

See previous and French Issues [here](#)

Learning Activities

THE CHALLENGE:



Rube Goldberg was a cartoonist and inventor who liked to create overly complex machines to complete a simple task using a series of chain reactions. Think dominoes, ramps, levers, pulleys, and more!

Your challenge is to watch some **Rube Goldberg** machines in action [here](#), get inspired, then create your own machine outdoors using natural objects such as rocks, sticks, hills, etc.

~ STEAM TEAM ~
Create, Test, Improve

Language Arts:

It's your turn to be an illustrator /author of your own 'Not a Stick' book. In nature, find mini sticks to glue into a book of paper you stapled together. What is your stick going to turn into? We would love to see where your imagination takes you. Share your story on Facebook @STEAM in ASD-N or on Twitter @STEMNorth.



You and Your World:

Like everyone, Indigenous people have beliefs that are very important to them and a part of their daily lives. One belief that most Indigenous People share is that all parts of Mother Earth are very important; Mother Earth or the land is their teacher. Mother Earth or the land teaches them about their cultures, languages, way of life, how to be connected and thankful for every gift given by Mother Earth.

When you are gathering items for your Rube Goldberg machine, think about ways you are connected to the land around you. Think about and show a way to say 'thank you' to Mother Earth for all her gifts! Check out this [video](#) to see how Stephen Jerome is grateful for Mother Earth.

Numeracy: Fact Families is a group of math facts using the same numbers. Represent the number 10 using fact families with sticks and/or stones. How many different fact families can you create to represent the number 10?



$$\begin{array}{l} 9 \\ 7 + 2 = 9 \\ 2 + 7 = 9 \\ 9 - 7 = 2 \\ 9 - 2 = 7 \end{array}$$

The Arts:

Painting is a great way to express yourself and paint can be applied in many different ways. Leaves, pinecones, twigs, grass, and flowers can all be used to create unique DIY paintbrushes. You could even try stamping with stones. Don't forget to upload your artwork to our pages! Check this challenge out with [Brilliant Labs](#) and try making your own paint [here](#)!



Picture Match



Match these close-up bark pictures with the tree type.

- Elm
- Aspen
- Birch
- Pine



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Language Arts/Social Studies:

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Science:

Simple machines make our life easier! Watch this video about six simple machines and how they work. Can you identify these simple machines in your Rube Goldberg machine? Post your video and tag us with a description of your chain reactions!



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Literacy/Technology

Create a Stop Motion story with natural items such as sticks and rocks. Check your device's app store for some great Stop Motion apps. Narrate your story and share it with us!

Check out this video for some inspiration!



Social Studies:

Like everyone, Indigenous people have beliefs that are very important to them and a part of their daily lives. One very belief that most Indigenous People share is that all parts of Mother Earth are very important; Mother Earth or the land is their teacher. Mother Earth or the land teaches them about their cultures, languages, way of life, how to be connected and thankful for every gift given by Mother Earth.

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Science/Numeracy:

Nothing happens until something moves- Albert Einstein

A force is a push or pull that acts on an object. Force is measured in 'Newtons' and is found by using the formula: $\text{Force(N)} = \text{Mass(kg)} \times \text{Acceleration(m/s}^2\text{)}$ OR $F=MA$.

Watch this [video](#) for more information and to help you solve the problem below:

A [ping pong ball cannon](#) was created to launch a ping pong ball that **accelerates** at a rate of 8000 m/s^2 . If the ball has a **mass** of 0.003 kg , what **force** would have been needed to launch the ping pong ball? (*Hint: fill in the formula: $F=MA$*)



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