

# HOW TO BUILD A *Catapult*

LEVER SIMPLE MACHINE

Opinion and Narrative Writing

STEM Activities

Parent Letter

Assessment

Brainstorm

Posters

Reflect

Awards



# Thanks for your purchase!

This product is full of all the instructions and worksheets you will need to teach your students about the lever simple machine. The lesson begins by introducing a lever. Show the definition and illustration posters to show how a beam rests on a fulcrum. When effort is applied to one side of the beam, the beam will pivot on the fulcrum and the other side of the beam will go up. A mini assessment is included to assess student understanding.

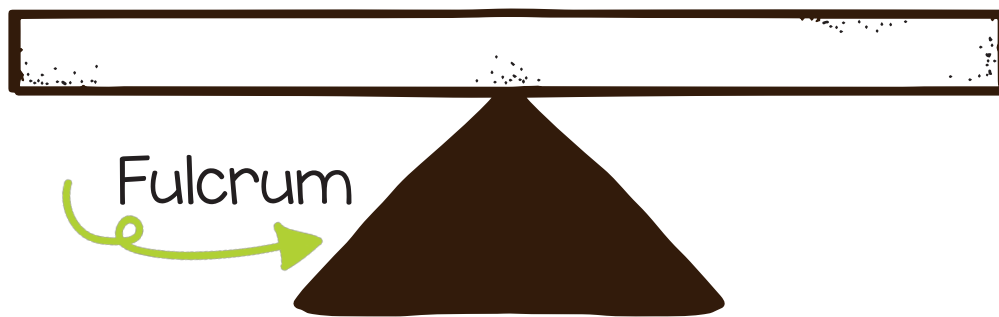
Your students will be making their own catapults! First, have them brainstorm how to build their catapults. Next, go through the posters to show students the steps on how to make their catapults. Students can write the steps on how to build the catapult as they go through the process on their graphic organizers. A writing page is also included. After completing and testing their catapults, they can write about how to launch a catapult and write their opinions on graphic organizers. A writing page has been included for these organizers as well. Finally, students can reflect on this lesson using the reflection worksheet. Student awards are included to wrap up the lesson. I hope your students love learning about the lever simple machine!

## Table of Contents

<b>What is a lever? Definition poster .....</b>	<b>3</b>
<b>Lever illustration poster.....</b>	<b>4</b>
<b>Lever mini assessment.....</b>	<b>5</b>
<b>Parent letter .....</b>	<b>6</b>
<b>Brainstorming worksheet.....</b>	<b>7</b>
<b>Posters to show steps to make the catapult.....</b>	<b>8-12</b>
<b>How to build a lever graphic organizer.....</b>	<b>13</b>
<b>Lever writing paper.....</b>	<b>14-15</b>
<b>How to launch a catapult graphic organizer .....</b>	<b>16</b>
<b>My catapult writing paper.....</b>	<b>17-18</b>
<b>The best thing about my catapult graphic organizer.....</b>	<b>19</b>
<b>Reflection.....</b>	<b>20</b>
<b>Student Awards .....</b>	<b>21-23</b>
<b>Terms of Use .....</b>	<b>24</b>

# What is a lever?

A lever is a simple machine. It has a bar or beam that can rotate freely on a fulcrum, or pivot. It is used to lift or move a heavy object. When you apply force or effort to one side of the beam, the other side of the beam will lift the heavy object.



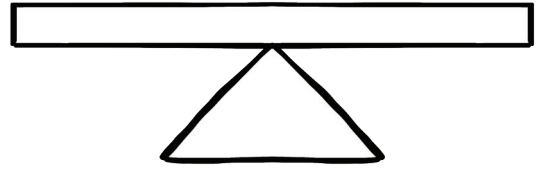
# Lever





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

**What is a lever  
simple machine?**

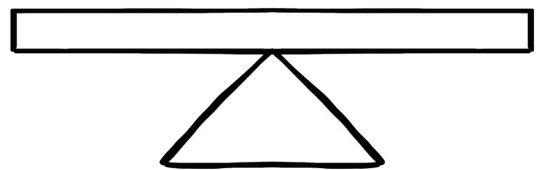


Handwriting practice lines consisting of four sets of three horizontal lines (top solid, middle dashed, bottom solid).

© The Primary Brain, 2017

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

**What is a lever  
simple machine?**

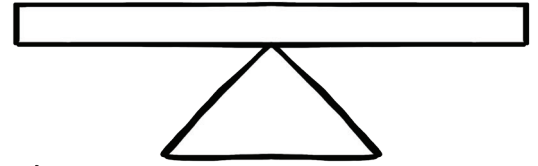


Handwriting practice lines consisting of four sets of three horizontal lines (top solid, middle dashed, bottom solid).

© The Primary Brain, 2017

# Help Us Build a Catapult!!

*Parents,*



We need your help! We are collecting materials to help us build a catapult in class. We are learning about lever simple machines and we will be launching our catapults to learn how these machines work in the real world. These materials will be shared by the class, and will not be returned home. Each catapult will be constructed using a lever system.

We are in need of the following materials:

*Colored Craft Sticks  
Colored Rubber Bands  
Marshmallows  
Plastic Spoons  
Pom Pom Balls  
Paint Pens  
Glitter*



**Please send materials by \_\_\_\_\_**

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

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

# BRAINSTORM

**How will you construct your catapult?**

Draw a sketch of your catapult

**What materials will you need to use?**

---

---

---



# How to Build a Catapult using a Lever Simple Machine

## *Step One: Gather Materials*

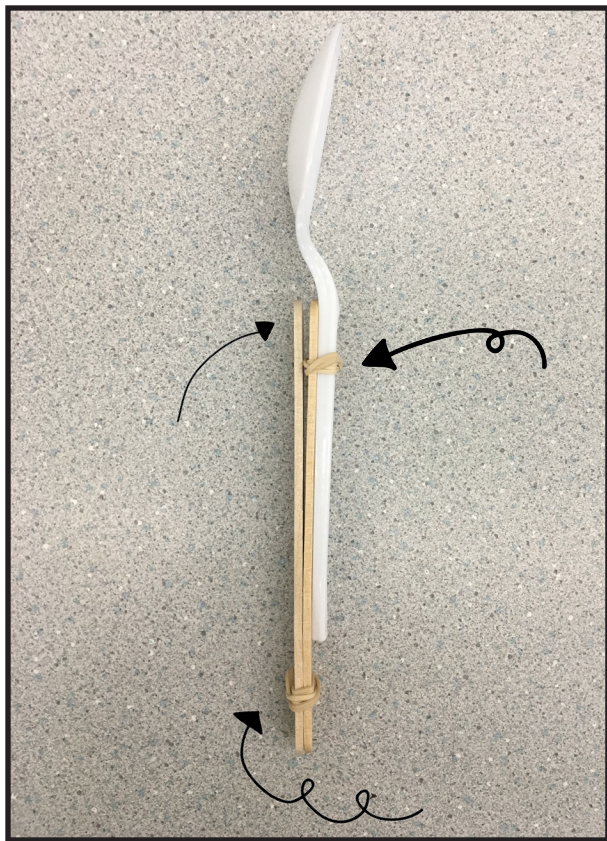


- Plastic spoons
- Craft sticks
- Rubber bands
- Objects to launch such as: pom poms, marshmallows, rubber balls, etc.
- Catapult decorations such as: glitter, markers, paint pens, etc.



# How to Build a Catapult using a Lever Simple Machine

## *Step Two: Add the spoon to a craft stick*



1. Tie the spoon to the top of ONE craft stick using a rubber band. ↪

2. Stack another craft stick under the first craft stick. Tie the two craft sticks together at the bottom. ↪

**\*\***Make sure the two craft sticks are not tied together at the top. ↪

# How to Build a Catapult using a Lever Simple Machine

## *Step Three: Create the fulcrum*

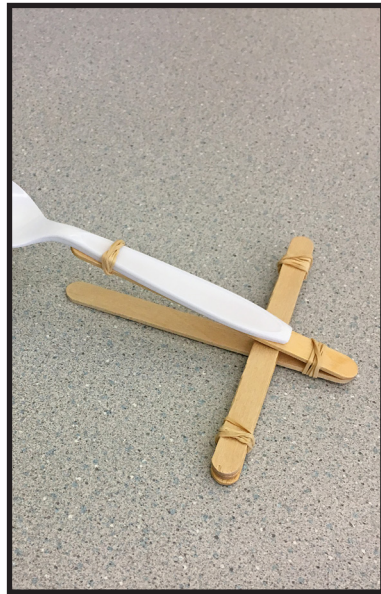


Place 3 craft sticks in a stack. Twist a small rubber band onto each end to attach the three sticks together.

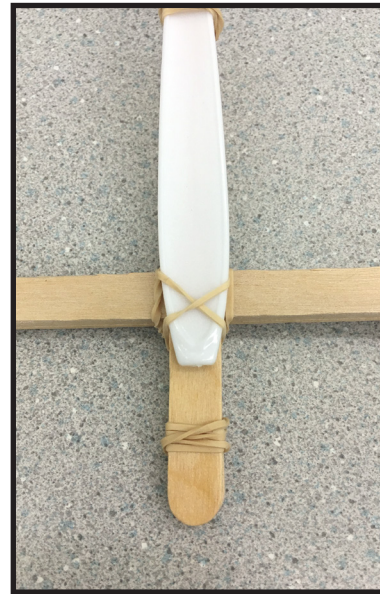


# How to Build a Catapult using a Lever Simple Machine

## *Step Four: Insert the fulcrum*



Slide the stack of 3 craft sticks between the bottom stick and the stick attached to the spoon.



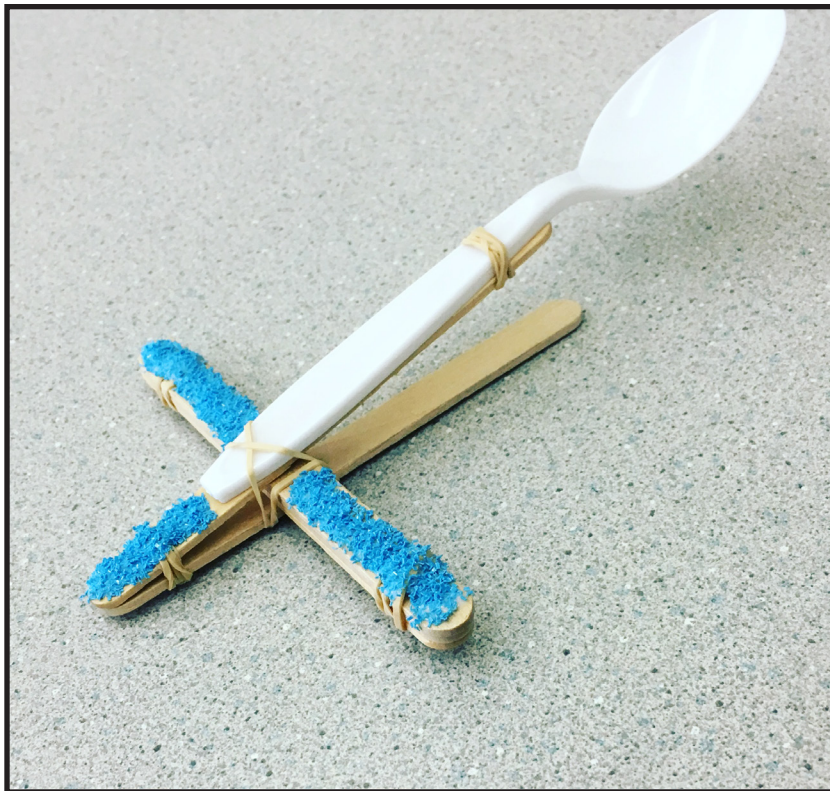
Tie a rubber band in an X pattern around the spoon and all craft sticks.



Here is the back side of the catapult after making an X on the front.

# How to Build a Catapult using a Lever Simple Machine

## *Step Five: Decorate!*



Students can use liquid glue to add glitter or sequins to their catapults. They could also paint or color the catapult with markers.

Your catapult is ready for launching! Just add an object to the spoon and pull down on the spoon to launch. You will also need to apply some pressure to the front of the catapult to keep from flipping over. Have fun!



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

# How to build a lever simple machine

**First,**

**Next,**

**Then,**

**Finally,**

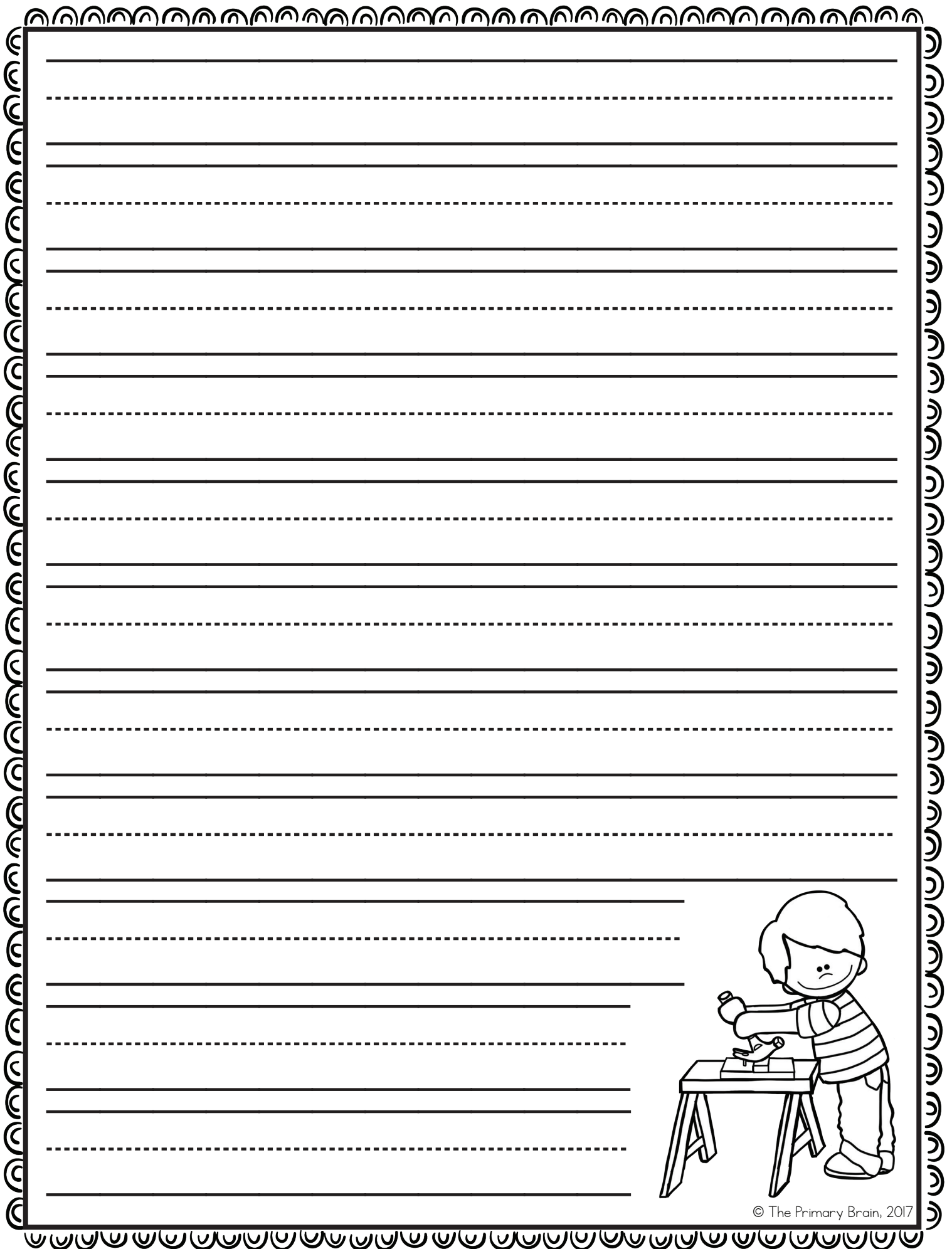


Name: \_\_\_\_\_ Date: \_\_\_\_\_

Large empty rectangular box for drawing or writing.

Handwriting practice lines consisting of multiple sets of solid top and bottom lines with a dashed middle line.





••  
Name: \_\_\_\_\_

## How to Launch a Catapult

•

First,

Next,

Then,

•

Finally,

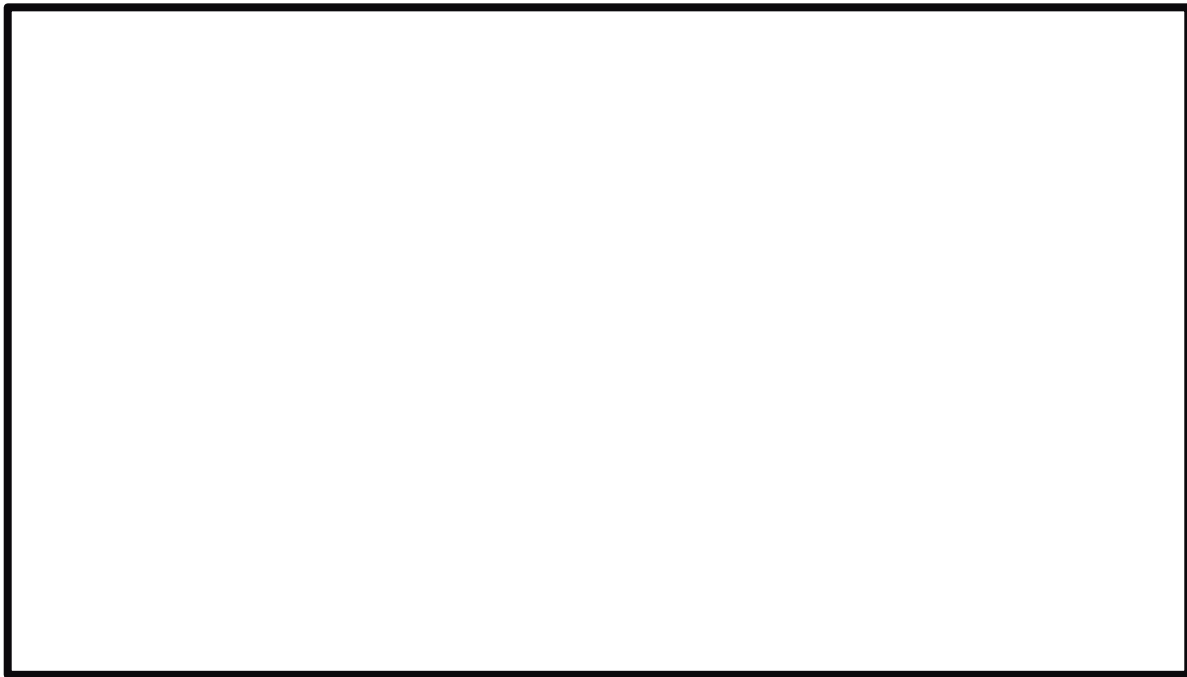


••

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

# MY CATAPULT

:



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

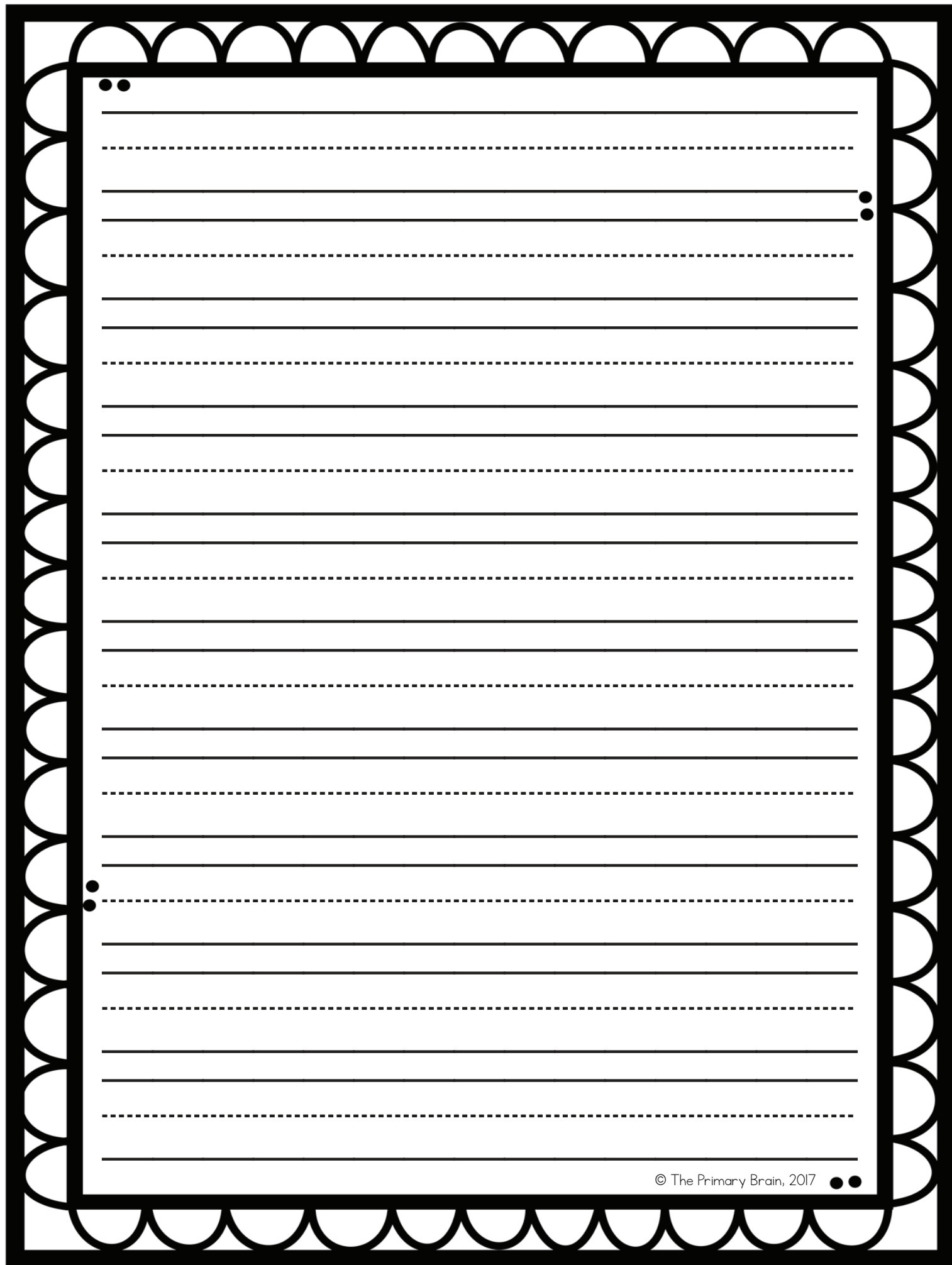
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



••

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

••

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

# The Best Thing About My Catapult

My opinion is: \_\_\_\_\_

Reason 1:

Reason 2:

Reason 3:

Reason 4:

In Conclusion: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

# REFLECTION

**Was your lever simple machine successful?**

Draw a sketch of your finished product

**Was your catapult able to launch an object?**

---

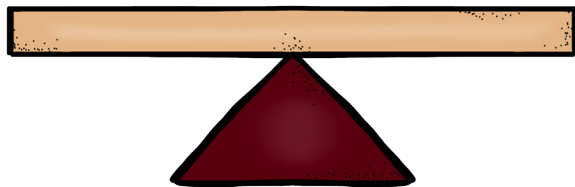
---

---



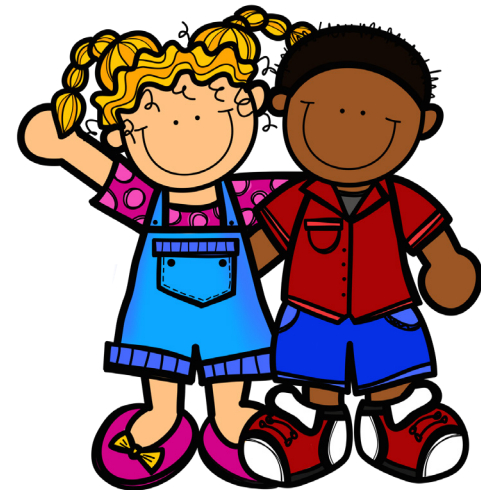


# Best Lever Design Award



© The Primary Brain, 2017

# Fanciest Catapult Award



© The Primary Brain, 2017

# Most Creative Catapult Award



© The Primary Brain, 2017

# Most Unique Catapult Award



© The Primary Brain, 2017

**Best  
Decorated  
Catapult  
Award**



© The Primary Brain, 2017

**Best  
Effort  
Award**



© The Primary Brain, 2017

I hope you find this product helpful in your classroom! If you are looking for a customized product or have any questions, please email me at [theprimarybrain@gmail.com](mailto:theprimarybrain@gmail.com)

## Terms of Use

©The Primary Brain, 2018. This purchase includes a single-teacher license for your individual classroom. By purchasing this product, you are entitled to reproduce the pages for classroom use only. If you would like to share this product, please purchase an additional license, at a discounted rate.

## Let's be Friends!



Follow my blog for teacher tips and freebies! [www.theprimarybrain.com](http://www.theprimarybrain.com)



## GRAPHICS AND FONTS BY:





# CLASSROOM ACTIVITIES



Click on the product cover to check out some of my other classroom activities!

