Lesson #9 - Monday, March 21st

Science Grade 1/2	What is a material and what is an object *clarification*	Ms. Nameth

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

OM1.1 - Investigate observable characteristics and uses of natural and constructed objects and materials in their environment.

(f) Distinguish between the materials used to construct an object and the object itself.

Treaty Education Connections:

HC1 - Explore the many ways people meet their needs from nature and the land on which they live.

- Compare how people, past and present, live on the land (e.g., agriculture, ranching, trapping, fishing, dwellings, and modes of transportation).
- Explain how people helped and continue to help each other live on this land.

Social Studies Connections:

DR1.3 - Demonstrate awareness of humans' reliance on the natural environment to meet needs, and how location affects families in meeting needs and wants.

RW2.2 - Analyze various worldviews regarding the natural environment.

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can think of questions about the materials used to make an object and an object itself	**How can I differentiate an object and it's materials?**
I can explore the ways people live off the land in the past and present	**How have people lived off the land in the past and present?**
I can analyze worldviews about the natural environment	**What are different worldviews from the natural environment?**

Prerequisite Learning:

- What materials and objects are
- What the difference between man-made and constructed materials are

Instructional Strategies:

(What strategy(ies) will you use throughout the lesson to engage students in the learning process?)

Group discussion

Stage 2: Determine Evidence for Assessing Learning

Formative

- Observation: Were students sharing ideas about the materials used to create each object?
- Self-Assesment

Stage 3: Build Learning Plan

Set (Engagement): **Length of Time:** 5 mins

Can one of my friends tell me what a material is?

What are the two types of materials?

Who can tell me what an object is?

Hmmm do we still find those two things a little confusing?

Should we go over them again?

Development: **Length of Time:** 15 mins

Sashes:

The sash is considered to be an integral and highly symbolic aspect of Métis identity

The sash was more than a decorative piece of clothing. It could be used as a rope to pull canoes. It could even be used as a dog harness. The Métis used the sashes' fringed edges as an emergency sewing kit, and the sash could carry personal effects such as medicine, tobacco, a pipe or a first aid kit.

What materials were used to make this?

- Wool
- Natural dyes made from plants
- Thread
- Beeswax

Gauntlets:

Each pair of gauntlets has to be unique, because hunters used them to identify the animals they killed while hunting bison. As soon as an animal was shot, the hunter would drop his gauntlet beside it before continuing on the hunt and this is how they could come back to start skinning and butchering an animal

- animal hide
- decorated with glass beads
- Quills for embroidery
- Thread
- Beeswax

Materials/Resources:

- Anchor chart paper
- Markers
- Copy of pictures of materials

Possible Adaptations/ Differentiation:

- A small group of students could work with the EA for the self assessment

Management Strategies:

Safety Considerations:

Bead Work/Embrodery: On the gauntlet you can see the flower design that you can see is a traditional Metis beading and embroidery pattern. It can be found on almost every item of traditional Métis clothing and functional hide and cloth work. Beaded clothes included moccasins, coats, vests, belts, bags and mittens. Okay, let's do a little review. Can someone share one thing from the board that is an object? Can someone share one thing that is a material? **Learning Closure:** **Length of Time:** 10 mins Student self-assessment Now we are going to do a little check in. So, I have this sheet here and it has a couple sentences on here about things that we've talked about in the last two weeks! And I just want to see how everyone is feeling about what we've learned so far. So, we will do this together but I will give an example right now. The first one says "I can talk about how objects and materials are different" The thumbs up means that Yep! I can do that! The thumbs sideways means "Hmm I think I have it but I might need help still" The thumbs down means "I still need help with this" So then you will circle which one you feel like! Do we think that we should lie about how we feel? No, it's important that we share how we are feeling and I know McDermid school focuses on honesty so I know everyone here will be honest with how they feel right?	
Stage 4: Reflection	

Name:_____

Objects and Materials Self-Assessment

I can talk about how objects and materials are different.	
I can tell the difference between natural materials and materials made by humans.	
I can use my senses to find the properties of objects and materials.	
I can use materials to make a useful object.	
I can talk about how I used materials to make an object.	

Lesson #10 - Tuesday, March 22

Science Grade 1/2	**How can we find the position of an object?**	**Ms. Nameth**

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

MP2.1 - Analyze methods of determining the position of objects relative to other objects.

(c) Assess the use of common objects (e.g., hand, step, and book) to describe the position of an object using non-standard units.

(d) Use appropriate tools (e.g., rulers and string) safely for observing and recording objects' positions.

(e) Record observations and measurements of an object's position, using oral and written language, diagrams, and tables.

Math Connection:

SS1.1 - Demonstrate an understanding of measurement as a process of comparing by:

- identifying attributes that can be compared
- ordering objects
- making statements of comparison
- filling, covering, or matching.

SS2.1 - Demonstrate understanding of non-standard units for linear measurement by:

- describing the choice and appropriate use of non-standard units
- estimating
- measuring
- comparing and analyzing measurements

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can use common objects to describe the position of an object I can use measurement tools to record an objects position I can record measurements of an objects position using a table	**How can I use common objects to describe the position of an object** **How can I use tools to record an objects position** **How can I record measurements using a table**

Prerequisite Learning:

N/A

Instructional Strategies:

- I do, We do, You do
- Stations
- Exploration

Stage 2: Determine Evidence for Assessing Learning

Formative:

- *Observations: was everyone participating during the stations*
- *Chart: were they filling in their chart and were measurements close?*

Stage 3: Build Learning Plan

Set-up @Recess:

Set up tape line for the 5 stations that students will use to measure along

Set (Engagement): **Length of Time: 5 mins**

Who has ever heard of the word position? Who can tell me what it means? Quiet hands up?

Right, a position means where something or someone is!

Can anyone think of some ways that we might be able to find the position of an object?

If I wanted to know how far Ms. Osborne is away from the carpet. How could we do that?

Right answers as students suggest them on the whiteboard

Those are some great ideas!

Do we think we always have to use things like rulers or tape measures to measure the distance?

Have you ever seen people count how many steps it takes to find the position of an object?

These are called "non-standard" units of measurement and they are very important because in the past, Indigneous peoples didn't have the measurement tools we have today, such as rulers and measuring tapes; therefore they used what they had. And found other ways to measure such as using your hand as a method of measurement.

It is still a great way to measure today because you might not always have a ruler with you!

Development: **Length of Time: 15 mins**

Do you think we should try out some different ways of finding the position of an object?

Materials/Resources:

- Whiteboard
- Markers
- Rulers (only cm markings)
- Measurement table worksheet

Possible Adaptations/ Differentiation:

- The EA can work with a specific group if students are struggling
- Only need to complete the first 3 on the list
- Students can pick their own non-standard object to measure
- Pictures to assist with reading
- Grade 1's get enough manipulative to fill the line, grade 2's have to "measure on"

Management Strategies:

Safety Considerations:

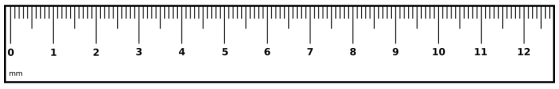
As you noticed I set up some tape around the classroom. We are going to use the tape as a guide to measure along to find the position of an object. In this case, the object is just going to be a sticky note. We are going to do this in groups (5 groups). Each group will go to a different line and then we are going to try to find the position of the sticky note by using different things! You will start off by using your feet to measure how many steps it takes to get to the object. Once you do that you are going to use this chart that I made to write how many steps it took! You are going to have about 3 minutes at each station to measure and then I am going to come around and give each group something new to use to try and find the position of the object using the new item. I will call out your groups and you can come grab your chart and head to the line I ask you to go to! Make sure you also grab a pencil! **Learning Closure:** **Length of Time: 5 mins** Call kiddos back to the carpet group by group have them bring their charts with them Quiet hands up. How many steps away was the object? Hmmm.. what do we notice about these numbers Why do we think they are different? What about how many centimeters away was the object when you measured using the ruler? What do we notice about these numbers?	

Stage 4: Reflection

(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)

Name:_____

What is the Object's Position?

Use this to measure the position	Describe the object's position
 Feet	How many of your <u>feet</u> did it take to get to the object?
 Hands	How many of your <u>hands</u> did it take to get to the object?
 Ruler	How many <u>rulers</u> did it take to get to the object?
 Sticks	How many <u>sticks</u> did it take to get to the object?

 Rocks	How many <u>rocks</u> did it take to get to the object?
Pick your own!	How many _____ did it take to get to the object?

New Lesson #11 - Wednesday March 23

Science ½	What does position mean?	Ms. Nameth

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

MP2.1 - Analyze methods of determining the position of objects relative to other objects.

(a) Describe the position of an object relative to other positions or stationary objects, including themselves, using appropriate vocabulary such as above, below, between, beside, on top, close to, far from, behind, in front of, to the right of, and to the left of.

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can describe the position of an object using key words	*What are the key words I need to know?*

Prerequisite Learning:

N/A

Instructional Strategies:

Group discussion
I do, we do , you do

Stage 2: Determine Evidence for Assessing Learning

Observations of our group discussion: Looking for using key words

Stage 3: Build Learning Plan

Set (Engagement): **Length of Time: 5 mins**

What did we talk about yesterday? Right! Position!

Now, I realize that I maybe didn't explain position quite enough yesterday so we will go over it again

Does anyone remember what I said about what position is?

Right, its where something or someone is located. Who remembers the example I shared about position yesterday?

Can anyone think of times in your day where it is important to know the position of something? Or where something is located?

I know whenever ashley and I came to the school for the first time we didn't know where anything was! So, we were always asking all of you about the position of everything. Like where your pencils

Materials/Resources:

- **Worksheet (PDF)**

Possible Adaptations/ Differentiation:

Management Strategies:

Safety Considerations:

are, where you keep your daily 5 books, and where your play boxes go!

Do you remember when we asked those questions, what did you say back to us?

Right! You described the position to us so that we could find it!

When you are describing a position there are actually some key words you use to help!

Let's go over some of these words!

- above, below, between, beside, on top, close to, far from, behind, in front of, to the right of, and to the left of

Development: **Length of Time: 15 mins**

Okay so now we are going to try to use some of these on our own Here is a little worksheet we are going to work through.

It says "What's the position" and the description says "using a word from the box, describe the position of the ball"

If you look closely at the amount of words and the amount of picture you might notice that you are only going to use each word one time.

We will do the first one together under the document camera so you can see.

Okay now try the rest of them on your own!

Learning Closure: **Length of Time: 5 mins**

Call groups to the carpet by table groups. Have them leave their papers at their desks.

Check for understanding game:

Sit a marker below me, above my head, beside me (get specific with the right side or left side for a little extra), between my feet.

Make sure everyone is sitting nice before we start and actually wait until they are all sitting nice

Stage 4: Reflection

(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)

Lesson #11 - Thursday, March 23

Science Grade 1/2	**How can we find the position of an object when moving?**	**Ms. Nameth**

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

MP2.1 - Analyze methods of determining the position of objects relative to other objects.

(b) Place an object in an identified position (e.g., four steps to the right and one step forward, close, far, right, left, forward, back, up, down) relative to another object or position.
(c) Assess the use of common objects (e.g., hand, step, and book) to describe the position of an object using non-standard units.
(f) Represent the position of objects as seen from different perspectives (e.g., top, side, and bottom) using words, diagrams, and actions.
(i) Create a set of directions (e.g., treasure hunt map) that other students can follow to locate a specified position.

Physical Education Connection:

PE1.6 - Apply an understanding of how to vary the movement of the body while performing locomotor, non-locomotor, and manipulative skills through changes in:

- space (personal space, general space, levels, directions, pathways)
- effort (force, time/speed)
- relationships (individually and with objects).

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can represent positions of objects from a different perspective	*How can I represent the position of objects?*
I can create a set of directions that someone can follow to a specified location	*How can I create a set of directions?*
I can follow a set of directions to move in a specified way	*How can I follow a set of directions?*

Prerequisite Learning:

How to find the position of an object

Instructional Strategies:

Group discussion
Group work
I do, we do, you do

Stage 2: Determine Evidence for Assessing Learning

Formative:

- *Observation of group work. Looking for keywords such as forward, backwards, right, left, steps*

Summative:

- *Treasure map creation:*
  - *Looking for an drawings of an above perspective*
  - *Looking for keywords forward, backwards, right, left, turn and number of steps*

Stage 3: Build Learning Plan

Set (Engagement): **Length of Time: 5 mins**

Who remembers what we did yesterday?

Right we started focusing on positions of objects.

Remember how we were working on describing positions?

Who remembers some of the key words?

So, those are words that we would use if the position of the object is very close by because we use words like beside, above, behind

Do we think we use the same words or different words if the object is farther away?

Right we have to use different words because you have to explain how to move to the object!

So for this does anyone have any idea what kinds of words we might use?

Forwards
Backwards
Turn
Right
Left

I think we might need to try out giving some directions in our own classroom

Development: **Length of Time: 30 mins**

I made a little map of our classroom here. Let's say we are trying to get over to ms. Osbornes desk and we are starting at the door which is here. What are we going to want to do first?

What would we do next?

Materials/Resources:

- Anchor chart paper with classroom diagram drawn on it
- Markers
- Classroom diagram worksheet

Possible Adaptations/ Differentiation:

- Give grade 2 students a more complex starting and ending spot
- Give grade 1's a simpler starting and ending spot

Management Strategies:

Safety Considerations:

And lastly what would we do? Now, I think you are all ready to try and make your own maps! Everyone will get a copy of the classroom map! The first thing you need to do is pick your starting and ending spots Then, you are going to need to make your pathway BUT you can't forget to use our key words to describe the path! Because at the end of our lesson we are going to do something super fun but we need those keywords for it to work! Adding in steps (15 mins): Call friends back to the carpet table by table as I pick up their papers Okay so now we have our group map and everyone has their own maps right? but hmmm looking at the map compared to the real classroom it might be hard to tell how far to go? Don't you think? So, what could we add? Hint: we tried it on tuesday? Yes! We could add the steps! So, I am going to ask my friends sitting so nice and quiet to help me out with this part How many steps is it from here to here? *Student* Can you go to the door and we can count how many steps to here? What about here to here? And lastly, here to here. So, know we have something that we could follow because we know our steps and we also have the map to look at things around us which can also help tell us where to go. Okay now I am going to randomly select one of my friends maps and we are going to add the steps to the directions they already made. Then, we are going to test and see if Ms. Peterman will be able to follow the directions if we only tell her the written words and she can't even see the map!	

So, Ms. Peterman you are going to have to go wait in the hall while we figure the steps out! *If groups finish early have them try to follow each other's or another groups path* **Learning Closure:** **Length of Time: 5 mins** *Clap clap clap* Okay do we think that was hard for ms. Peterman to follow? That's why it's so important to use our key words to help guide ms. peterman to the right position! But do you know what else might help her? Using a visual like a map to help her! Visuals are also super important! I am going to pick another random map and this time Ms. Peterman is going to try to follow it without the steps! Did that look easier or harder?? *clap, clap, clap* Do we think that maybe we need both things in order to find the position? Or can we just use one or the other? I think I would like to be able to see both! I think thats what would help me the most! Call groups to start getting ready for recess	
Stage 4: Reflection	
(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)	

Key Words

Forwards

Backwards

Turn

Right

Left

Written Map Directions

Step 1: _____

Step 2: _____

Step 3: _____

Step 4: _____

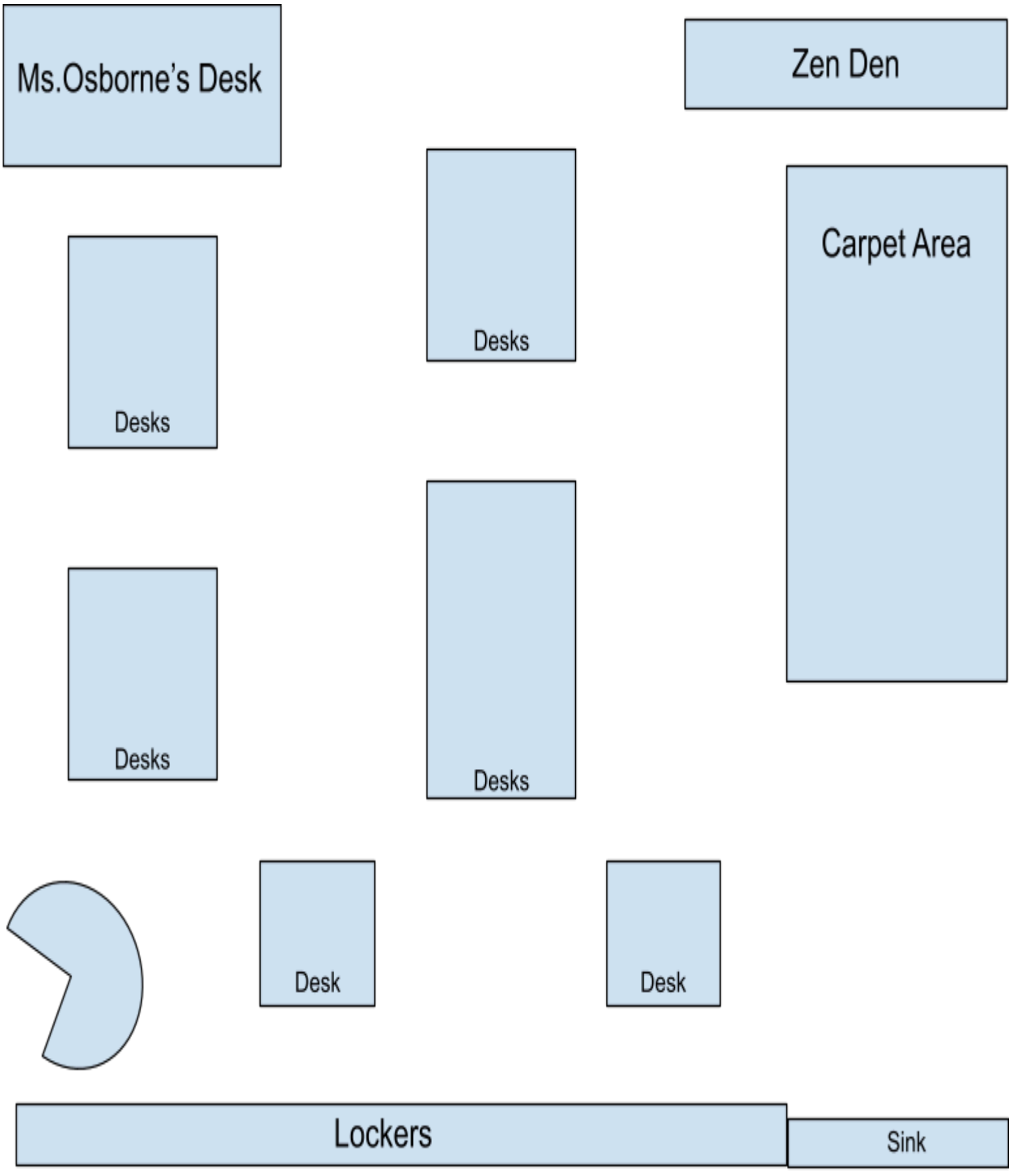
Step 5: _____

Step 6: _____

Step 7: _____

Step 8: _____

Step 9: _____


Ms.Osborne's Desk
Zen Den
Desks
Carpet Area
Desks
Desks
Desks
Desk
Desk
Lockers
Sink

Lesson #12 - Thursday March 24th

Science Grade 1/2	**What is motion? Is it around me?**	**Ms. Nameth**

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

MP2.2 - Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

(b) Describe examples of the motion of natural (e.g., birds flying, leaves falling, tree branches swaying, icicles melting, fish swimming, wind blowing, and creeks flowing) and constructed (e.g., vehicles moving, clock hands rotating, balls bouncing, playground swings, and tools operating) objects in their environment.

(d) Examine a variety of toys, playground equipment, and other objects that move or which have components that move and ask questions that lead to exploration and investigation of the motion of objects.

(e) Investigate, describe, and represent different patterns of movement (e.g., walking, running, swinging, bouncing, sliding, rotating, spinning, crawling, and rolling) of familiar objects, including themselves.

(f) Relate the types of motion (e.g., crawling, walking, running, flying, swimming, slithering, galloping, crab walking, and rolling) to the physical characteristics of humans and familiar animals.

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can describe motion of natural beings and constructed objects	\ *How can describe motion of natural beings and constructed objects*
I can examine playground equipment to see what components move	*What playground equipment has components that move*
I can represent different patterns of movement	*How can I represent different patterns of movement*
I can relate types of motion to animals	*What types of motion relate to animals*

Prerequisite Learning:

N/A

Instructional Strategies:

Group Brainstorm
Outdoor learning

Stage 2: Determine Evidence for Assessing Learning

Formative:

- *Observations:*
  - *Looking for conversations around movement of playground equipment*

- *Looking for acting out of different types of motion*

Stage 3: Build Learning Plan

Maybe do agendas before my lesson starts

Set (Engagement): **Length of Time:** 5 mins

What kinds of things move? What do you see that moves throughout your day?

- Natural: birds flying, leaves falling, tree branches swaying, icicles melting, fish swimming, wind blowing, and creeks flowing
- Constructed: vehicles moving, clock hands rotating, balls bouncing, playground swings, and tools operating

Go through brainstorm list and highlight or underline the natural types of motion and constructed types with different colours

Development: **Length of Time:** 20 mins

Since it is such a nice day out today (hopefully) we are going to go outside and look for different types of motion outside! What are some things you could look for?

Right! There might be some things on the playground that move that you can see how they move but are we going outside just to play on the playground? No

Are we going outside to just run around? No, it is important that we are staying together in a group.

We are going to start off by going to the playground first and looking for motion around the playground so where are we going to stay close to? Right the playground

Allow them to look around for about 7 minutes

clap, clap, clap, clap, clap

Okay grade ½'s now we are going to play some movement simon says so we are going to walk together as a group to a more open area and then everyone is going to sit (stand if it's wet) in a circle so I can explain what we are going to do.

- simon says: walk, run,jump, spin, roll
- Simon says: Move like a bird (flying), Move like a snake (slithering), Move like a horse (galloping), Move like a crab (crab walking)

Materials/Resources:

Possible Adaptations/ Differentiation:

Management Strategies:

Safety Considerations:

Simon says come sit in a circle in front of Ms. Nameth **Learning Closure:** **Length of Time:** 5 mins When we first got outside what moving things did everyone find, quiet hands up?	
Stage 4: Reflection	
(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)	

Lesson #13 - Friday March 25th

Science Grade 1/2	**How do pushes and pulls affect motion?**	**Ms. Nameth**

Stage 1: Identify Desired Results

Outcome(s)/Indicator(s):

MP2.2 - Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

(g) Demonstrate how pushes and pulls can cause an object to speed up, slow down, stop, or change direction.

(i) Carry out a procedure to investigate the effects of pushes and pulls on the motion of objects using various objects and surfaces (e.g., paper, carpet, sandpaper, desktop, tile floor, wooden board, ice, sidewalk, grass, soil, and sand).

(k) Provide examples of technologies (e.g., skate, snowshoe, bicycle, ski, kayak, curling slider, and wheelchair) that are designed to make it easier for people and constructed objects to move on different surfaces.

Key Understandings: ('I Can' statements)	**Essential or Key Questions:**
I can demonstrate how pushes and pulls can cause an object to speed up, slow down, stop, or change direction	*How can I demonstrate how pushes and pulls can cause an object to speed up, slow down, stop, or change direction?*
I can investigate how different surfaces affect the push and pull of objects	*How can I investigate how different surfaces affect the push and pull of objects?*
I can record the effects of different textured surfaces	*How can I record the effects of different textured surfaces?*

Prerequisite Learning:

Types of motion

Instructional Strategies:

Group discussion
Exploration

Stage 2: Determine Evidence for Assessing Learning

Formative:

- Observation of explorations
    - Looking for use of key words like push, pull, speed up, slow down, stop, change direction

Stage 3: Build Learning Plan

Set (Engagement): **Length of Time: 5 mins** Does anyone know how motion starts? Something has to be making it move right? We are going to listen to a little song about two forces and then we will discuss it What are forces? It is sort of a big word but did anyone learn what is was from the video? What are the two kinds of forces? Right Push and Pull Who can give me an example of a push force? and what does that force do (makes things go away from you) What about a pull force? and what does the pull force do? (brings things closer) **Development:** **Length of Time: 15 mins** We are going use some sphero robots to test how push and pull of motion changes on different surfaces What kind of motion do we think this robot is going to use? Push or Pull? What do we think is making the force push the sphero forward? A motor! To drive the sphero you use an iPad to control it! This bar is the speed. We are only going to keep it at half or slower because otherwise the robots might get wrecked. These robots are very expensive and my boss was so nice to let us use them today so it would really hurt my heart if one got broken. So, are we going to make sure we are being careful and respectful with the robot? and we won't turn the speed up any higher than half right?	**Materials/Resources:** - Push and Pull Video **- Spheros** **- iPad's (enough for everyone or pairs)** **- Worksheets** **Possible Adaptations/ Differentiation:** **Management Strategies:** **Safety Considerations:**

So, when you are using the robots you are going to be testing how the speed changes on different surfaces. You will test it on the floor, the carpet, in some sand, and even in some water! Then you need to write down if it made the robot speed up, slow down, stop, or change direction I will give you 5 minutes to just nicely practice driving the sphero before we get started with the testing. Remember when you hear my clapping we need to stop what we are doing and have your eyes on me! 2 mins per station **Learning Closure:** **Length of Time: 5 mins** Leave your iPads and your Sphero's where they are and come to the carpet with your papers! How did the speed change on the carpet? How did the speed change on the ice? How did the speed change in the water?	
Stage 4: Reflection	
(This part of the lesson is completed after the lesson has been delivered; this is where you can record how it went, what you would keep, and what would you change for next time)	

Key Words

speed up

slow down

stop

change direction

Name:_____

Pushes and Pulls of Different Surfaces

Try this surface	How did it change the motion?
Carpet	
 Sand	
 Ice	

 Water	