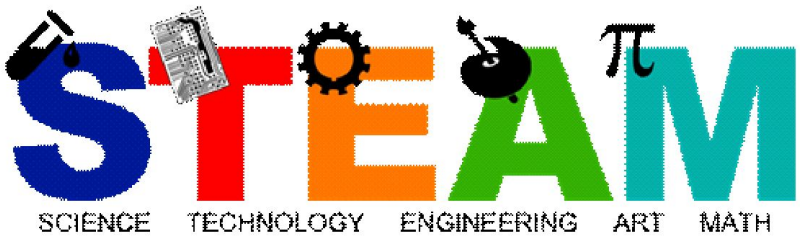
Staff Meeting Presentation

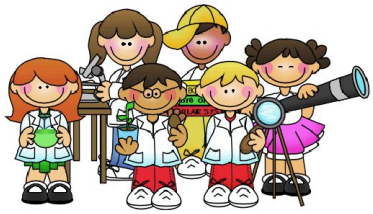


An introduction to STEAM at M.V.P.S.

What is STEAM?

STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.

Science
Technology
Engineering
Arts
Mathematics



Reaping the benefits of STEAM

- it is motivating, engaging, real-world inspired
- leads to a greater understanding of concepts
- learning is accessible to children of all levels of ability
- inquiry-based, process-focused, student-centred
- inspires teamwork, collaboration and communication
- empowering and encourages critical thinking
- promotes creativity and innovation

What STEAM might look like at MVPS

The physical space is not the important part of this journey. The important part is that it should reflect the needs of our learning community. Whether the STEAM Space is one classroom or mobile labs it should be a place for:

- Collaboration among the learning community
- Creativity (Yes, and it might get messy!)
- Project-based learning
- Self-assessment of the learning journey

Your mission...if you choose to accept it . . .

Try it in your classroom.

Remember that it's okay to figure it out as you go along and to not have all the answers.

Also remember . . .

we are on this learning journey together.

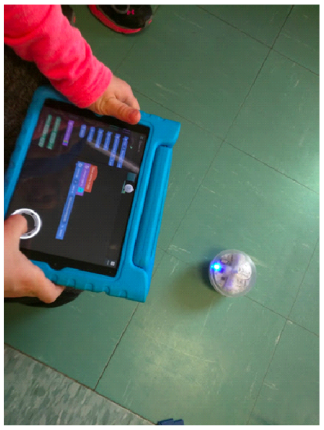
Exploration Task #1: Robots

Exploration Task #1 - Robots

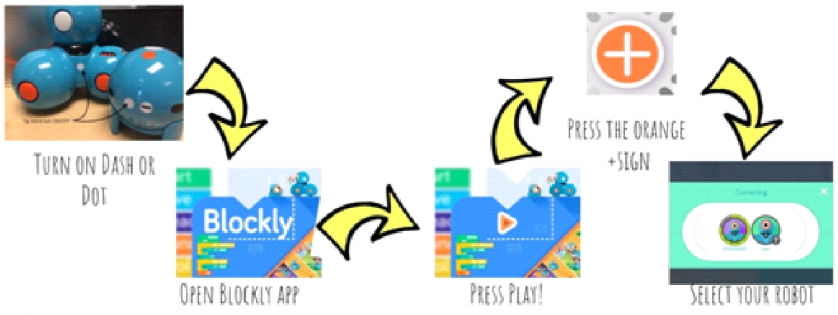
Learning Goal:
program any of the available robots to trace the perimeter of a given shape using collaboration and problem solving skills.

Exploration Task #1A - Sphero

Open ***The Tickle app*** and ensure the Sphero is connected via Bluetooth. Before attempting to move Sphero, make sure you orient it. The wheel at the bottom right corner of the screen does this. The blue light should be facing you, this is the tail.

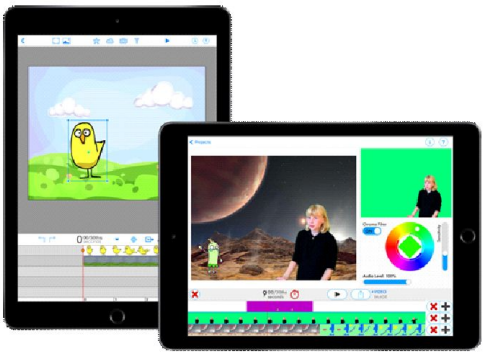


Exploration Task #1B - Program Dash



Exploration Task #2: Green Screen

Exploration Task #2 - Green Screen with DoInk



Watch the following video for a quick tutorial on DoInk:

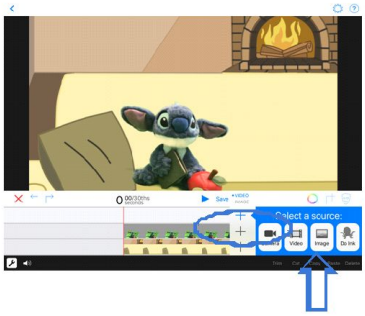
Exploration Task #2A - Green Screen DoInk

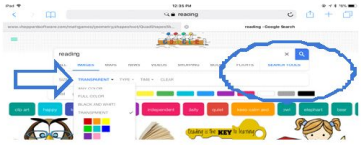
Materials:
?Green Screen
?iPad with the DoInk App
Learning Goal: Create a still image with a message about co-operation.

1. Search and save a photo from the Internet that you would like to use as a background.
2. Launch Do Ink 
3. Select + to start a new project 

4. Click on the bottom +sign to add your background 
5. Using the Ipad, take a picture of you in front of the green screen. 

Exploration Task #2B - Green Screen DoInk

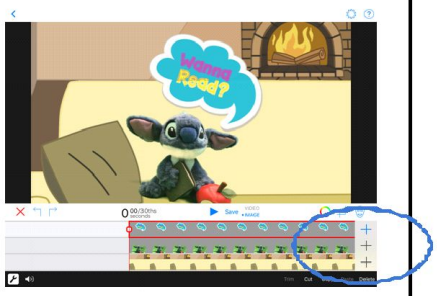
6. In Do Ink click on second + sign and add your image from Image Icon 

7. Google a phrase you want to use for your image. 
8. To find images with a transparent background, select seach tools ->transparent 

Exploration Task #2C - Green Screen

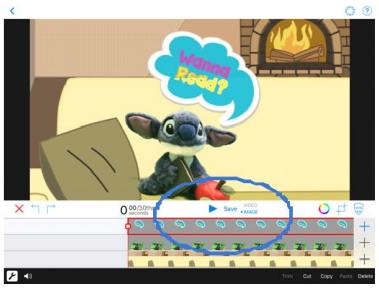
9.To Capture image, place finger on screen until Save image comes up. Select save image.

10. In Do Ink click the top + sign and add your saying into the image.



Exploration Task #2D - Green Screen

11. To save your completed image, click SAVE.



Exploration Task #3: Osmo

Exploration Task #3A - Osmo Pizza Co.

Instructions
Use the QR code below to watch an introduction video on how to play Osmo Pizza CO.

Then, assign a partner to make the pizza and a partner to make change. After 5 minutes, switch the role.

Exploration Task #3B - Osmo Tangrams

Instructions
Use the QR code below to watch an instructional video on how to play Osmo Tangrams.

Then, solve the puzzles with your partner!

Exploration Task #3B - Osmo Tangram

Materials:

* Osmo Base
* iPad with Osmo Numbers, WOrds, tangram, newton, Osmo Coding

Learning Goal: LEarn about shapes and colours by completing a variety of tangram puzzles

1. Launch Osmo Tangram app and follow the instructions to place the ipad in right place
2. Select “Play”
3. Select a level and then a puzzle

Exploration Task #3C - Osmo Numbers

Instructions
Use the QR code below to watch an instructional video on how to play Osmo Numbers.

Then, begin playing the math game with your partner!

Exploration Task #3C - Osmo Numbers

Materials:

*Osmo Base
*iPad with Osmo Numbers, WOrds, tangram, newton, Osmo Coding

Learning Goal: develop number sense by representing numbers in a variety of ways

1. Launch Osmo Numbers app and follow the instructions to place the ipad in right place
2. Select an activity and learn

Exploration Task #3D - Osmo WORDS

Instructions
Use the QR code below to watch an instructional video on how to play Osmo Words.

Then, begin playing the Words game with your partner!

Exploration Task #3E - Osmo Coding

Instructions

Use the QR code below to watch an instructional video on how to play Osmo CODING.

Then, begin playing the OSMO Coding game with your partner!

Exploration Task #4: Coding

Exploration Task #4A - Online Coding

Using Scratch/ Scratch Jr. create a collage that includes the following criteria:

1. 3-5 different characters
2. 1 or more backgrounds
3. 3-5 different movements
4. Add a minimum of 2 sound effects
5. 2 or more thought bubbles

https://scratch.mit.edu/

Exploration Task #4B- Online Coding

https://studio.code.org/courses

1. Go to "grades k-5" to learn how to make your own game, app or computer drawing
2. Try coding with with **frozen** or **star wars** app

Exploration Task #4B - Two Suggested APPS

https://code.org/starwars

https://studio.code.org/s/frozen/stage/1/puzzle/1

Building With Makedo Cardboard Construction – Social Studies

A Grade 3 class investigated different artefacts used by Canada's First Nations people. Pairs of students were given a project based inquiry task card. The task card asked them to research and design one of the following:

- Transportation-Snowshoes
- Transportation – Canoe
- Homes – Teepee
- Homes – Wigwam
- Tanning

Students were given a Design Planning Sheet, where they did the following:

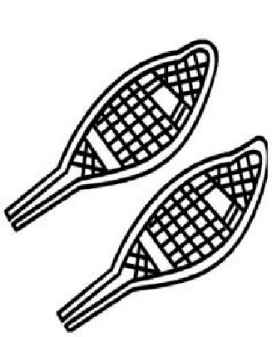
1. define the problem
2. brainstorm possible solutions (choose one of the solutions)
3. create a prototype using cardboard
4. test their prototype

They created their prototype using the following materials:

- cardboard
- large sheets of plastic
- Makedo Cardboard Construction Kits
- duct tape
- masking tape
- scotch tape
- scissors
- metre sticks
- string

Transportation-Snowshoes

First Nations People designed and constructed snowshoes to help them walk through deep snow.



1. Use the internet to research various snowshoe styles or shapes.
2. Design a pair of **snowshoes** using the materials available.

Transportation-Canoes

The main type of transportation for First Nations people was the canoe. It was used to travel on the land's countless rivers, streams and lakes.

1. Use the internet/books to research canoes.
2. Design a **canoe** using the materials available.
3. Your canoe must be waterproof and be able to hold a roll of quarters.

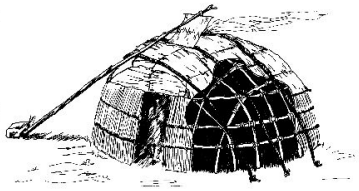
Homes – Teepee

Because of their migratory way of life (they were always on the move), some First Nations people built homes that were either portable or easily erected from materials found in the environment.

1. Using the materials available build a tipi/teepee that fits at least one person.
2. The structure must be easily taken apart.

Homes - Wigwam

A wigwam is a domed or cone-shaped house that was used some First Nations people in the eastern half of North America. Today wigwams are used for cultural events and special ceremonies.



1. Using the materials availabl build a wigwam
2. The structure must be strong and stable.

Tanning

Rawhide is made by scraping the skin thin, perhaps soaking it in lime, and then stretching it while it dries. Rawhide was used for drumheads and it was cut into cords that were used for lacing or stitching.

1. Design and build a tool that could be used to scrape the animal skins.
2. Create a structure that could be used to dry animal skins.