Title: Go Gadgets! Designing and Making Your Own Science Tools

Hypothesis:

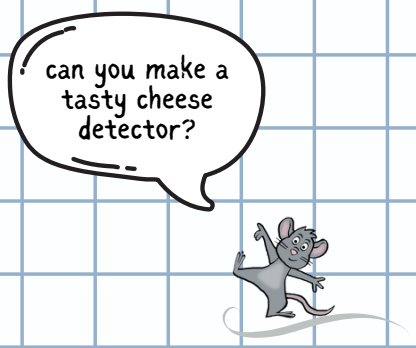
My Question:

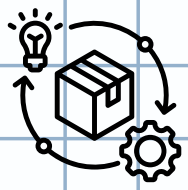
Design:

Write your goal. What do you want your tool to do?

Make a list of materials.

- ○
- ○
- ○
- ○
- ○
- ○
- ○
- ○





Build, test, tinker, repeat

Design takes some practice and patience. Build what you think will work, test it out, and if it doesn't work try again!

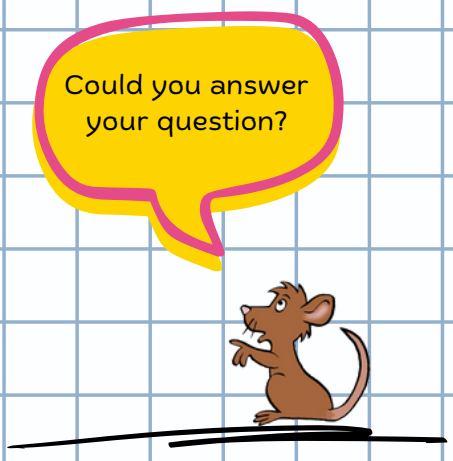
write notes about your design, what works and what doesn't.

Describe your final design and how it works.

Conclusions:

The Answer to My Question Is:

Notes:



Title: Acids and Bases

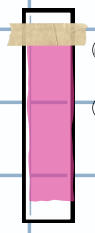
Hypothesis:

My Question:

Data:

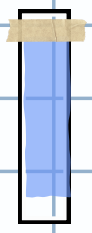
Sample answers

vinegar

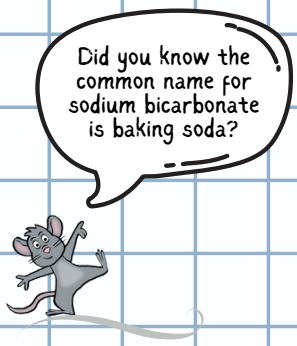


- (●) pink/acid
- ( ) blue/base

sodium bicarbonate



- ( ) pink/acid
- (●) blue/base

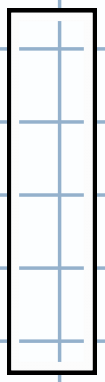


You do it!

Tape the litmus paper below and mark pink or blue and acid or base for your controls.

Tape your litmus paper in the boxes.

vinegar



- ( ) pink/acid
- ( ) blue/base

sodium bicarbonate

- ( ) pink/acid
- ( ) blue/base

Test your liquids:

Tape the litmus paper in a box below for each liquid and record whether it is an acid or base.

◯ acid ◯ base	◯ acid ◯ base	◯ acid ◯ base	◯ acid ◯ base

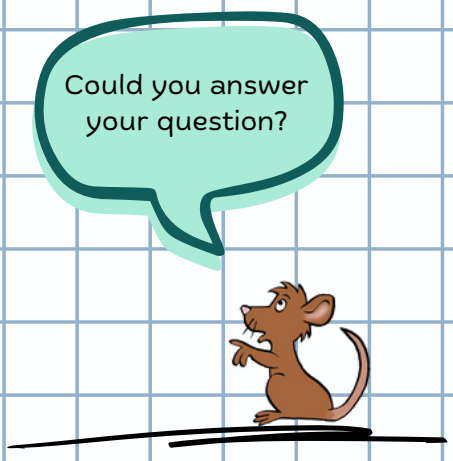
Write the name of your liquid below the box.

Test your own liquids and tape your results below.

Conclusions:

The Answer to My Question Is:

Notes:



Title: Myth Buster Test: Can the Tongue Really Sense Different Tastes?

Hypothesis:

My Question:

Data:

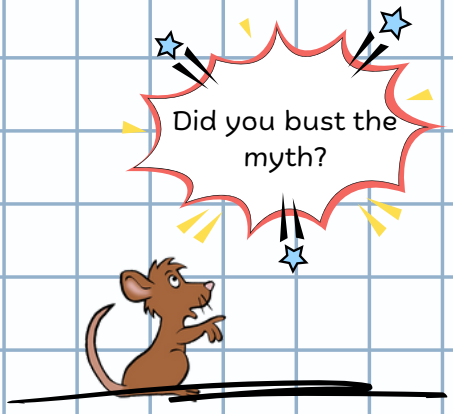
Record your results below

Food Sample	Taste Category	Tip of Tongue	Sides of Tongue	Back of Tongue	Middle of Tongue	Notes
Lemon Slice	Sour					
Sugar Water	Sweet					
Salt Water	Salty					
Unsweetened Chocolate	Bitter					
Dill Pickle Slice	Umami					

Conclusions:

The Answer to My Question Is:

Notes:



Title: Mold Patrol: Keeping the Fuzz Away

Hypothesis:

My Question:

Data:

Record your results below

Bag Number	Condition	Day 1 Observations	Day 3 Observations	Day 5 Observations	Notes
Control 1	Wet Bread – Room Temp				
Control 2	Dry Bread – Room Temp				
Test 1	Vinegar				
Test 2	Lemon Juice				
Test 3	Salt Water				
Test 4	Honey				

Conclusions:

The Answer to My Question Is:

Notes:

Extra Page

Title: Raceway Rumble: Testing Toy Cars on Various Surfaces

Hypothesis:

My Question:

Data:

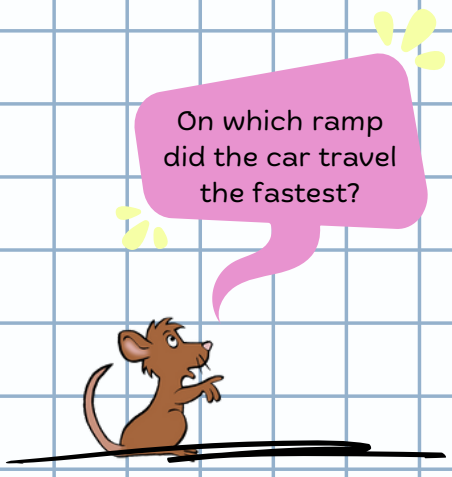
- Record your results below

Ramp Height	Surface Type	Distance Traveled	Time Taken	Notes
Low	Smooth			
Medium	Smooth			
High	Smooth			
Low	Rough			
Medium	Rough			
High	Rough			

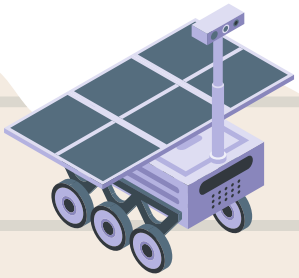
Conclusions:

The Answer to My Question Is:

Notes:



Extra Page



Mission: Rescue the Moon Rover

Welcome, young scientists!

Today, you are space engineers on a critical mission to rescue a stranded Moon Rover. The Moon Rover has encountered a problem where one of its wheels is stuck, and it can't move. Your mission is to figure out how rotational motion can be used to design a mechanism that will help the rover get moving again.

The Moon Rover is equipped with wheels that need to rotate to move. You need to create an experiment to understand how rotational motion works and how it can be used to design a solution to help the rover. Your experiment must demonstrate a clear understanding of rotational motion.

Good luck, space engineers!

We can't wait to see how you use rotational motion to save the Moon Rover! 🌕🚀

1 Research Rotational Motion

My notes on rotational motion

2 Experiment with Angles

My notes on angles

3 Design A Rescue Mechanism

My design ideas

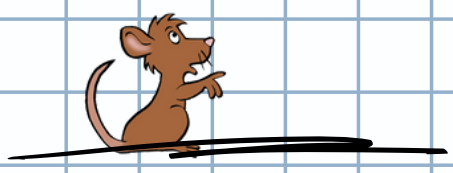
4 Test & Refine

My test results

5 Final Design & Presentation Notes

My details, drawings, & summary of final design

Will your design rescue the Rover?



Title: Breath Detectives: Discovering CO_2 with Limewater

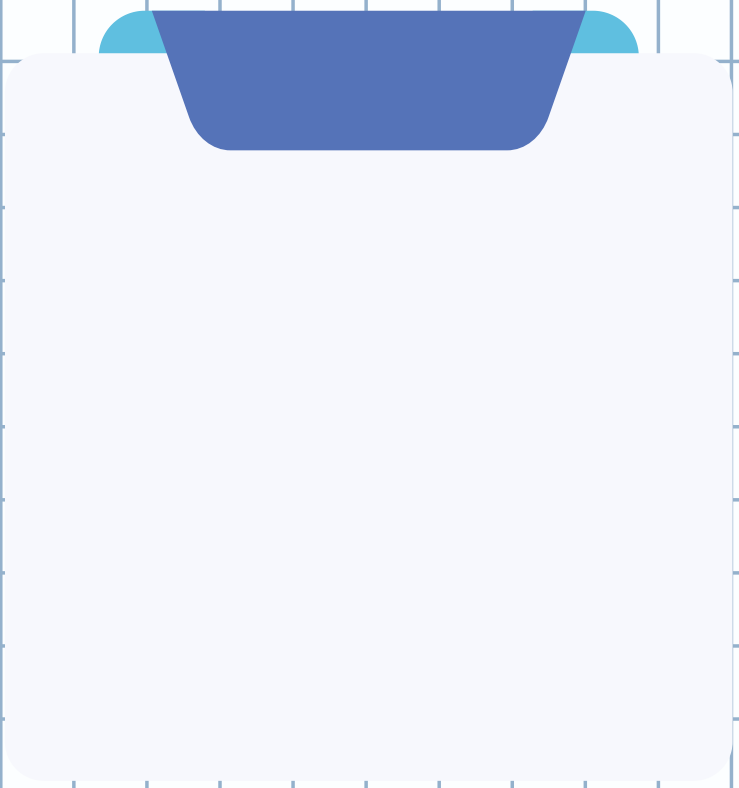
Hypothesis:

My Question:

Data:

Record your observations. Note the condition of the limewater (clear, cloudy) and any changes.

Exhaled Air

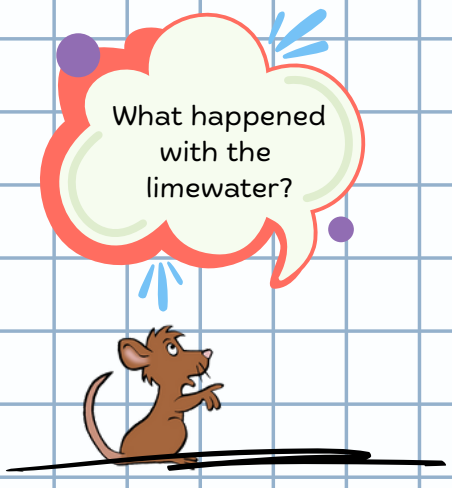


Room Air

Conclusions:

The Answer to My Question Is:

Notes:



Extra Page

Title: Night Sky Adventures: Mapping the Stars

Hypothesis:

My Question:

Data:

Draw the constellations you see, and provide their name.

Conclusions:

The Answer to My Question Is:

Notes:

Extra Page