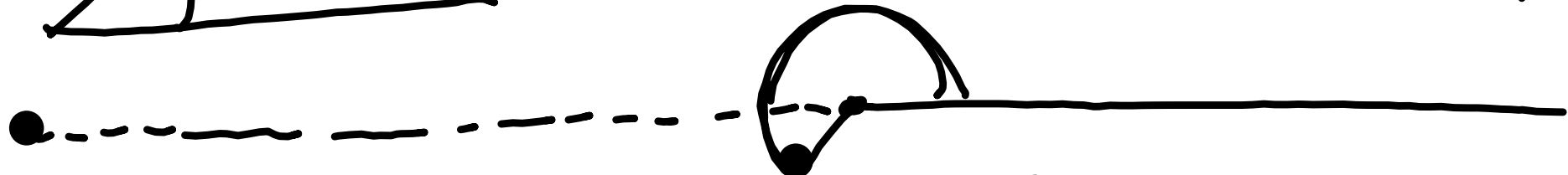
You want your robot to make a sharp left turn or an **acute angle** turn. What might the degree of your turn be?



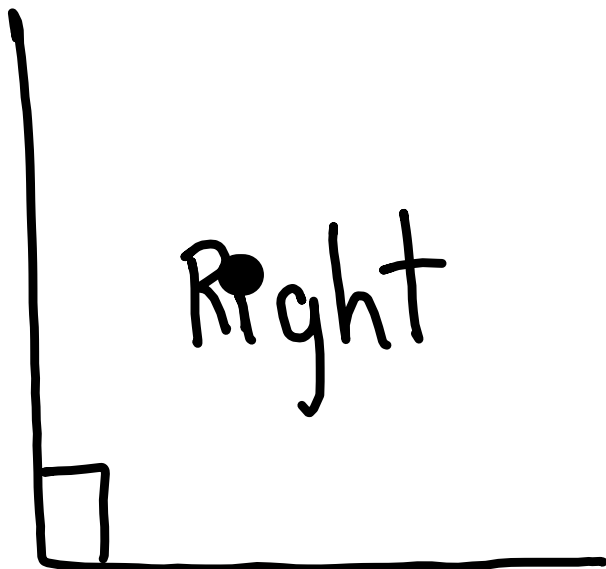
What is a **reflex angle**?



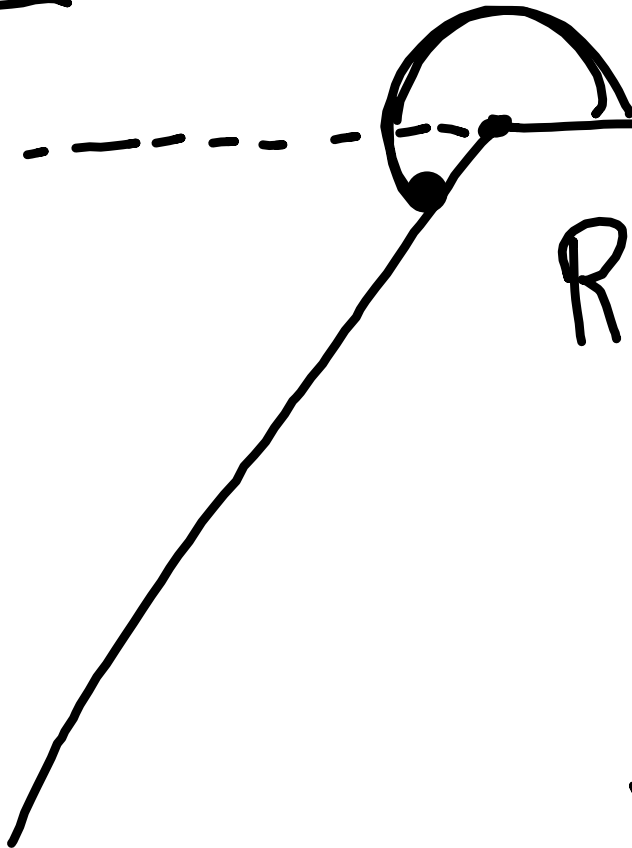
Acute
Obtuse
Reflex



Reflex



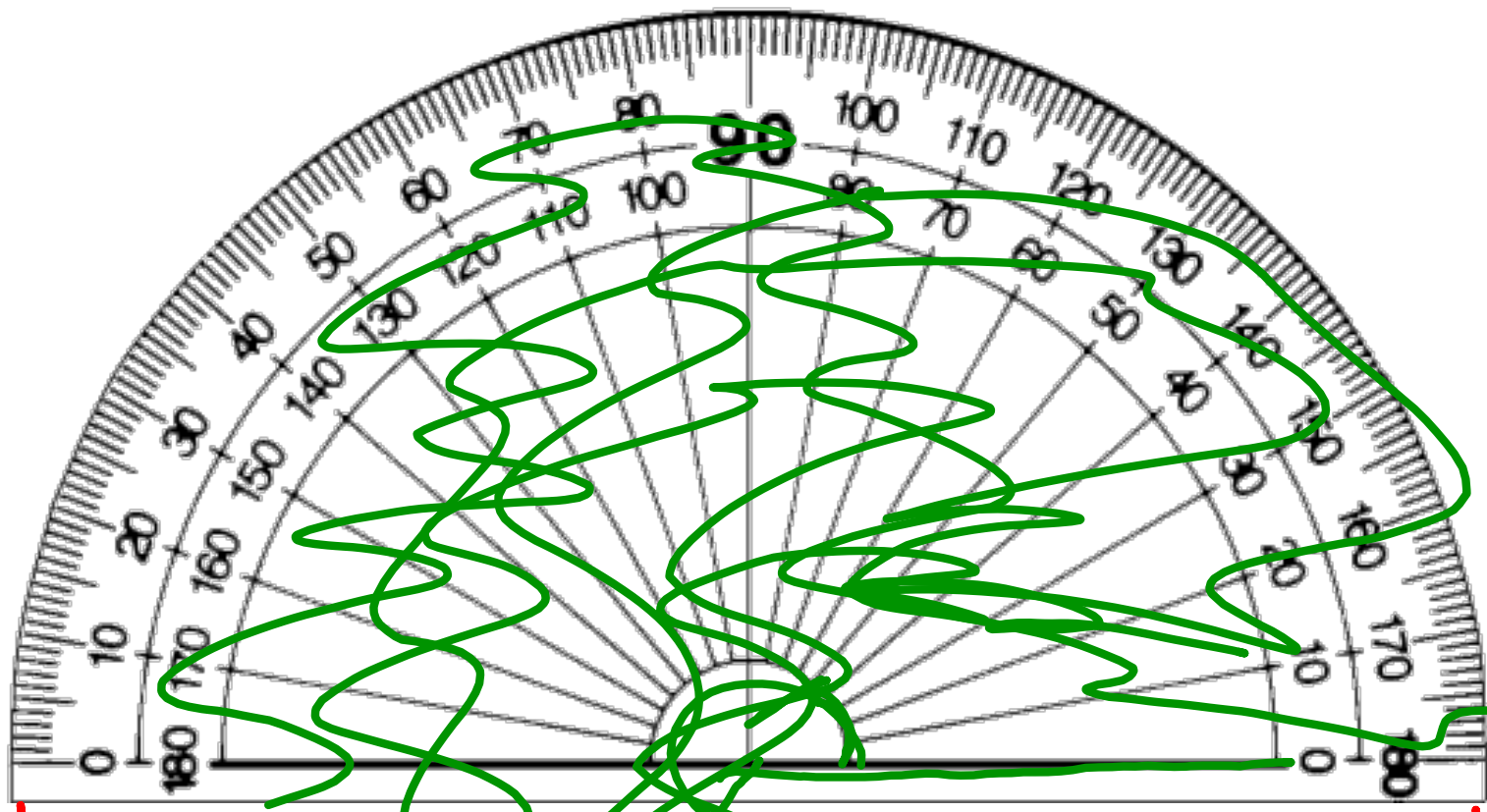
Right



obtuse

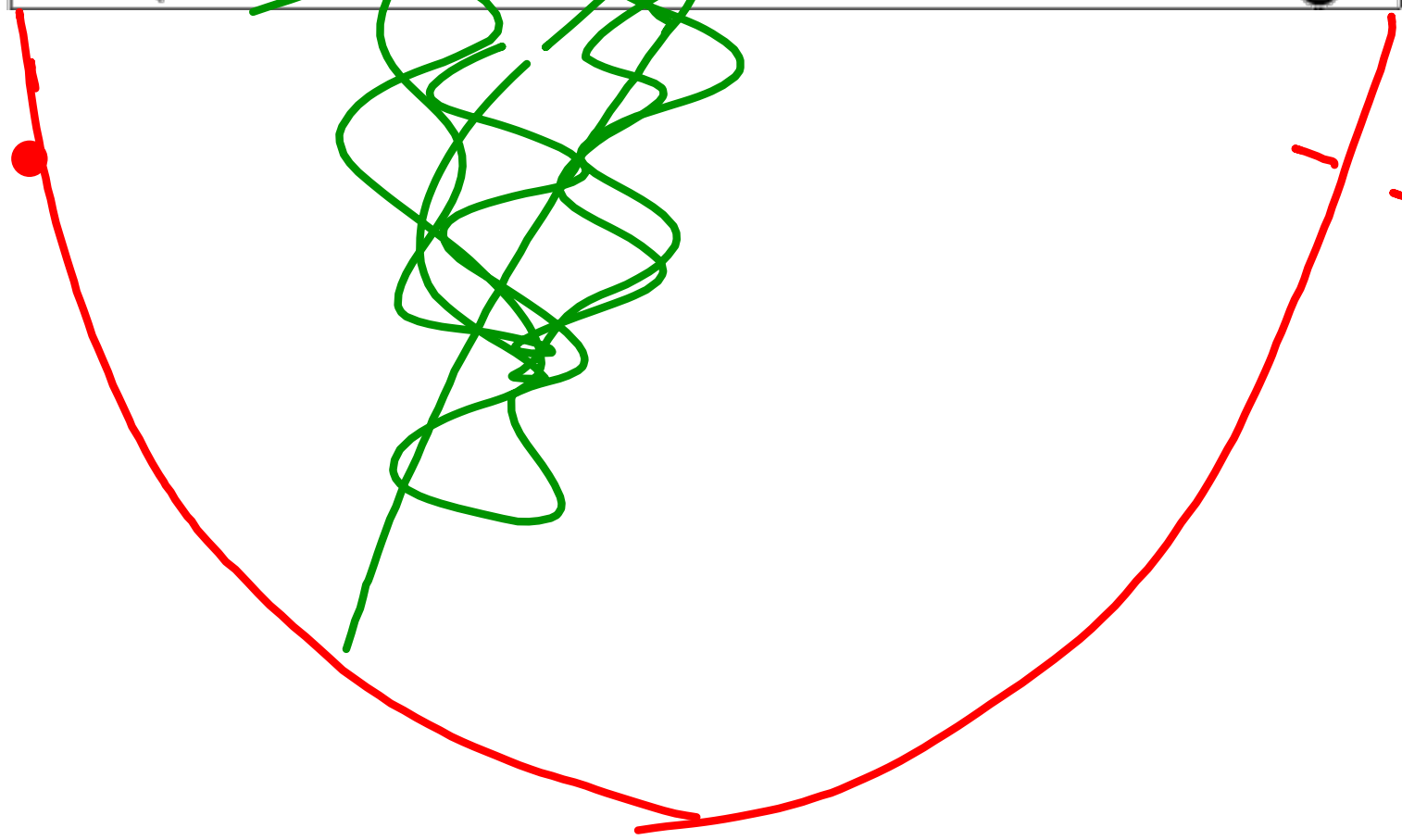


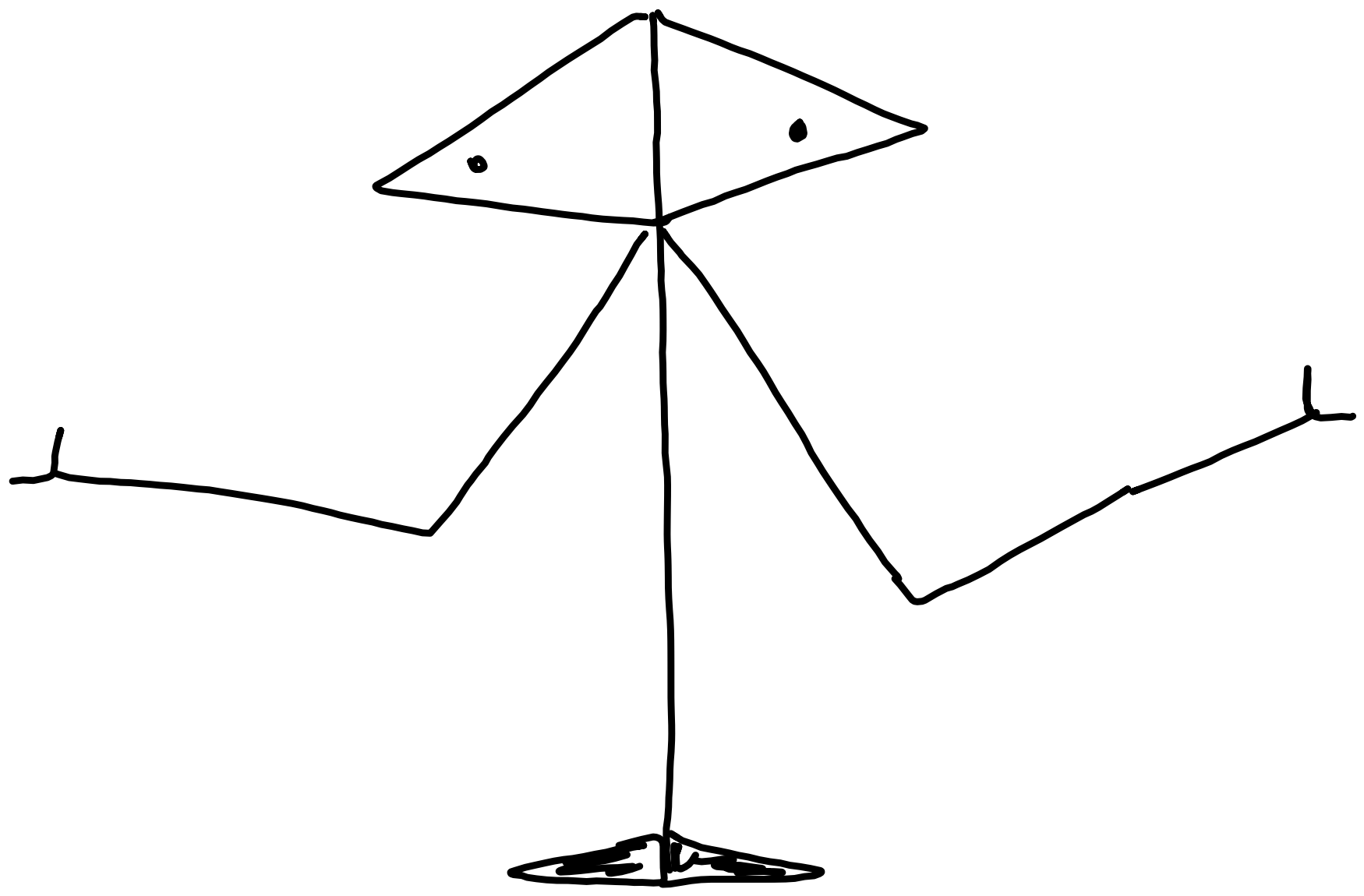
180°
Straight Angle



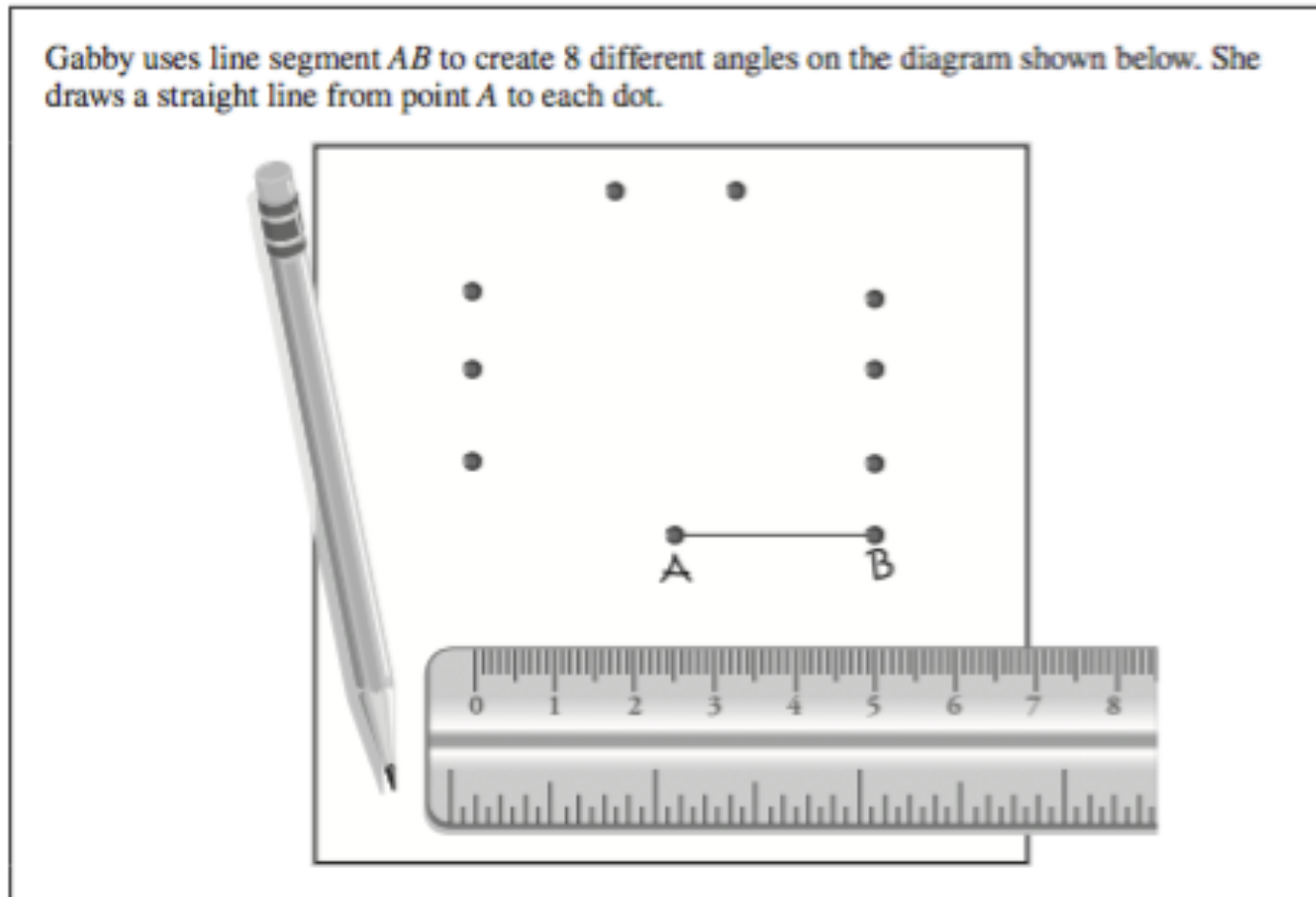
U
M
A

U
M
A





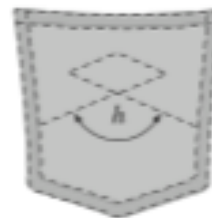
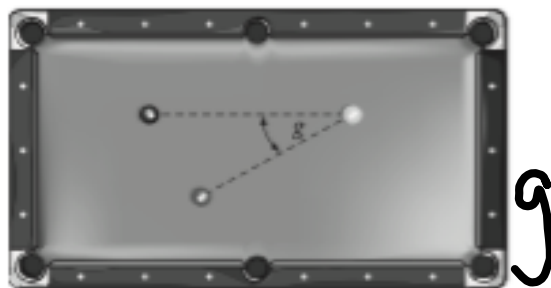
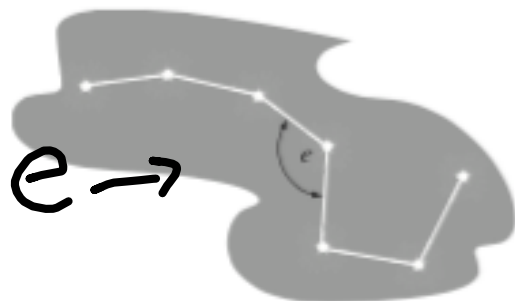
Use the following information to answer question 1.



1. How many of the angles that Gabby draws above are **between** 45° and 135° ?
 - A. 3
 - B. 4
 - C. 5
 - D. 6

Use the following information to answer numerical-response question 6.

Each diagram shown below uses a letter to label an angle.



Numerical Response

6. Use the following code to identify the type of angle indicated in each diagram.

- 1 = Acute
- 2 = Obtuse
- 3 = Reflex
- 4 = Right
- 5 = Straight

Angle *e*

Angle *f*

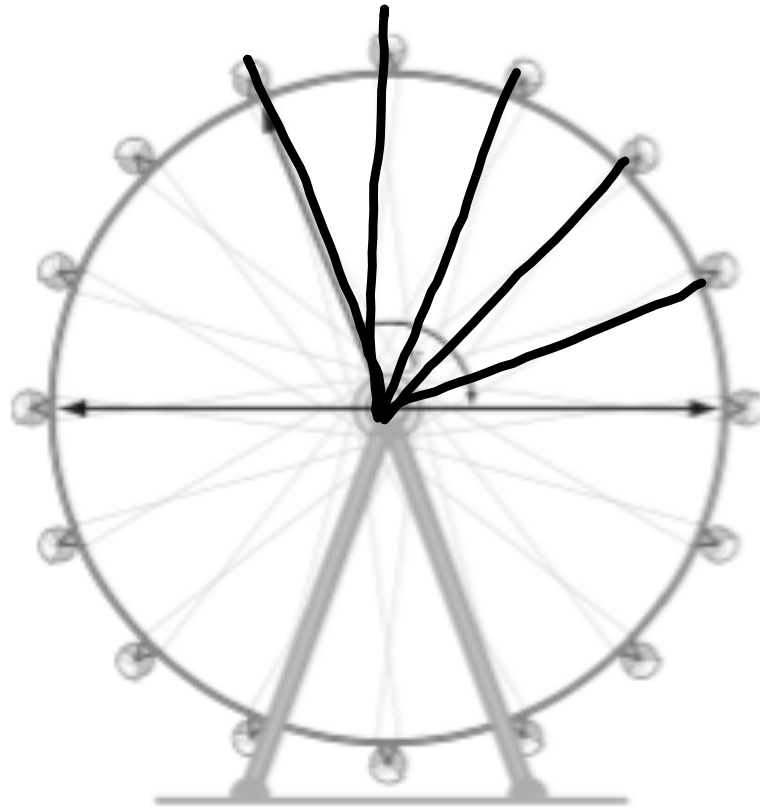
Angle *g*

Angle *h*

(Record your answer in the numerical-response section on the answer sheet.)

Use the following information to answer question 40.

Seats are evenly spaced around the amusement ride shown below.



113°
111°
110°
112°

40. The measure of angle y shown above is

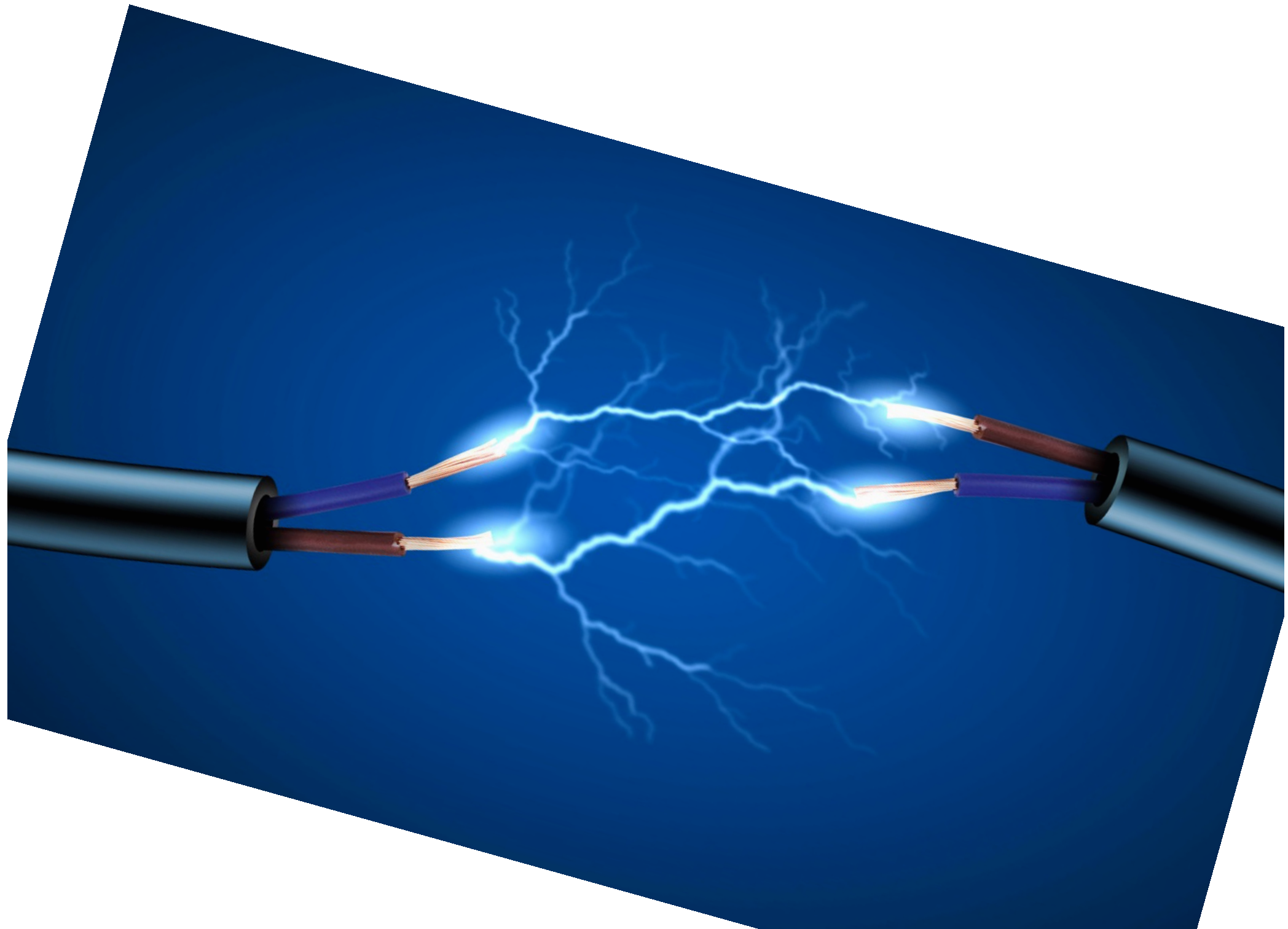
- A. 101.25°
- B. 112.50°
- C. 118.50°
- D. 123.75°

$$16 \times \underline{\quad} = 360$$
$$360 \div 16 = 22.5$$



ELECTRICITY

We are going to play an electricity game show!



The winners get to choose....



Mr. Lee - Phases of the Moon rap




100 Movies Dance Scenes Mashup (Mark Ronson-Uptown Funk ft. Bruno Mars)-WTM


That's Electric!

- In your table groups. *Remember Collaboration* is the key!
- You will have 10 minutes to take all the relevant information you think you will need off of your electricity poster. Take notes in your visual journal. The more info you have and the better you understand it, the better you will do in our game!
- Over one dozen questions will be asked. Each group will get a turn and will be asked a question. They will have 30 seconds to come to a consensus. If their answer is correct, they are awarded 5 points. If they do not get the right answer, the next group has a chance to steal.
- Two members of your group can get a laptop from the green or yellow laptop cart to help "zoom in" on the poster. It is in our shared Google folder under "Electricity Poster".
- Remember: this is a *fun* game to help us learn. Poor sportsmanship and complaining is not tolerated!

BONUS Math Questions Based on Cross Country Electricity Snapshot

(Get ready!)

1) As a percentage of their use, which province/territory uses the most thermal power? 

2) As a percentage of their use, which province/territory uses the most hydro power? 

(Bonus question: who can write the percentage as a fraction?)

3) As a percentage of their use, which province/territory uses the most nuclear power? Ontario


4) As a percentage of their use, which province/territory uses the least thermal power? Quebec

(Bonus question: who can write the percentage as a decimal?)



**PLEASE ANSWER QUESTIONS AS A
GROUP IN VISUAL JOURNAL**

Look at the pie chart on the front of the poster titled 'Alberta's Electricity Sources.' As of 2014:

- 1) What percentage of electricity is created by thermal generation (i.e., combustion)?
> ANSWER: coal + natural gas + biomass + other = 87%
- 2) What percentage of electricity is generated by renewable resources?
> ANSWER: water + wind + biomass = 17%
- 3) 
could look 5, 10 or 50 years into the future?
- 4) Using the poster, find three ways that water is used in the process of generating electricity.

You've Got the Power to Conserve Energy!

Discuss in your group

- What are some items/actions that you could do in your home to conserve (save) electricity?

Danger!

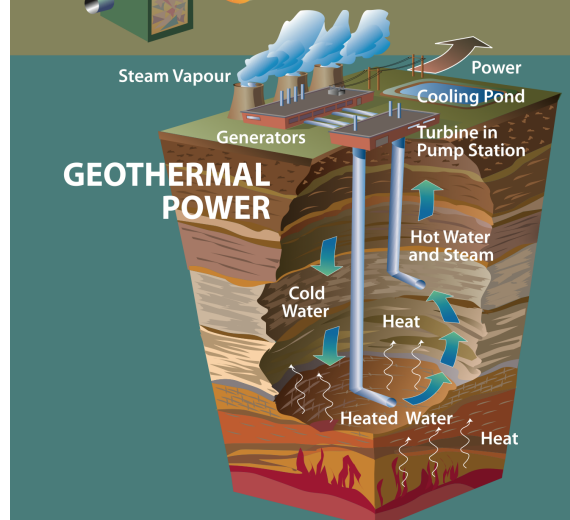
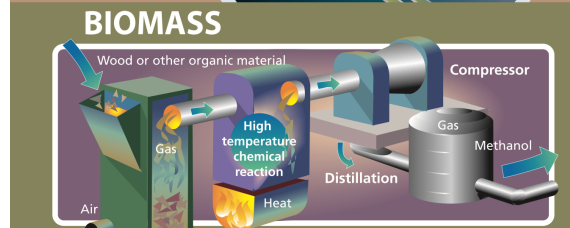
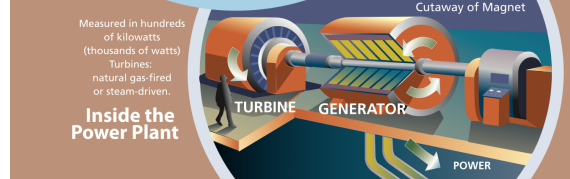
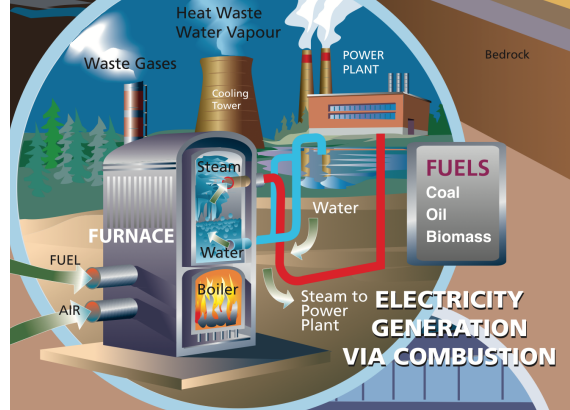
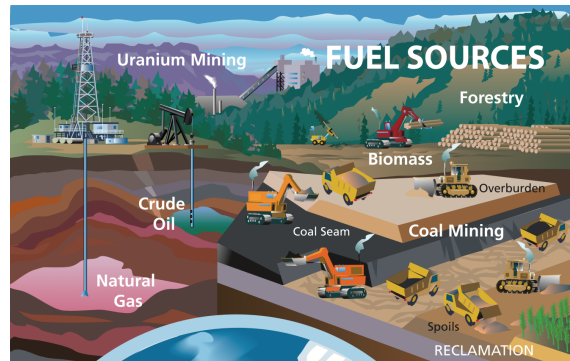
- Find the red triangle signs on the poster.
- Why are these electrical safety hazards?

Your Own Electrical Hazard

- In your visual journal, draw an electrical hazard. Then, create your own sign for the hazard and create your own safety slogan. We will share as a class.

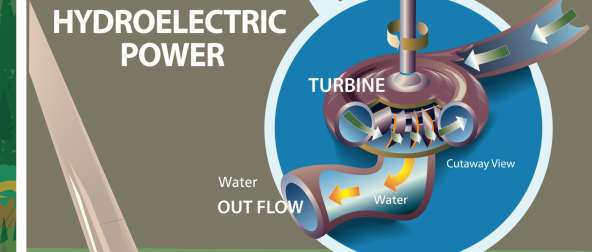
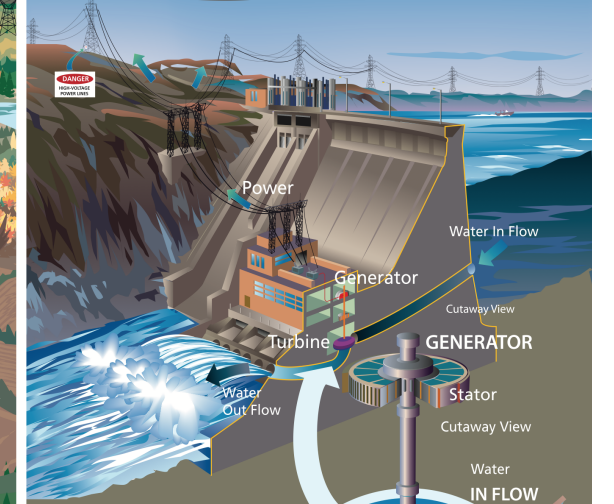
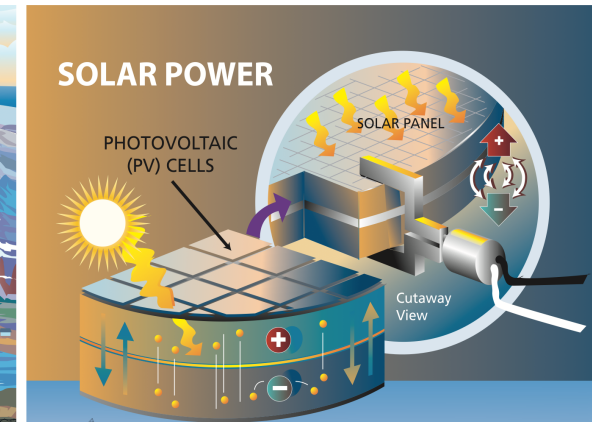
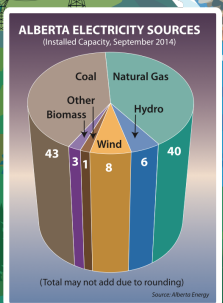


- 1. I am spun by wind, steam or water. I turn the wire coil of a generator. What am I?
- 2. Breakers and wires control the flow. I'm often found in the basement, don't you know? What am I?
- 3. I am the high wires that electricity flows through. Make sure not to touch me for I will ZAP you! What am I?
- 4. Electricity goes through me for a voltage reduction, making it safe for your household functions. What am I? (Hint: I have the same name as a popular toy/movie)
- 5. I'm part of the circuit of electricity. Inside your walls and ceiling is where I will be. What am I?
- 6. I can be found in sand or deep under the ground. Once reformed I do many things including helping get you
- around. What am I?
- 7. Flick on the switch and see me glow. I come in LED, fluorescent and incandescent, just so you know! What
- am I?
- 8. I can be sweet or sour in my gaseous states. I'm the cleanest-burning fossil fuel, at any rate. What am I?
- 9. I am Ontario's main energy source. Uranium atoms splitting apart with great force. My radioactive waste is safely buried of course. What am I?
- 10. Let's be safe and look around. I'll let you know when wires are underground. What am I?
- 11. I am a solid black fuel formed from plant fossilization. I am a large source of Alberta's power generation. What am I?
- 12. Gases from these fuel sources doesn't have to go to waste. They can create renewable energy all over the place. What am I?
- 13. My energy comes from a star far away. Photovoltaic (or PV) cells capture my heat in the day. What am I?
- 14. My blades turn around as the wind blows, resulting in electricity flow. What am I?
- 15. Rivers and waterfalls are nice to see, but also forms of energy. The water's pressure moves the turbines
- creating electricity. What am I?
- 16. Generating electricity from the earth's heat. Turning water to steam is quite the feat! What am I?



ELECTRICITY

Supported by: **ENMAX** Government of Alberta



Inside education

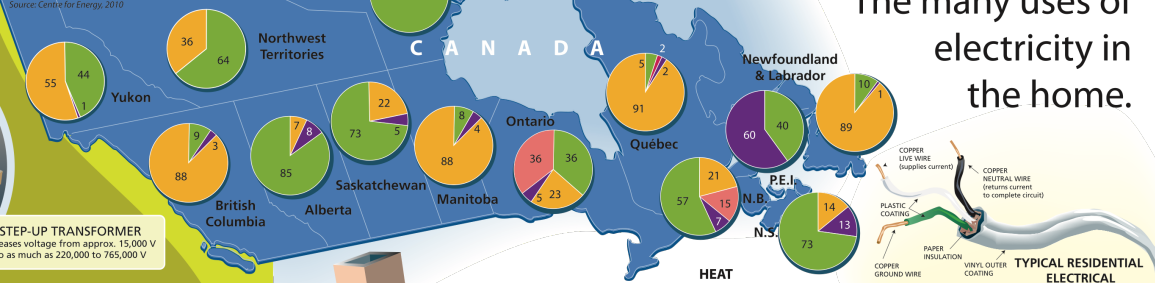
ELECTRICITY SOURCE

CROSS-COUNTRY ELECTRICITY SNAPSHOT (2010)

Approximate (Thermal: fired by coal, oil, or natural gas)

Source: Centre for Energy 2010

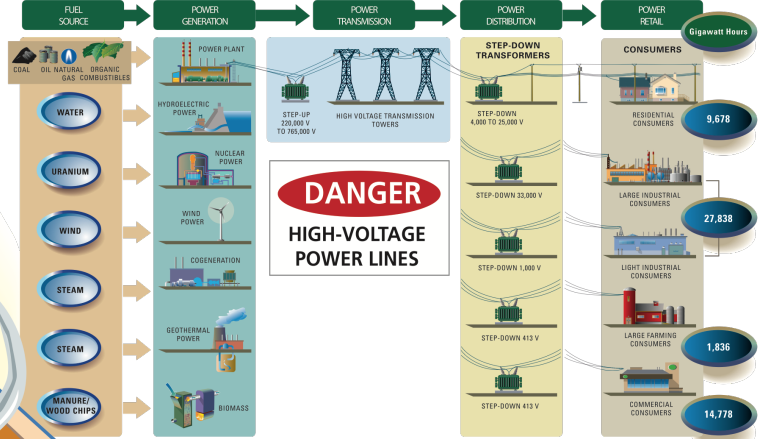
LEGEND: Hydro (Green), Thermal (Orange), Nuclear (Red), Other (includes wind and/or biomass) (Purple)



ELECTRICITY

The many uses of electricity in the home.

THE ELECTRICITY STORY



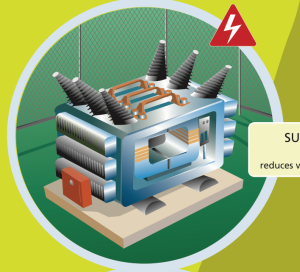
Data: 2012 Alberta Energy

DANGER HIGH-VOLTAGE

THE PATH OF POWER



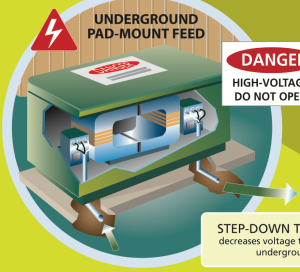
TRANSMISSION LINES various loads up to 765,000 V



SUBSTATION STEP-DOWN TRANSFORMER reduces voltage to approx. 4,000 V to 25,000 V

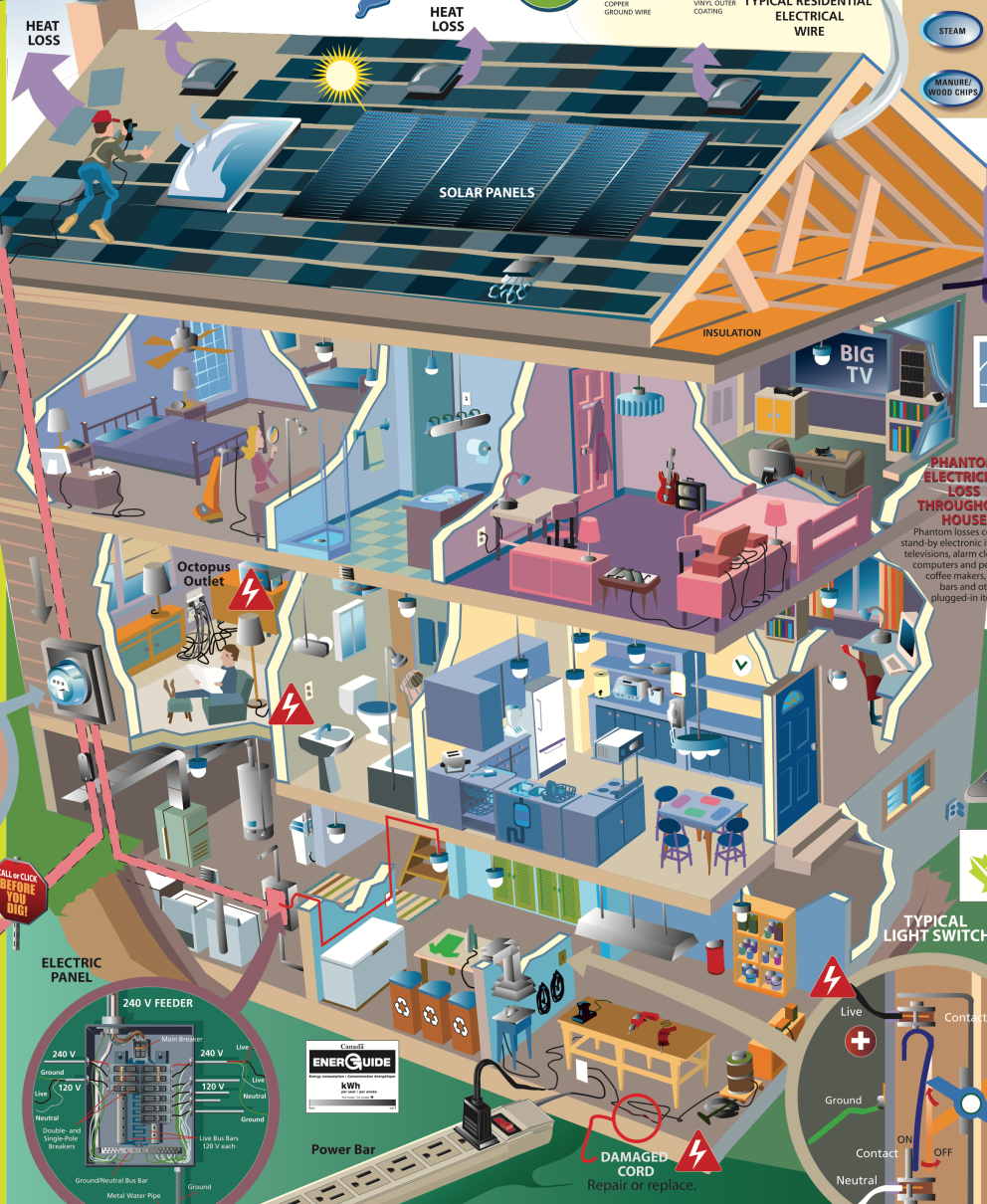


STEP-DOWN TRANSFORMER decreases voltage to 240 V overhead residential service

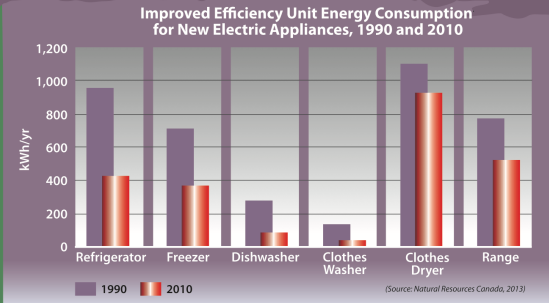
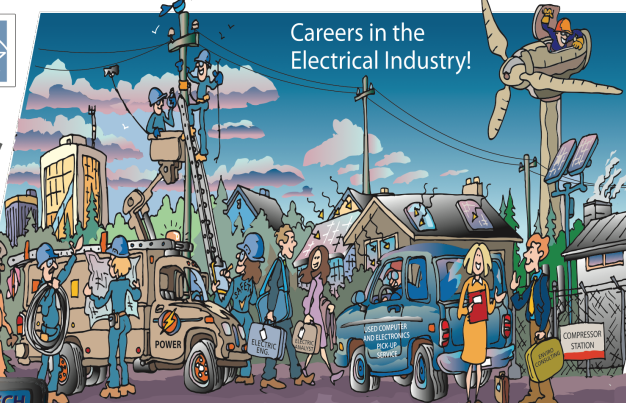
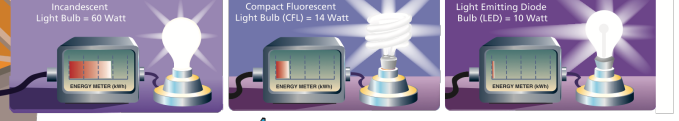


DANGER HIGH-VOLTAGE DO NOT OPEN

STEP-DOWN TRANSFORMER decreases voltage to 240 V residential underground service



ENERGY EFFICIENCY



Electricity Transmission

Electricity Consumption

Supported by: **ENMAX**

and the: **Government of Alberta**

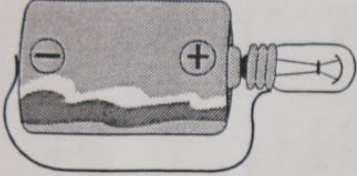
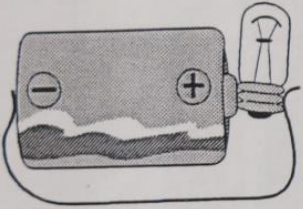
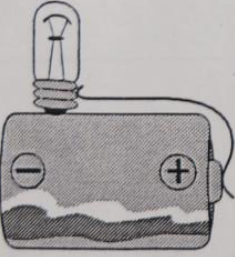
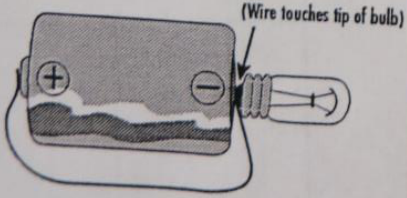
Inside education

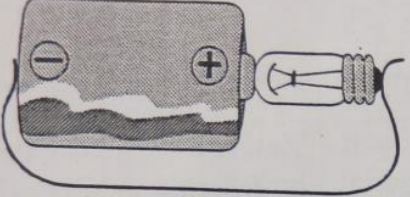
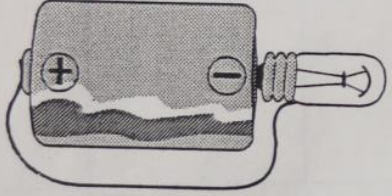
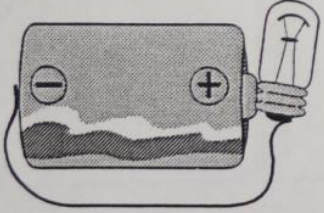
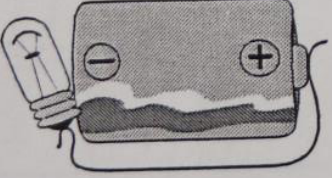
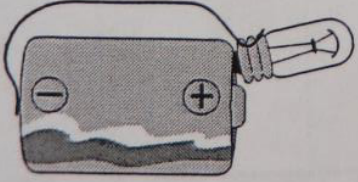
Contact information: Inside Education, (780) 421-1497, www.insideeducation.ca © COPYRIGHT, Inside Education, 2014

Will It Light?

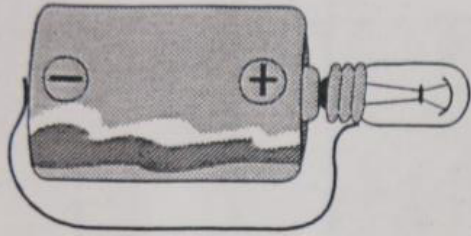
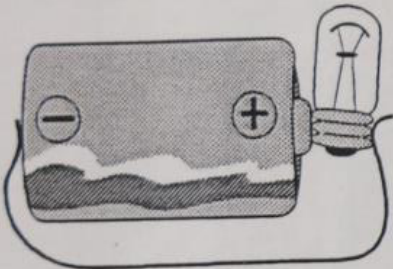
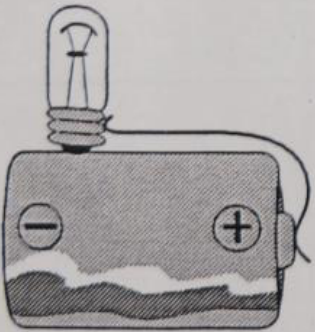
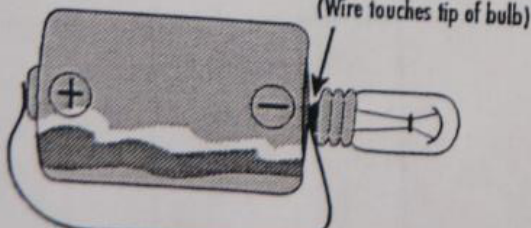


Will It Light?

Arrangement	Prediction		Observations	
	Yes, it will light.	No, it will not light.	Yes, the bulb lights.	No, the bulb did not light.
A 				
B 				
C 				
D 				

Arrangement	Prediction		Observations	
	Yes, it will light.	No, it will not light.	Yes, the bulb lights	No, the bulb did not light
E 				
F 				
G 				
H 				
I 				

Will It Light?

Arrangement	Prediction		Observations	
	Yes, it will light.	No, it will not light.	Yes, the bulb lights.	No, the bulb did not light.
<p>A</p> 				
<p>B</p> 				
<p>C</p> 				
<p>D</p> 				

In Your Visual Journal

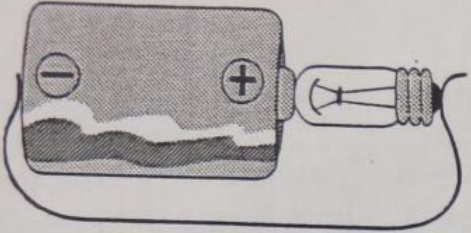
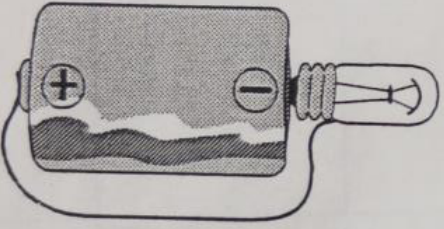
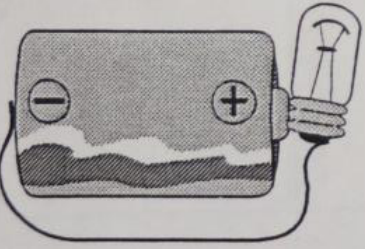
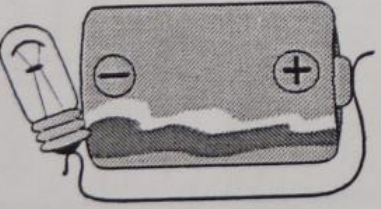
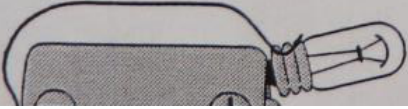
TITLE:

HOT STUFF!

Draw a diagram of your battery - draw arrows to show the flow of electricity

Make a note about what happened

This battery has 1.5 VOLTS of electricity running through it - imagine the heat that 120 volts would have!

Arrangement	Prediction		Observations	
	Yes, it will light.	No, it will not light.	Yes, the bulb lights	No, the bulb did not light
E 				
F 				
G 				
H 				
I 				

MIT Challenge!

<https://www.youtube.com/watch?v=4r6oa63TjFM>



Explaining Electrical Circuits

 <https://www.youtube.com/watch?v=VnnpLaKsqGU>

A bulb will light whenever the electric current produced by the battery can flow from the battery through the bulb and back to the battery.

The flow of electrons is from negative terminal and back to the positive terminal.

WHAT DO WE CALL THIS LOOP?!??!

HOT STUFF

does a battery produce electricity?

Electricity produced by a D Cell battery is totally safe - not strong enough to cause harm.

The "shock" feel is heat generated from the two terminals being connected.

Disconnect the hot wires quickly so as not to drain the battery's energy!

What is a Series Circuit?

Current only has one loop to flow through.

Examples include: flashlight or holiday lights



What is a Parallel Circuit?

Contains two or more branches or connections of current to flow through.

Examples include: Homes,
Automobiles



Name: _____ Date: _____

Building Parallel and Series Circuits

Build a Circuit

Materials:

1 battery, 2 wires, 1 lightbulb, 1 lightbulb holder

Draw your groups example of a circuit. Label the parts.

If you choose to make a video, show your series circuit and name each part.

What is a Series Circuit?

Build a series circuit that lights up two light bulbs.

Materials:

2 lightbulbs, 2 lightbulb holders, 1 battery, 1 alligator clip, 2 wires

1. Draw your group's example of a series circuit. Label the parts.
If you choose to make a video, show your series circuit and name each part.

2. List your observations of the series circuit.

3. Loosen one of the light bulbs until it does not light up. What happens?

4. Tighten the light bulb you loosened, then loosen the other light bulb. What happens?

What is a Parallel Circuit?

Build a parallel circuit that lights up two light bulbs.

Materials:

2 lightbulbs, 2 lightbulb holders, 2 blue pieces, 3 alligator clips and 2 wires.

1. Draw your group's example of a parallel circuit. Label the parts.
If you choose to make a video, show your series circuit and name each part.

2. List your observations of the parallel circuit.

3. Loosen one of the light bulbs until it does not light up. What happens?

4. Tighten the light bulb you loosened, then loosen the other light bulb. What happens?

Observations

5. What are the differences in light quality between the two circuits? How else does the operation of this parallel circuit compare to the series circuit you worked with earlier?

All Done?

Try creating a series and/or a parallel circuit using **THREE** lightbulbs!

Materials!

Each group will need:

2 light bulbs



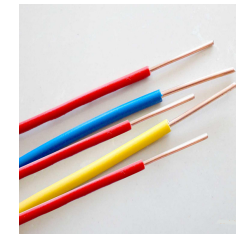
2 light bulb 'holders'



3 alligator clips



2 wires



1 battery holder




1 battery





2 blue pieces

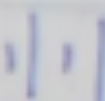
ELECTRICAL CIRCUITS


CIRCUIT SYMBOLS

WIRE 
(CONDUCTOR)

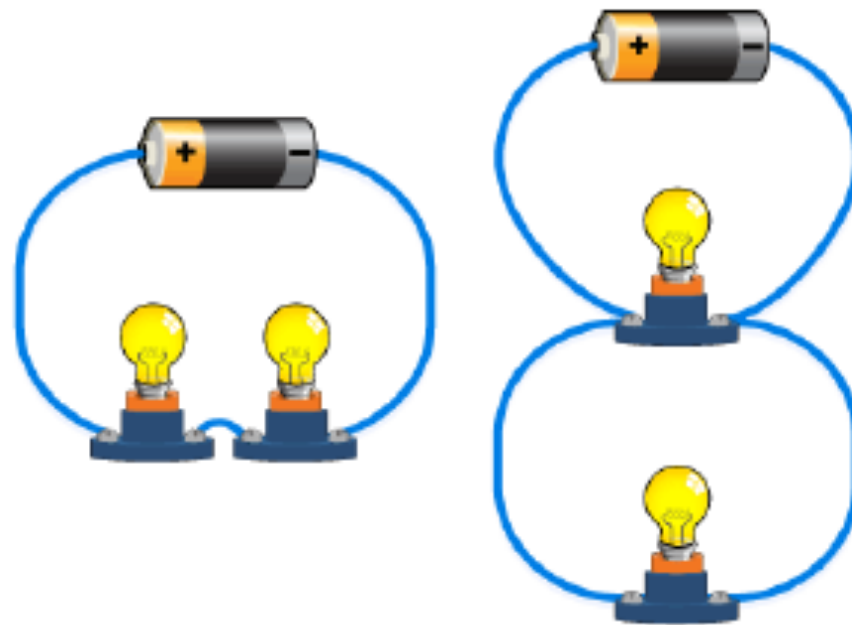
LIGHTBULB 

CLOSED SWITCH 

BATTERY 

OPEN SWITCH 

SERIES



PARALLEL



$$48 \div 4 = 12$$

$$48 \div 2 = 24$$

$$24 \div 2 = 12$$

Solve: There are 48 tires available to make electric cars. How many cars can you make if each car needs 4 tires?

$$12$$

$$4 \times 10 = 40$$

$$4 \times 11 = 44$$

$$4 \times 12 = 48$$

$$12 \times 2 = 24$$

$$24 \times 2 = 48$$

$$4 \times 10 = 40$$

$$4 \times 2 = 8$$

$$10 + 2 = 12$$

Number Talk

$$\underline{40} \div 4$$

10

10

$$4 \times \underline{10} = 40$$

$$4 \div 4 = 10$$



$$4 \times 50 = 200$$
$$200 \div 4 = 50$$
$$16 \div 4 = 4$$

54

$$216 \div 2 = 108$$

$$108 \div 2 = 54$$

$$100 + 100 = 200$$
$$216 \div 4$$

50 50 50 **50**

$$4 \overline{) 216}$$
$$\underline{20 \times}$$
$$16$$
$$\underline{16}$$
$$0$$

$$16 \div 2 = 8$$
$$8 \div 2 = 4$$

54

$$\begin{array}{l}
 100 \div 5 = 20 \\
 100 \div 5 = 20 \quad \rangle 40 \\
 \\
 75 \quad \left\{ \begin{array}{l} 50 \div 5 = 10 \\ 25 \div 5 = 5 \end{array} \right. \quad \left. \begin{array}{l} 15 \\ 15 \end{array} \right\} 55 \\
 \\
 275 \div 5
 \end{array}$$

$$10 \times 5 = 50$$

$$\begin{array}{cccc}
 55 & 60 & 65 & 70, 75 \\
 1 & 2 & 2 & \neq 5
 \end{array}$$

$$15 \times 5 = 75$$

$$\begin{array}{l}
 100 \div 5 = 20 \\
 200 \div 5 = 40 \\
 40 + 15 = 55
 \end{array}$$

$$200 \div 5 = 40$$

$$5 \times \underline{\quad} = 75$$

$$5 \times 16 = 80$$

$$5 \times 15 = 75$$

What are the characteristics of a good story?

- In our table groups, use chart paper to brainstorm all of the characteristics of what makes a "good" story.
- One example would be Rosemary Nixon's "juicy words"
- Event/Problem to get reader curious
- Characters/Protagonist/Antagonist
- Paint a Picture
- Plot - twist/problem/event- Story Line
- Hook- start in the middle, action, dialogue, description
- Beginning, Middle, End
- Beginning (problem), Middle (attempts to solve), End (the solution).
- Easy to understand and follow, good flow
- Makes Sense
- Details - characters, events, relationships
- Author Voice
- Sentence Fluency

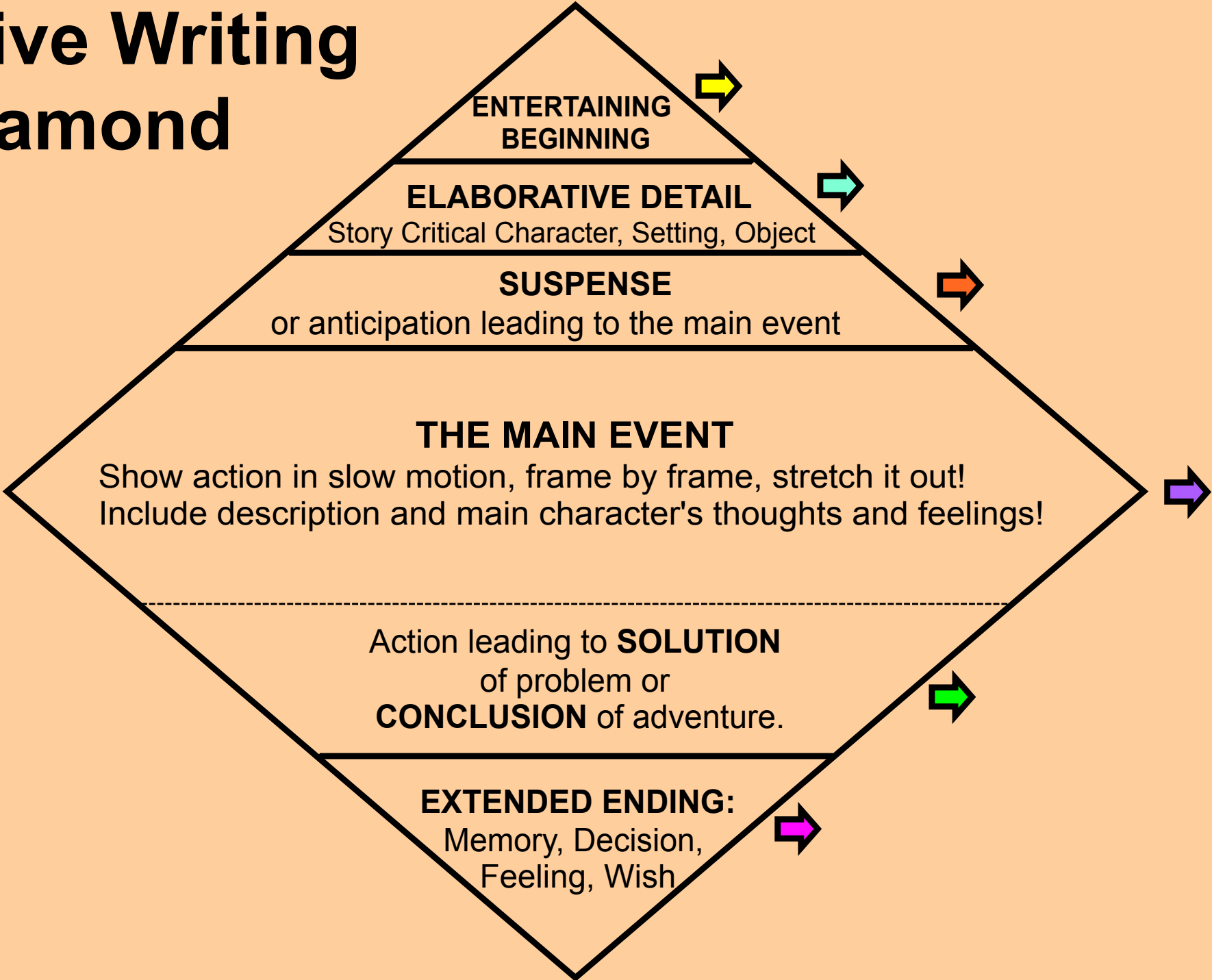
- What are the characteristics of a good short story?
- TADD
 - > Thoughts, Action, Dialogue, and Description
- Editing:
 - > COPS: Capitalization, organization, punctuation, and spelling.
- Misc Items:
 - > Should have suspense.
- Beginning, middle, and end.
- Characters that you can bond with.
- Interesting vocabulary/description
- Sentence fluency: your sentences flow together and make sense.
- Character, setting, and a time era.
- Extended ending: they've learned something, there is a feeling, reflection.
- Hooked beginning: the reader is HOOKED. Sound effect, dialogue, deep thoughts, action.
- Juicy words!
- Action!
- Protagonist: main character, driving forward the action!
- Antagonist: fighting the main character. The villain.
- Coherence - it makes sense!
- Has a climax - the main event!
- Has rising action, falling action!
- Make it exciting - use suspense!
- Detailed vocabulary.
- Ending needs to wrap-up the story.
- Make sure it's an exciting beginning!
- Plan the story!
- Be aware of how much time you have. Don't make it too long!

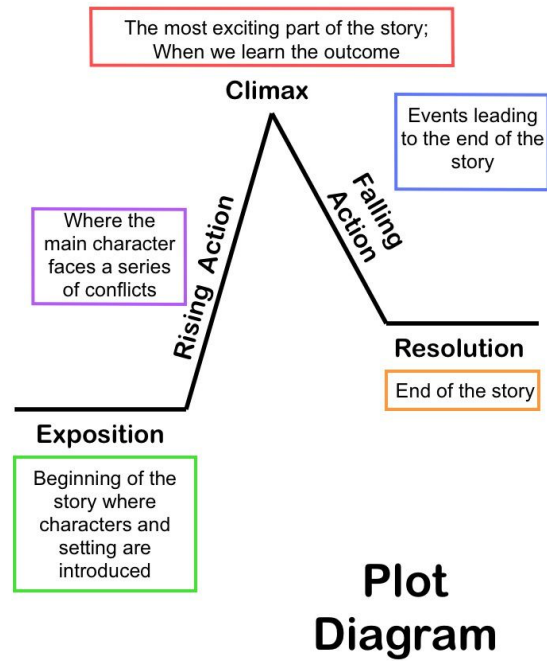
Story Writing

--Beginnings--

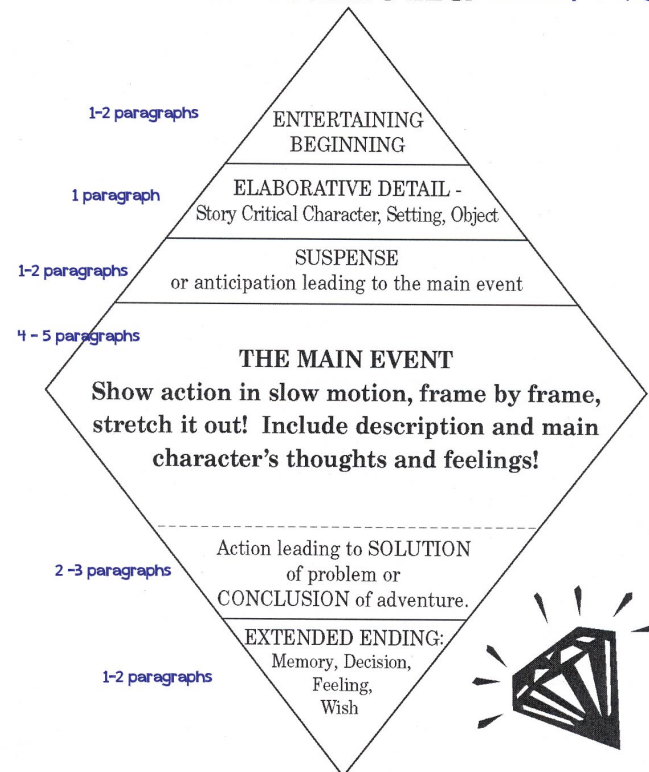
Be sure to take
notes!

Narrative Writing Diamond



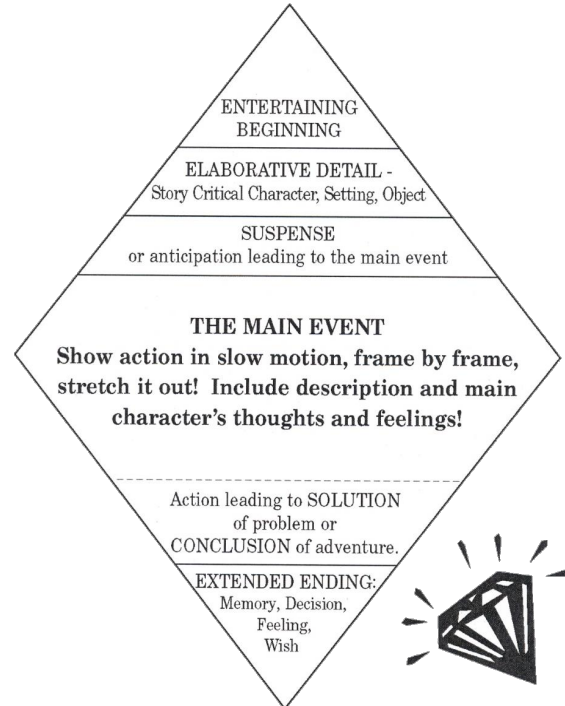


Narrative Writing Diamond Short Story = 3-4 pages



Planning your short story...

Narrative Writing Diamond



**These don't have to be in order!*

1. Use that narrative diamond or the story path!

- Drawing the template will help you remember and map your story.

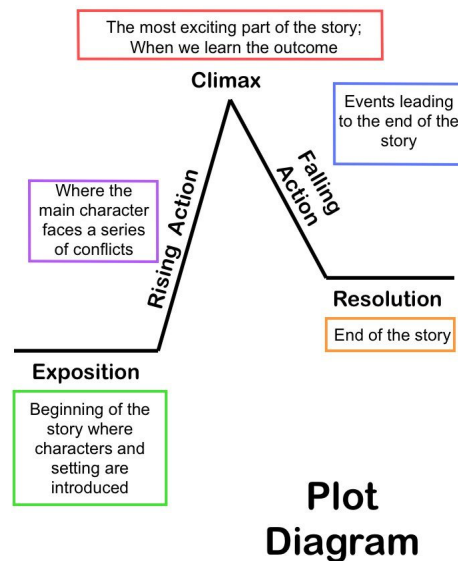
2. "Well what's your problem!"

- What is the PROBLEM? What is the MAIN CONFLICT?

- human v. human
- human v. self
- human v. nature
- human v. supernatural

3. Main Character and Critical (Really Important!) Characters

- Who is facing the challenge?
- Are there any other *really* important characters? When you are writing a short story, you cannot have too many characters!



Entertaining Beginning

- The beginning must "hook" the reader and make them feel compelled to read on.
- The author might use an interesting action, dialogue, the main character's thoughts or feelings, raise story questions or even use a sound effect
- Stories should begin as close to the main event as possible.



Description of Setting, Character or Object

- This is your descriptive segment (3-4 sentences long). It describes a setting, character, or object.
- It draws the reader into your world! It helps draw the reader in and help the reader experience the fictional world through the five senses of the main character.
- The setting could be kind of boring or average, like a kitchen, school yard, etc. In that case, you may want to describe an important character or object!

Build Suspense

- This is leading up to the climax!
- It doesn't necessarily have to be "horror movie" suspenseful.
- What is the problem? Has your character started to solve it?
- Is she/he going somewhere to solve it?
- This might involve raising worry, wonder, concern, or doubt, all of which build tension.

The MAIN EVENT

- This is the most important part of the story! Everything lead up to this. In a *short* story, it's basically what the entire story is about.
- The main event section involves the problem/struggle sequence, or the adventure or interesting peak experience.
- This "scene" should be told in almost slow motion, expanded upon and stretched out through a balance of action, thought, description, and dialogue.
- This is the largest, most significant part of the story.

The Solution or Conclusion

- This is the section that brings the main event to a close.
- The problem is solved or the adventure or experience comes to an end.

Extended Ending

- The ending summarizes the main character's thoughts, feelings, memories, hopes , wishes, or decisions in regard to the main event.
- It might include a defining action that **SHOWS** any of the above.
- The extended ending should not be abrupt. It should bring everything to a close.



Today, We Focus on
Story Beginnings
Starting Off on the Right Foot



Story Beginnings

Starting Off on the Right Foot

An action- Put the main character in the setting doing something interesting relevant. *What would you do?*

ex. Joey ran full steam ahead across the corral and jumped on the back of the wild stallion!

Dialogue- Have the main character say something that expresses a feeling, creates worry, or raises the reader's interest or curiosity. It could be an EXCLAMATION. *What would you say or exclaim?*

ex. "Get down!" I shouted.

A thought or question- Show what the main character is thinking or worrying about. *What would you be thinking, wondering or worrying?*

ex. I wondered if we'd make it out alive.

A sound- A story relevant sound effect or a description of a sound is a great attention getting technique. *What would you hear?*

ex. BOOM! Jack flinched as the thunder and lightning rolled in over the hills.

Class Activity:

**This is a story about
how I found a fairy in
the woods.**

Does this "hook" you in to the story?
- Let's take a few minutes to write a
better one!

Better Ways:
Match the beginnings with
the correct type of
beginning.

Dialogue

Action

A Sound

A Thought/Question

I walked along the shady forest path
on a magical afternoon.

"What a magical day for a walk in the
woods!" I said.

Zing! Woosh! I spun around and stared
into the forest. What had made that
peculiar sound?

Today seems sort of magical, I thought as I
looked out in the forest.

Analyze this Beginning #1

Read this opening sentence. It is from a chapter in Patricia Reilly Giff's book, The Winter Worm Business:

Leroy dropped down on his hands and knees and scrambled around, frantically trying to sift through the dirt that was piling up around the hole.

What technique did the author use to grab your attention?

Analyze this Beginning #2

Read this opening sentence. It is from a chapter in Patricia MacLachlan's book, Arthur for the Very First Time:

The wind began in the night. Arthur awoke to hear the tree branches scraping against the window and the sound of sudden sheets of rain being pushed against the house.

What technique did the author use to grab your attention?

Analyze this Beginning #3

Read this opening sentence. It is from a chapter in Katherine Paterson's book, The Great Gilly Hopkins:

Dread lay on Gilly's stomach like a dead fish on the beach.

What technique did the author use to grab your attention?

Analyze this Beginning #4

Read this opening sentence. It is from a chapter in Sid Fleischman's book, The Whipping Boy:

As soon as the wheels rattled on cobbled streets, Jemmy felt an immense sense of relief.

What technique did the author use to grab your attention?

Analyze this Beginning #5

Read this opening sentence. It is from a chapter in Sid Fleischman's book, The Thirteenth Floor, A Ghost Story:

"Anchor!" shouted Captain Stebbins through his speaking trumpet. "Drop anchor!"

What technique did the author use to grab your attention?

Picture Prompt-What ideas do you get from this picture? What is happening? Where is this? What time of year is it? Who is this person? What objects could you use?



Spl. Hing
into groups

$$48 \div 4 = 12$$

$$4 \times 11 = 44$$

$$4 \times 1 = 4$$

$$11 + 1 = 12$$

$$48 \div 2 = 24$$

$$\frac{48}{2} = 24$$

$$\frac{24}{2} = 12$$

$$\begin{array}{r} 48 \\ - 40 \\ \hline 8 \end{array}$$

$$40 \div 4 = 10$$

$$8 \div 4 = 2$$

$$\begin{array}{r} 40 \div 4 = 10 \\ + 8 \\ \hline + 2 \\ \hline 12 \end{array}$$

300 24
 ↙
 $\underline{6} \times 4 = 24$

$100 \div 4 = 25$
 $100 \div 4 = 25$ / 75
 $100 \div 4 = 25$

$75 + 6 = 81$

$324 \div 4$

$4 \times 8 = 32$

$4 \times 4 = 4$

320 4
 $4 \times 80 = 320$

$4 \times 1 = 4$

$320 \div 4 = 80$
 $4 \div 4 = 1$

divisor quotient
 $4 \overline{) 324}$ 81
 -32 ↓ 4
 04 4
 0

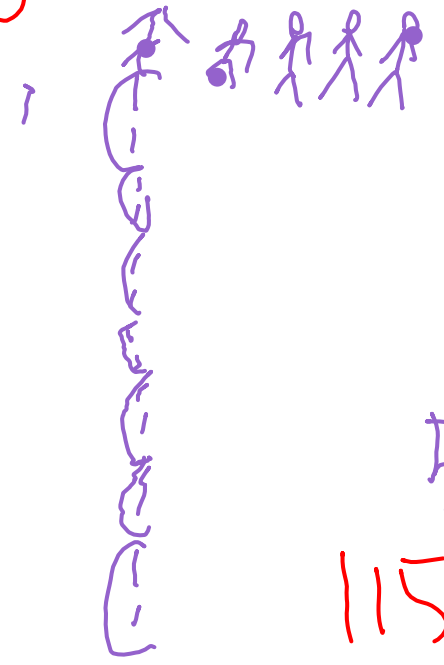
$$\begin{array}{r} 115 \\ 5 \overline{) 575} \\ \underline{5} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

$5 \times 1 = 5$
 $5 \times 1 = 7$
 $5 \times 5 = 25$

$$575 \div 5$$

$$\begin{array}{r} 575 \\ \swarrow \quad \searrow \\ 500 \quad 75 \\ 500 \div 5 = 100 \\ 75 \div 5 = 15 \\ 100 + 15 = 115 \end{array}$$

$500 \div 5 = 100$
 $70 \div 5 = 14$
 $5 \div 5 = 1$
 $100 + 14 + 1 = 115$



$$5 \div 500$$

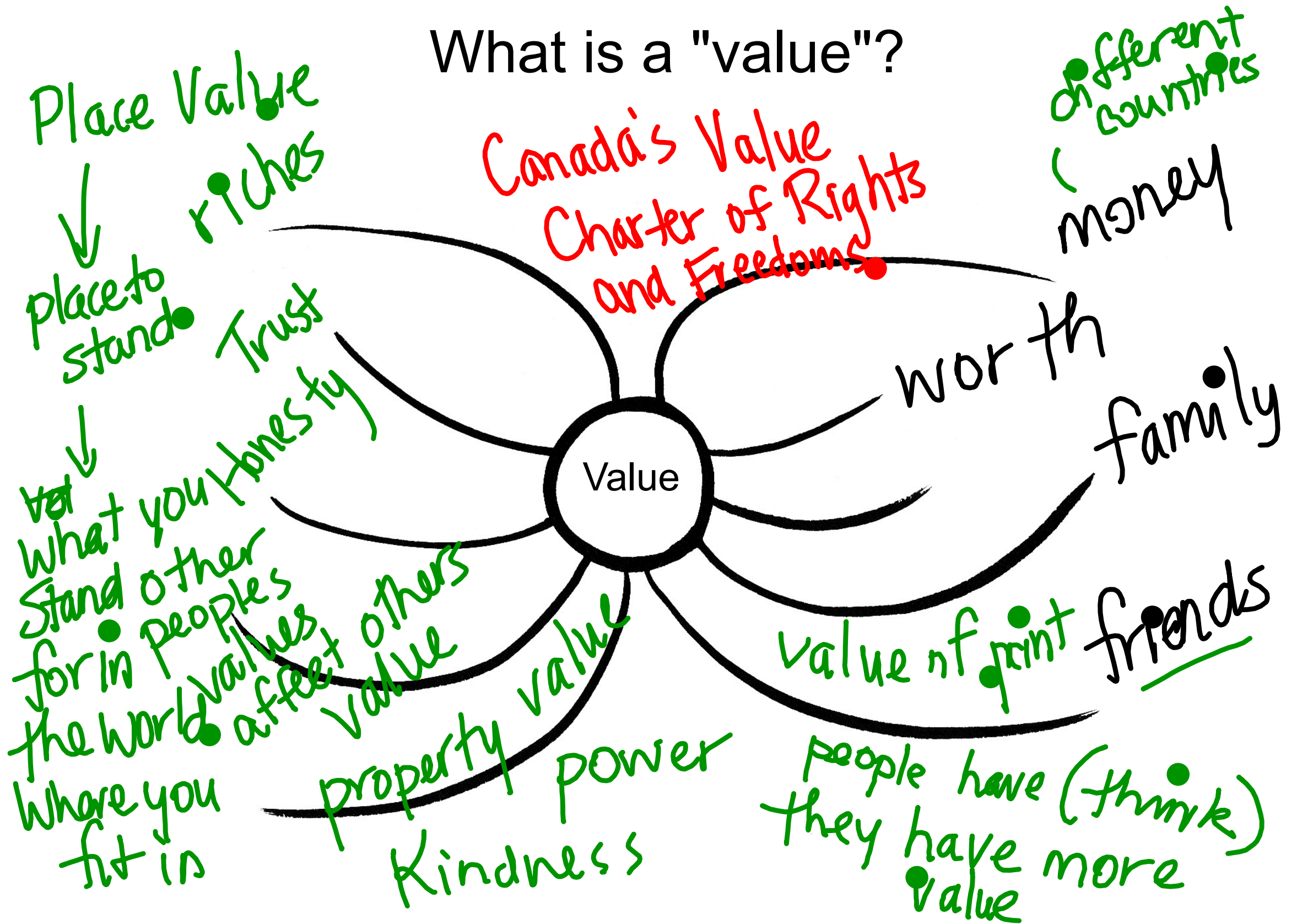
115

$$\begin{array}{r} 5 \times 50 = 250 \\ 5 \times 50 = 250 \\ \hline 500 \end{array}$$

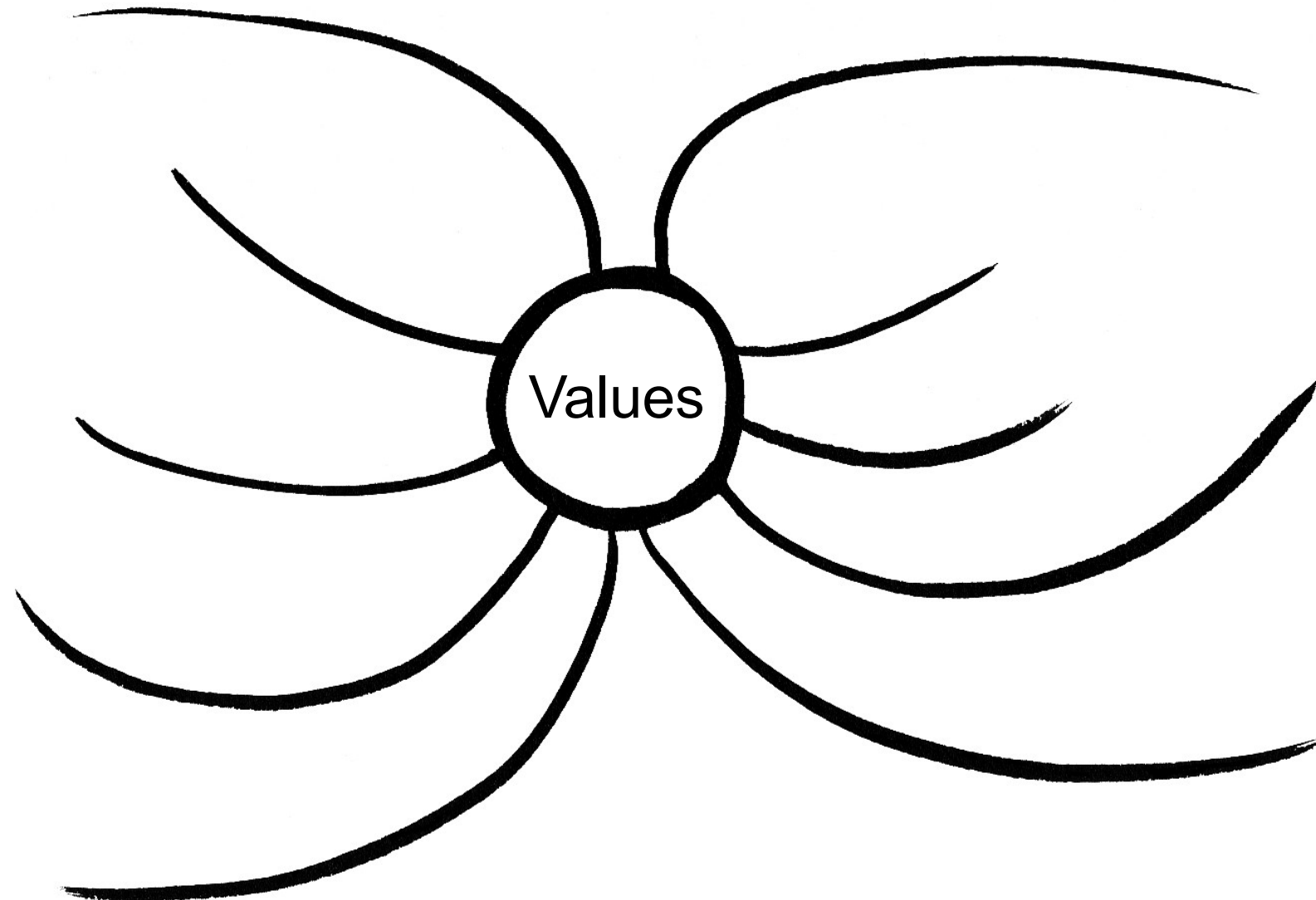
$$75 \div 5 = 15$$

$$50 + 50 + 15 = 115$$

What is a "value"?



What are some of your values?



<https://www.stevepavlina.com/blog/2004/11/list-of-values/>



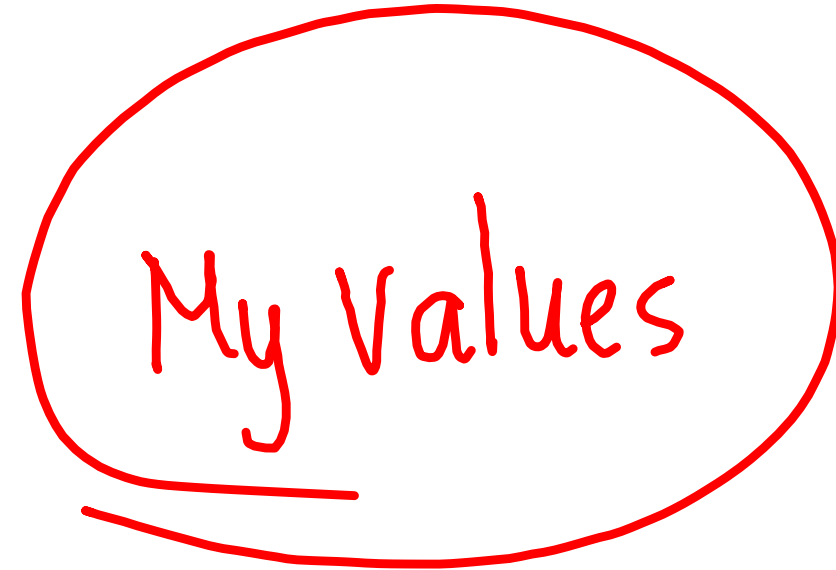
Value:

A) It's something that you consider (someone or something) to be important or beneficial; have a high opinion of.

B) Important and lasting beliefs or ideals shared by the members of a culture about what is good or bad and desirable or undesirable.

Examples of Core Values:

Dependable
Reliable
Loyal
Committed
Open-minded
Consistent
Honest
Efficient
Innovative
Creative
Humorous
Fun-loving
Adventurous
Motivated
Positive
Optimistic
Inspiring
Passionate
Respectful
Athletic
Fit
Courageous
Educated
Respected
Loving
Nurturing



My values

