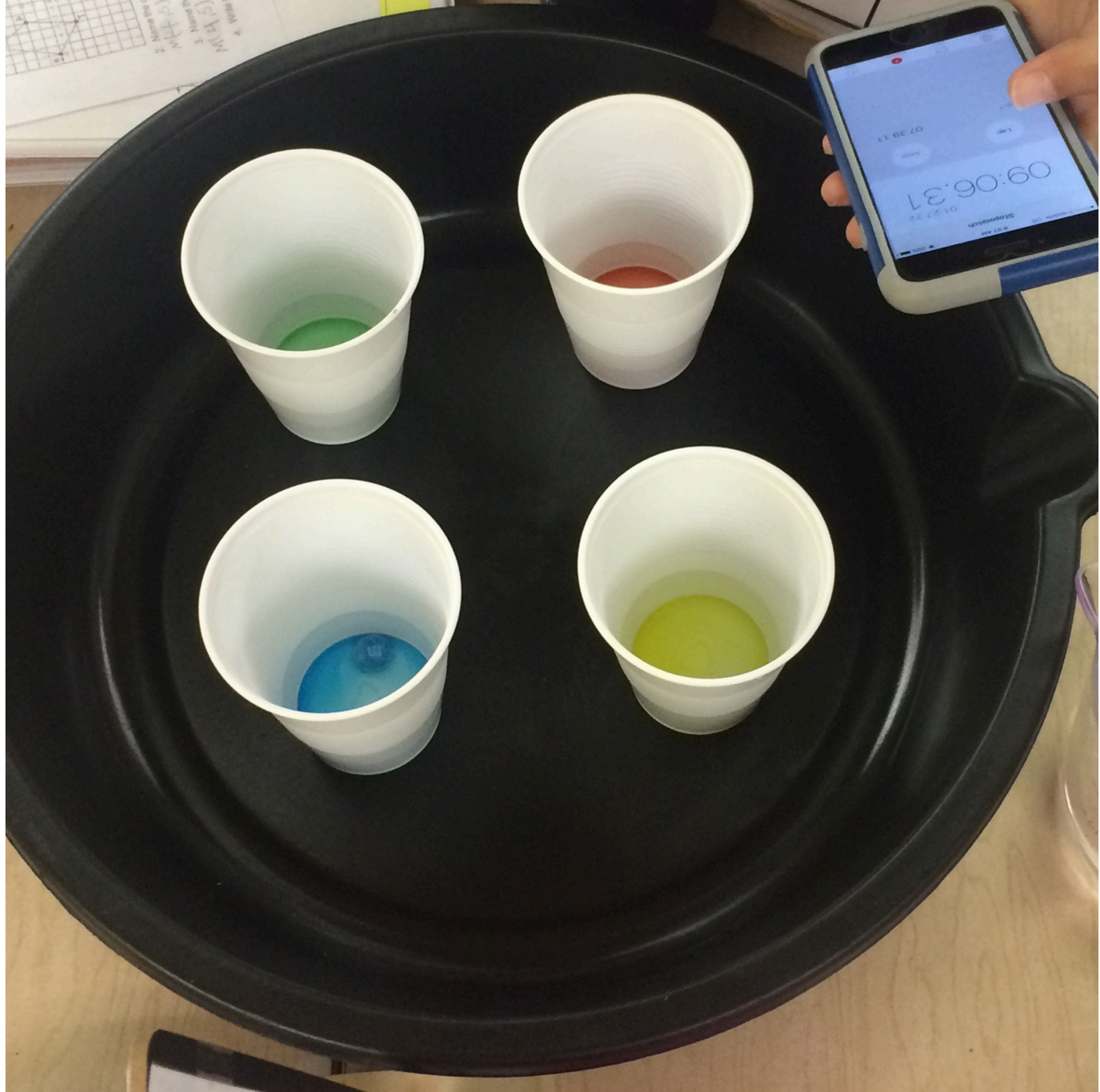
Looking for engaging lab activities you can use multiple times throughout the year?

Take a look inside!



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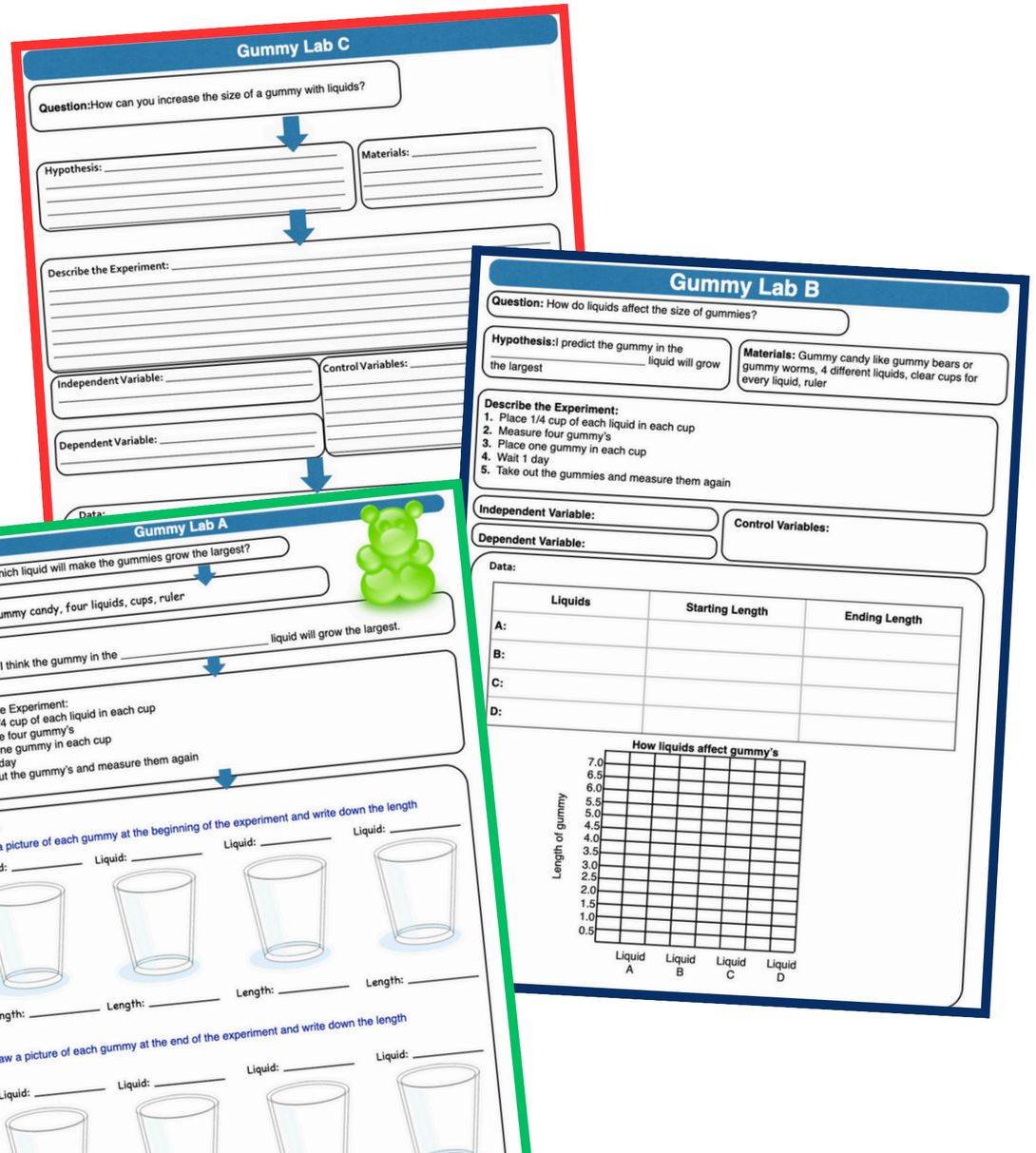
WOULDN'T IT BE GREAT IF...



- You could have students do similar labs that challenge them as their level of understanding changes.

- You were able to have one set of materials with different sets of instructions and guidance based on the students ability?

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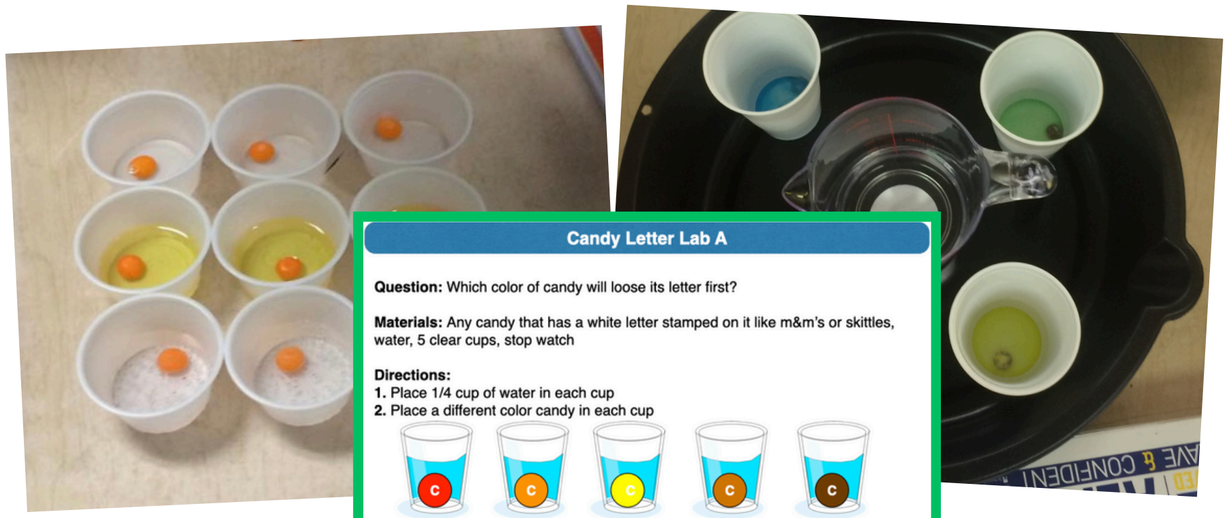
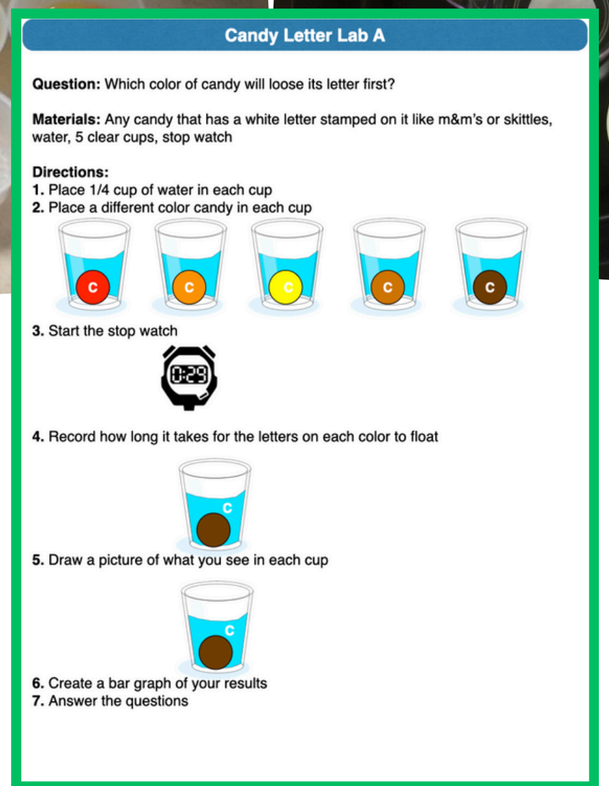
This is perfect for you





Candy Letter Lab A

Question: Which color of candy will loose its letter first?

Materials: Any candy that has a white letter stamped on it like m&m's or skittles, water, 5 clear cups, stop watch

Directions:
1. Place 1/4 cup of water in each cup
2. Place a different color candy in each cup

3. Start the stop watch

4. Record how long it takes for the letters on each color to float

5. Draw a picture of what you see in each cup

6. Create a bar graph of your results
7. Answer the questions

- 3 different labs
- Each lab has 3 different level
- Grading Rubric
- Example Expected results
- Highly engaging
- Use at the beginning, middle, and end of your scientific method unit

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Candy Lab #1 Gummy Lab

- Discover which liquid will make the gummy grow the largest
- Three different levels of directions

Gummy Lab A

: Which liquid will make the gummies grow the largest?

s: Gummy candy like gummy bears or gummy worms, water, vinegar, lemon-lime
lt water, 4 clear cups, ruler

ons:
e 1/4 cup of each liquid in each cup
asure four gummies

ace one gummy in each cup and draw a picture of what you see

. Wait 1 day
5. Draw a picture of what the gummies now look like.

13. Take out the gummies and measure them again

14. Create a bar graph of your results
15. Answer the questions

Gummy Lab A

Question: Which liquid will make the gummies grow the largest?

Materials: gummy candy, four liquids, cups, ruler

Prediction: I think the gummy in the _____ liquid will grow the largest.

Describe the Experiment:
1. Place 1/4 cup of each liquid in each cup
2. Measure four gummy's
. Place one gummy in each cup
Wait 1 day
Take out the gummy's and measure them again

ta:
a picture of each gummy at the beginning of the experiment and write down the length
: _____ Liquid: _____ Liquid: _____ Liquid: _____

Gummy Lab B

Question: How do liquids affect the size of gummies?

Hypothesis: I predict the gummy in the _____ liquid will grow the largest

Materials: Gummy candy like gummy bears or gummy worms, 4 different liquids, clear cups for every liquid, ruler

Describe the Experiment:
1. Place 1/4 cup of each liquid in each cup
2. Measure four gummy's
3. Place one gummy in each cup
4. Wait 1 day
5. Take out the gummies and measure them again

Independent Variable:

Control Variables:

Dependent Variable:

Data:

Liquids	Starting Length	Ending Length
A:		
B:		
C:		
D:		

How liquids affect gummy's

Length of gummy

7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5

Gummy Lab B

Question: How do liquids affect the size of gummies?

terials: Gummy candy like gummy bears or gummy worms
amples: water, oil, vinegar, lemon-lime soda, salt water, app
d safe liquids you may have), clear cups for every liquid, rul

tions:
ce 1/4 cup of each liquid in each cup
sure four gummies
e one gummy in each cup and draw a picture of what you se
day
a picture of what the gummies now look like.
t the gummies and measure them again
a bar graph of your results
he questions

Gummy Lab C

Question: How can you increase the size of a gummy with liquids?

Materials: Gummy candy like gummy bears or gummy worms, 4-6 different liquids (examples: water, oil, vinegar, lemon-lime soda, salt water, orange juice, or any other child safe liquids you may have), clear cups for every liquid, ruler

Directions:
1. Identify your independent variable. (Think about what you are going to change in this experiment to answer the question?)
2. Identify your dependent variable. (Think about what are you going to measure to answer the question?)
3. Create your hypothesis. If (what are you going to change?), then (what do you predict the outcome will be?)
4. Give a basic description of how you will test your hypothesis
5. Perform your experiment and record your observations
6. Graph your data
7. Analyze your data and draw conclusions

Gummy Lab C

stion: How can you increase the size of a gummy with liquids?

esis: _____

Materials: _____

Experiment: _____

ble: _____

Control Variables: _____

t of _____

Trial 1	Trial 2	Trial 3	Average

fect of _____

I.V. I.V. I.V.

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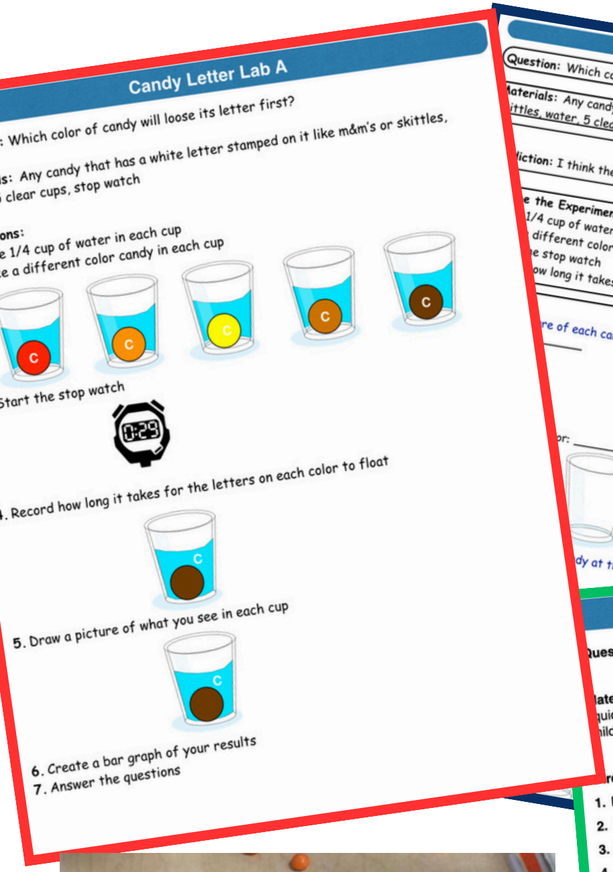
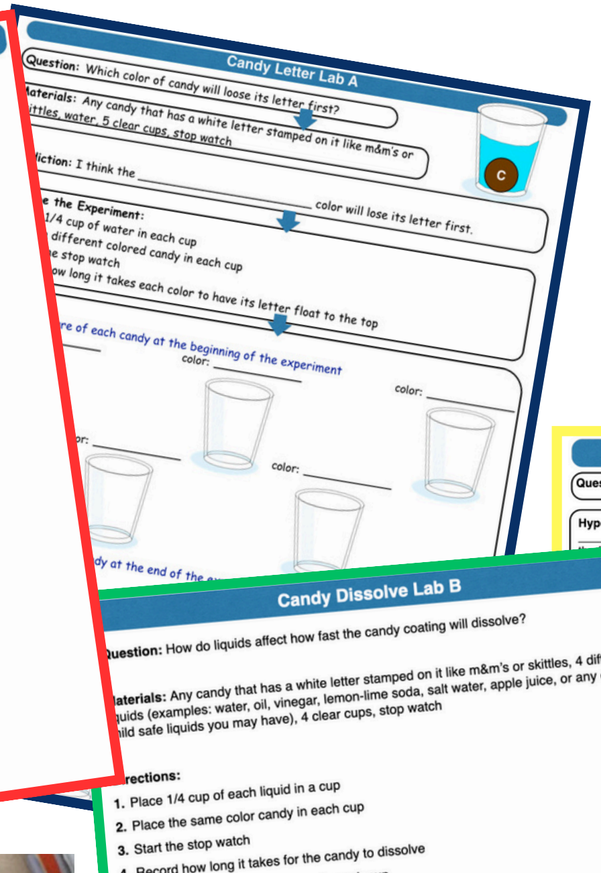
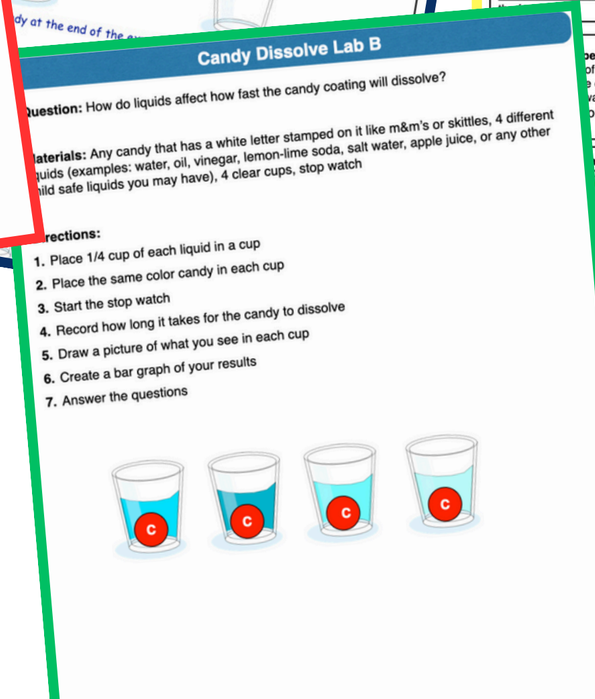
Candy Lab #2: Candy Letters

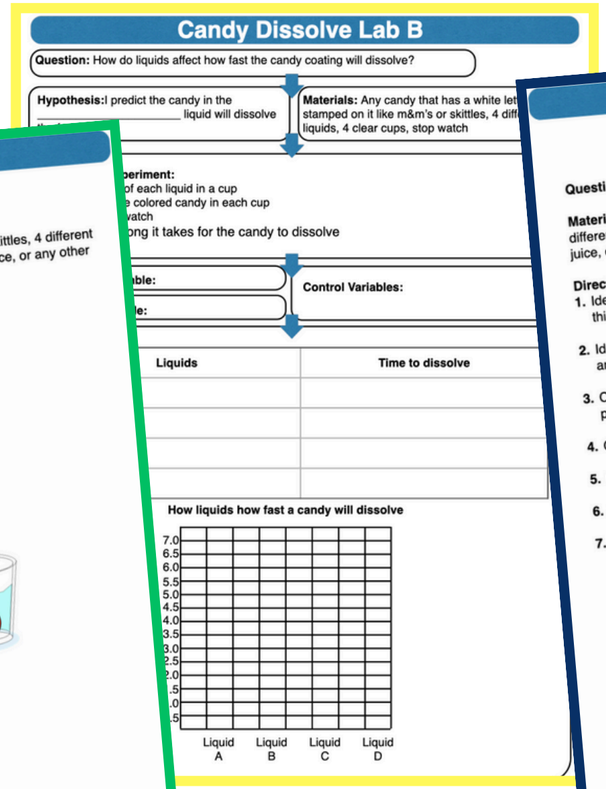
Discover which liquid will make dissolve the letter off of the candy the fastest.

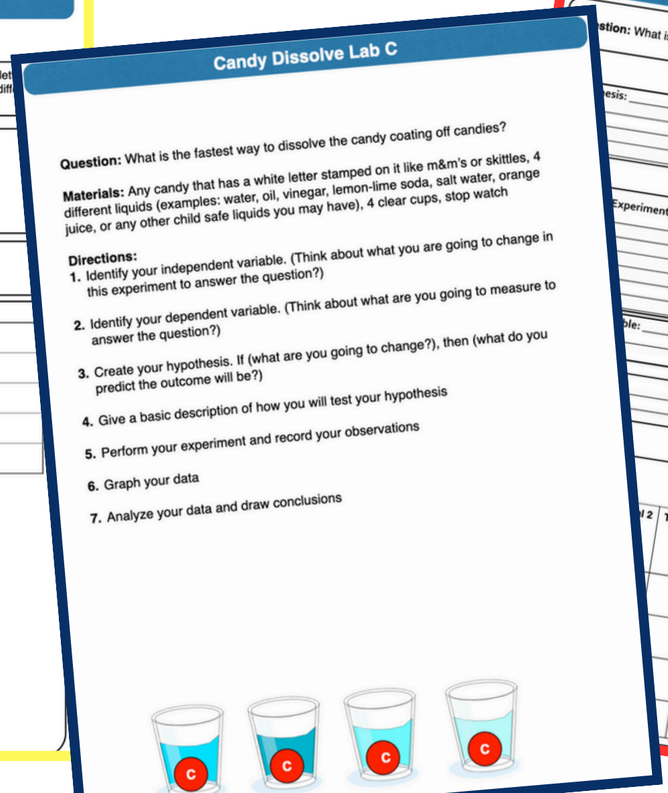
Three different levels of directions

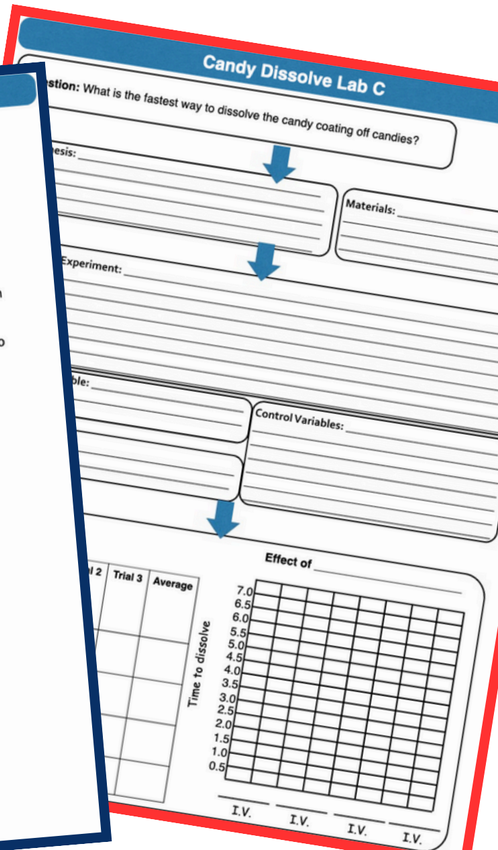












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Candy Lab #3: Candy cane

Discover how temperature affects a candy cane

Three different levels of directions

Candy Cane Lab A

Question: Which temperature will remove the strips on a candy cane faster?

Materials: Three candy canes, hot water (use caution), room temperature water, ice cold water, 3 clear cups, stop watch

Directions:

1. Place 1/4 cup of each water temperature in each cup
2. Place a candy cane in each cup
3. Start the stop watch
4. Record how long it takes for the color to disappear from the candy cane
5. Draw a picture of what you see in each cup
6. Create a bar graph of your results
7. Answer the questions

Candy Cane Lab B

Question: How does temperature affect candy canes?

Materials: Three candy canes, hot water (use caution), room temperature water, ice cold water, 3 clear cups, stop watch

Directions:

1. Place 1/4 cup of each water temperature in each cup
2. Place a candy cane in each cup
3. Start the stop watch
4. Record how long it takes for the color to disappear from the candy cane
5. Draw a picture of what you see in each cup
6. Create a bar graph of your results
7. Answer the questions

Candy Cane Lab C

Question: How does temperature affect candy canes?

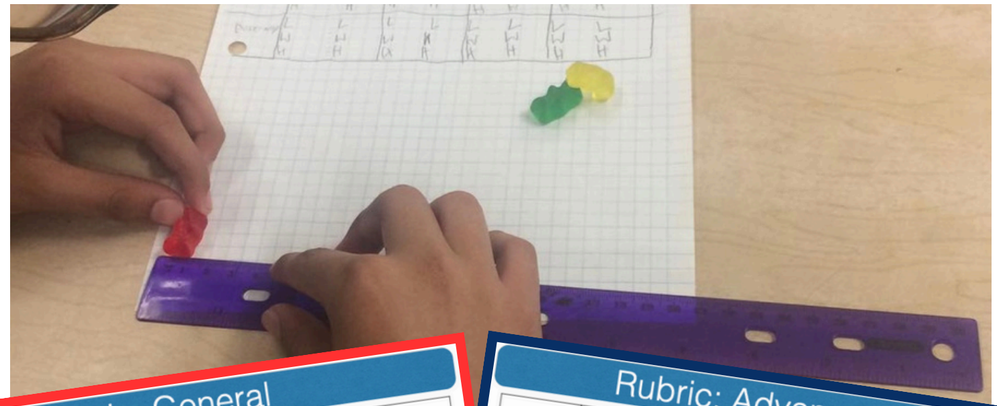
Materials: Three candy canes, hot water (use caution), room temperature water, ice cold water, 3 clear cups, stop watch

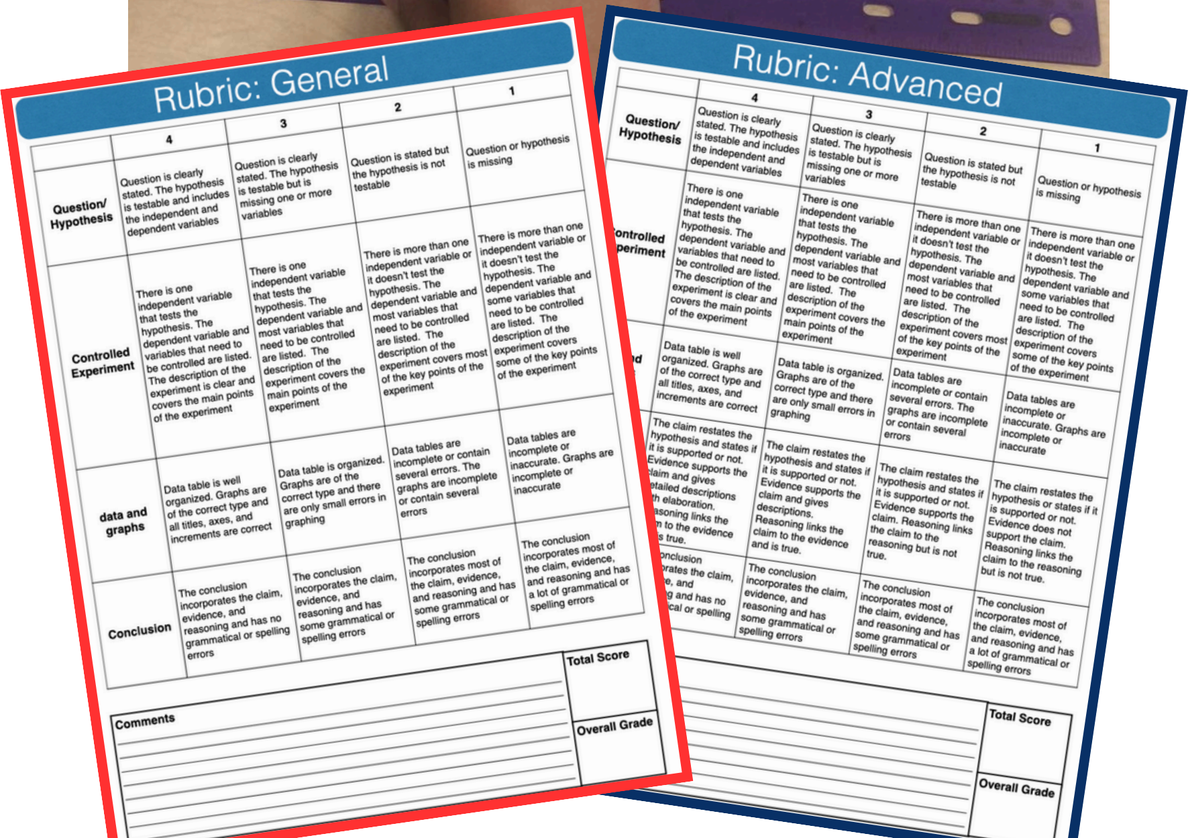
Directions:

1. Identify your independent variable. (Think about what you are going to change in this experiment to answer the question?)
2. Identify your dependent variable. (Think about what are you going to measure to answer the question?)
3. Create your hypothesis. If (what are you going to change?), then (what do you predict the outcome will be?)
4. Give a basic description of how you will test your hypothesis
5. Perform your experiment and record your observations
6. Graph your data
7. Analyze your data and draw conclusions

Rave Reviews

from Happy Teachers!





Rubric: General

	4	3	2	1
Question/ Hypothesis	Question is clearly stated. The hypothesis is testable and includes the independent and dependent variables	Question is clearly stated. The hypothesis is testable but is missing one or more variables	Question is stated but the hypothesis is not testable	Question or hypothesis is missing
Controlled Experiment	There is one independent variable that tests the hypothesis. The dependent variable and variables that need to be controlled are listed. The description of the experiment is clear and covers the main points of the experiment	There is one independent variable that tests the hypothesis. The dependent variable and most variables that need to be controlled are listed. The description of the experiment covers the main points of the experiment	There is more than one independent variable or it doesn't test the hypothesis. The dependent variable and most variables that need to be controlled are listed. The description of the experiment covers most of the key points of the experiment	There is more than one independent variable or it doesn't test the hypothesis. The dependent variable and some variables that need to be controlled are listed. The description of the experiment covers some of the key points of the experiment
data and graphs	Data table is well organized. Graphs are of the correct type and all titles, axes, and increments are correct	Data table is organized. Graphs are of the correct type and there are only small errors in graphing	Data tables are incomplete or contain several errors. The graphs are incomplete or contain several errors	Data tables are incomplete or inaccurate. Graphs are incomplete or inaccurate
Conclusion	The conclusion incorporates the claim, evidence, and reasoning and has no grammatical or spelling errors	The conclusion incorporates the claim, evidence, and reasoning and has some grammatical or spelling errors	The conclusion incorporates most of the claim, evidence, and reasoning and has some grammatical or spelling errors	The conclusion incorporates most of the claim, evidence, and reasoning and has a lot of grammatical or spelling errors

Comments

Total Score

Overall Grade

Rubric: Advanced

	4	3	2	1
Question/ Hypothesis	Question is clearly stated. The hypothesis is testable and includes the independent and dependent variables	Question is clearly stated. The hypothesis is testable but is missing one or more variables	Question is stated but the hypothesis is not testable	Question or hypothesis is missing
ontrolled periment	There is one independent variable that tests the hypothesis. The dependent variable and variables that need to be controlled are listed. The description of the experiment is clear and covers the main points of the experiment	There is one independent variable that tests the hypothesis. The dependent variable and most variables that need to be controlled are listed. The description of the experiment covers the main points of the experiment	There is more than one independent variable or it doesn't test the hypothesis. The dependent variable and most variables that need to be controlled are listed. The description of the experiment covers most of the key points of the experiment	There is more than one independent variable or it doesn't test the hypothesis. The dependent variable and some variables that need to be controlled are listed. The description of the experiment covers some of the key points of the experiment
nd	Data table is well organized. Graphs are of the correct type and all titles, axes, and increments are correct	Data table is organized. Graphs are of the correct type and there are only small errors in graphing	Data tables are incomplete or contain several errors. The graphs are incomplete or contain several errors	Data tables are incomplete or inaccurate. Graphs are incomplete or inaccurate
	The claim restates the hypothesis and states if it is supported or not. Evidence supports the claim and gives detailed descriptions th elaboration. asoning links the n to the evidence s true.	The claim restates the hypothesis and states if it is supported or not. Evidence supports the claim and gives descriptions. Reasoning links the claim to the evidence and is true.	The claim restates the hypothesis and states if it is supported or not. Evidence supports the claim. Reasoning links the claim to the reasoning but is not true.	The claim restates the hypothesis or states if it is supported or not. Evidence does not support the claim. Reasoning links the claim to the reasoning but is not true.
	onclusion orates the claim, e, and g and has no cal or spelling	The conclusion incorporates the claim, evidence, and reasoning and has some grammatical or spelling errors	The conclusion incorporates most of the claim, evidence, and reasoning and has some grammatical or spelling errors	The conclusion incorporates most of the claim, evidence, and reasoning and has a lot of grammatical or spelling errors

Total Score

Overall Grade

> We did the M & M candy experiment today in class. My students LOVED it! They were very engaged , watching closely to see which M & M color would loose its letter first. I plan on doing the gummy bear experiment also. thank you! - Kristine

> Great lab to do at the beginning of the year to introduce the scientific method and variables. Thank you!- Olivia D.

> I used the gummy bear lab as a school year intro lab. The three different levels is awesome. I was able to use the same lab with my lower level physical science students and my higher level honors chemistry. One lab all day = Easier clean up for me! Well written and easy to follow.- Karis

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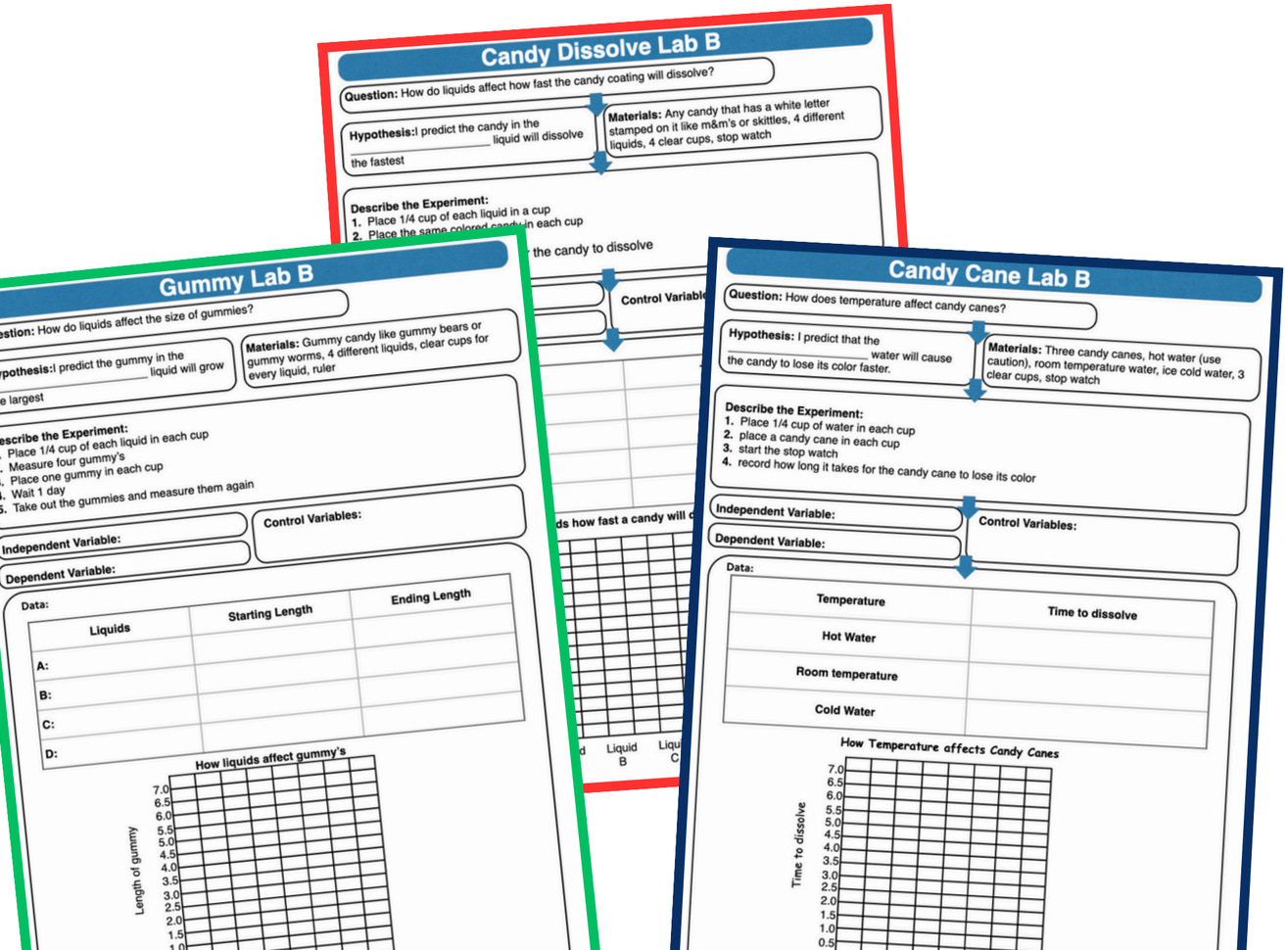

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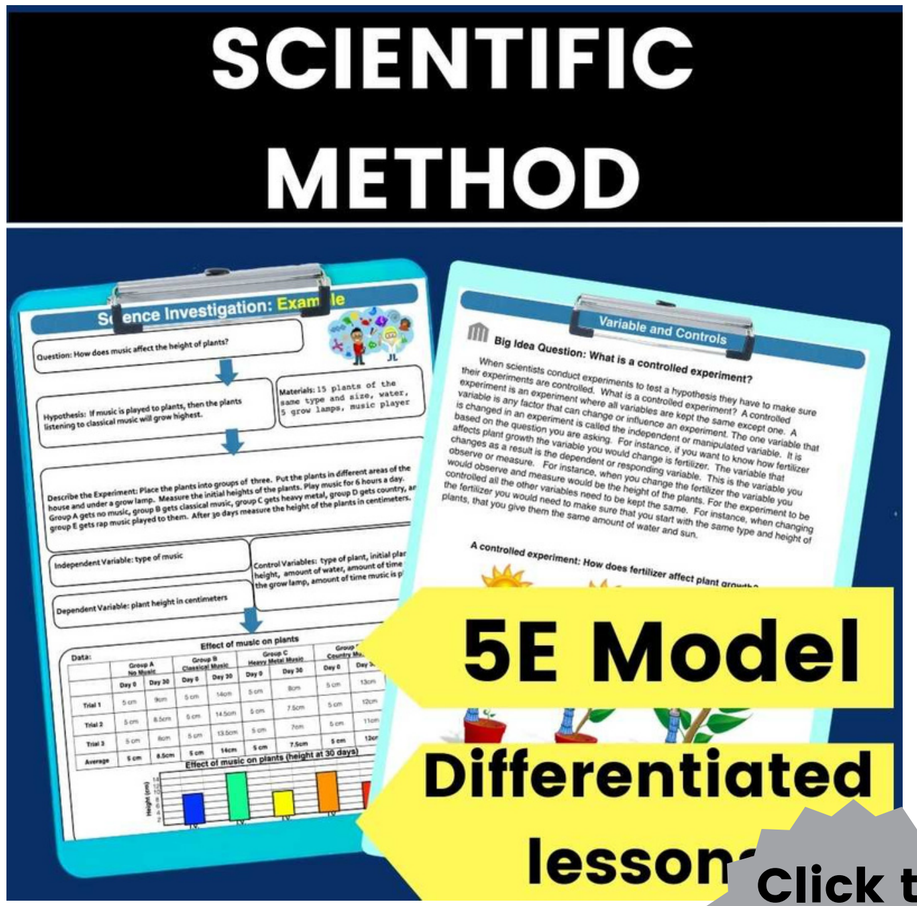
Scientific Method Unit

Engage your students and help them learn about the scientific method, including controls and variables, through this 5E, 4-week inquiry investigation into the scientific method.



> "I used this to kick off science with a blast. Some of the projects are an easy fit for the Engineering Design Cycle.- Block Buster Tutoring"

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