# Grade 2 Science Unit
## Motion and Relative Position

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Lesson Plan
Set Lesson

Name: Tara Baade
Date: TBA
Subject: Science
Grade: 2

Content (topic): Motion and Relative Position

Instructional Strategies:
Direct Instruction – questioning, listening and viewing
Interactive – brainstorming, discussion, cooperative learning groups

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

Indicators:
Students will be able to:
- pose questions about the motion of natural and constructed objects in their environment (e.g., how do we know if something is moving? What are some different types of motion?
- 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.

Cross Curricula Competencies:
- developing thinking
- developing literacy’s

Pre-requisite Learning:
- n/a

Adaptive Dimension:
- For students who have disabilities where holding things are difficult they can be partnered up with someone else who can help them, and hold objects for them.

Preparation: (equipment/materials/set-up)
Various objects:
- empty stapler, can opener, yo-yo, desktop tape dispenser, wind-up toy, hope punch, top, tweezers, tongs, clamp, toy guitar, garlic press, padlock, lock and key, hand beater, pull toy, glue stick, toy car, plastic toy with moving parts, etc.

**Background Knowledge:**
The whole world is in motion. Motion is any movement or change in position or place. For a motion to take place a force is needed. Force is any push or pull.

**Set:**
- Gather students around a large collection of objects that move in different ways – empty stapler, can opener, yo-yo, etc.
- Ask students questions:
  - How does this move?
  - How does the position change when it moves?

**Development:**
- Break students into small groups of 4/5, and let them have 10-15 minutes with various objects, including some broken objects so that students can see inside. Give students measuring tapes, magnifying lenses, and recording materials to their centre.
- Have each group record some things they discovered about their objects. Encourage them to think about the way the objects move.
- When students have finished, have the students share what they discovered.
- As a class make a movement web – on a large chart paper, write the word “Movement” in the middle. Have students come up with words they came up with that describe the movement of objects they had, such as, twisting, rolling, pulling, pushing, etc. (This web can be hung up in the classroom to be referred to in future use in the unit)

**Closure:**
- After finishing the web, on the board write a question for the students to answer, “What things would you like to find out about how or why things move.”
- Have students write down what they think, and have them place it in a `what we want to learn about motion` box.

**Student Engagement/ Classroom Management Strategies:**
- Place students in the groups to ensure students who goof off together, or don’t get along, are not placed together.

**Assessment:**
Observation – I will observe how students are doing, and will go talk to each group, to see if students understand.

Lesson Plan
#2

Name: Tara Baade
Date: TBA
Subject: Science
Grade: 2
Content (topic): Motion and Relative Position

Instructional Strategies:
- Direct Instruction – listening and viewing, questioning
- Experiential learning – role playing
- Interactive- discussions, role playing, brainstorming

Outcomes:
MP2.1: Analyze methods of determining the position of objects relative to other objects.
MP2.2: Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

Indicators:
Students will be able to:
- 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.
- 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 swing, and tools operating) objects in their environment
- Describe the motion of an object in terms of changing in relative to other objects (e.g. fast, slow, front, back, towards, away, closer, and further?
- 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

Cross Curricula Competencies:
- developing thinking
- developing literacy’s
Pre-requisite Learning:
From previous lesson, students should have some knowledge about movement. Students will also be able to refer to the web they created in the first lesson.

Adaptive Dimension:
- If it is too cold to go outside, have students look at things within the school, and look out the window.

Preparation: (equipment/materials/set-up)
- magazines
- scissors, glue

Background Knowledge:
The whole world is in motion. People walking, birds flying, leaves falling, wheels turning – all of these actions involve movement. Movement occurs when an object changes place. Force – the act of a push or a pull – is needed to make something move. In people and animals, the force is exerted by muscles; in inanimate objects, the force is produced by some outside source.

Set:
- Write these words on the chalkboard: walk, run, spin, roll, jump.
- Read the list and ask the class what the words have in common. (They all describe a way of moving)
- Tell the students that all around us things are moving, and have the class name a few examples. (cars moving along the road, bugs crawling in the grass, children playing in the yard, and so on).

Development:
- Take the class outside for several minutes and observe things in motion.
- Look at certain things they see moving, and how they change position (for example: If you see a flag: what is making it move – wind, where is the flag when it is not moving? How does it change position when it starts to flap?)
- When the students return to the classroom, have them compile a list of the things they saw moving.
- Reminding students that many things move, give them magazine pictures of thing in motion and glue them onto a large sheet of butcher paper. Have students include both living and nonliving thing on their collage (ex: birds soaring, kite flying)

**Closure:**
- When the collage is finished, have students identify the various things in motion
- discuss the fact that both living and nonliving things can move or be moved.
- Guide the class into seeing that most living things can move on their own while nonliving things can move on their own while nonliving things need something else to move them. (ex: birds can fly of their own power while kites need people or wind to move them.)

**Student Engagement/ Classroom Management Strategies:**
- Because this lesson is partially outside, need a method to get students attention. To get students attention could use a clapping method, or use a whistle or bell.
- Before going outside, go through the procedures for being outside. Remind students they need to listen extra carefully outside.
- When back in the classroom, to avoid students fighting over magazines, give each student 2-5 magazines to find pictures from.

**Assessment:**
To assess students on what they have learned, I will have them write an exit slip. “What is one thing you have learned about motion.” “What is one thing you are still confused about?” This not only gives me an assessment on the students, but will also be beneficial for me, as the teacher, to know what they understand, and what we need to work on more.
Lesson Plan

#3

Name: Tara Baade

Subject: Science/Phys. Ed.

Grade: 2

Content (topic): Motion and Relative Position

Instructional Strategies:
- Direct Instruction
- Interact Instruction

Outcomes:
MP2.1: Analyze methods of determining the position of objects relative to other objects.
MP2.2: Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

Indicators:
- 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.
- 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 swing, and tools operating) objects in their environment
- Describe the motion of an object in terms of changing in relative to other objects (e.g. fast, slow, front, back, towards, away, closer, and further?)
- 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.
- Relate the types of motion (e.g., crawling, walking, running and rolling) that humans and familiar animals exhibit to their physical characteristics.
Cross Curricula Competencies:
- developing thinking
- develop identity and interdependence
- developing literacy’s

Pre-requisite Learning:
- Students will be required to bring forward the previous knowledge they have learned about motion, and what makes something move (a force). Students will also be required to be able to describe the position of something in comparison of another object, which they learnt about last lesson.

Adaptive Dimension:
Adaption for Disabilities (movement disabled)
- wheelchair – pushed or wheeled through movements
- other disabled – have partner move nice and slow.

Preparation: (equipment/materials/set-up)
- take students out to the playground

Background Knowledge:
Force is needed to make something move. Force is a push or a pull. Forces cannot be seen, but the effects can. Animals and People have muscles that allow them to move, allowing them to perform action such as pushing, pulling, and lifting.

Set:
Take students outside to the playground. Swing a swing.
- Ask students what kind of movement is happening (swinging)
- Get students to demonstrate with their bodies how they can swing.

Development:
- Get students to use their bodies to describe certain movement patterns,
  - Think of an object that spins. Show us how it moves. How does the speed change? How does the position of your body change?
  - Ask children for different ways that objects move, using items on the playground.
  - Also refer to the movement web that was created in Lesson #1
- After going through objects on playground, and getting student to demonstrate other movements with their bodies, get students to gather in a large circle.
- Get students to stand arm length away from each other so they also work on space awareness.
- Ask students what kind movements some animals make
  - examples: Horse – gallop
  - Frog – leap
  - Bunny – hop
  - Etc...
- Next take the students to an area of the playground where there are thicker trees, bushes or grass. Play the Thicket Game (taken from Project Wild)
  - have a student volunteer to be the predator.
  - have that student stand in the open area and count to 20.
  - have the rest of students hid in the “thicket”
  - the student that is the prey, then tries to locate other students, they must stay stationary, can only take a one step each direction.
  - the predator then calls on students by saying their position in relation to other things (ex: the person in front of the bush, beside the tree.)
  - those students found join the prey and help spy other students
  - each round, the prey, must move closer towards the predators.
  - repeat moving closer, and finding students, until there is no prey left to be caught.

Closure:
- Talk with children what they did today
- Ask students: what kind of motions did we do?
- When we were playing the thicket game, how did you describe where someone was? (used above, behind, below, etc)
- Talk briefly about easiness to see prey. Ask students what made it easier or harder to find the prey.

Student Engagement/ Classroom Management Strategies:
- Because this lesson is outside, need a method to get students attention. To get students attention could use a clapping method, or use a whistle or bell.
- Before going outside, go through the procedures for being outside. Remind students they need to listen extra carefully outside.
- Set boundaries for student when they are outside, particularly with the thicket game. Make sure all students know the areas they are to be staying within.
Lesson Plan
#4

Name: Tara Baade
Date: TBA
Subject: Science
Grade: 2

Content (topic): Motion and Relative Position

Instructional Strategies:
- Direct Instruction
- Interactive Instruction

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

Cross Curricula Competencies:
- developing thinking
- develop identity and interdependence
- developing literacy’s
- developing social responsibilities

Adaptive Dimension:
- Pair students who struggle, with students who can help them.

Preparation: (equipment/materials/set-up)
- A large suitcase, filled with very heavy things.

Background Knowledge:
A force is needed to make something move, a force is any push or pull.

Set:
- Review with the class that a force (such as a push or a pull) is needed to make an object move.
- Ask students if they think an object moves every time force is applied to it.

**Development:**
- Bring out a suitcase filled to capacity (make sure the suitcase is heavy enough so that the children will not be able to move it.)
- Have a student volunteer (or 2) come and try move the suitcase by lifting or dragging it.
- When the student shows that the suitcase cannot be moved, ask the class why they think that is.
- Discuss that the student is exerting force, the suitcase is just too heavy to move.
- Tell students that force does not always make something move.
- Divide students into small groups and challenge each group to think of ways to move the suitcase.
- Have the groups text their ideas. (examples: Make the suitcase easier to move by taking out some items; then less force will be needed to move the suitcase. Tie a rope to the suitcase handle and have several children try pulling on the rope together.)

**Closure:**
- What made the suitcase easier to move?
  - adding more force (more children pulling)
  - reducing the force needed (talking items out)

**Student Engagement/ Classroom Management Strategies:**
- have the partners pre-prepared.
- Chose a couple student volunteers, who have been showing good listening skills and behaving well.

**Assessment:**
In this lesson I will get students to self assess.

Did I pay attention the whole time?  Yes  No  Sometimes
Did I work well with my partner?  Yes  No  Sometimes
Did I stay on task?  Yes  No  Sometimes
Did I understand the purpose?  Yes  No  Sometimes
    Why or why not?
Lesson Plan
#5

Name: Tara Baade
Date: TBA
Subject: Science
Grade: 2
Content (topic): Motion and Relative Position

Instructional Strategies:
- Direct Instruction
- Interactive Instruction
- Experiential Instruction

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

Indicators:
- 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.
- Place an object in an identified position (e.g., four steps to the right and one step up, close, far, right, left, forward, back, up, down) relative to another object or position.
- Assess the use of common objects (e.g., hand, step, and book) to describe the position of an object using non-standard units.
- Represent the position of objects from different perspectives (e.g., top, side, and bottom) using words, diagrams, and actions.
- Collaborate with other students to describe the position of an object from different positions using drawings, and written and oral descriptions.
- Create a set of directions (e.g., treasure hunt map) that other students can follow to locate a specified position.
- Follow directions to move in a specified way to different positions.

Cross Curricula Competencies:
- developing thinking
- developing literacy’s
- developing social responsibilities

**Adaptive Dimension:**
- pair students who struggle, with stronger students.

**Preparation:** (equipment/materials/set-up)
- Bring a box to make the “treasure box”
- have a set of directions as a map made out that students can follow.

**Background Knowledge:**
Relative Position: A point defined with reference to another position, either fixed or moving; the coordinates of such a point are usually bearing, true or relative, and distance from an identified reference point

**Set:**
- Have a set of directions written on the board (4 steps forward, 3 hops to the left, etc) that will lead to a destination.
- next get a student volunteer to follow the directions.
- Once they get to the destination, have an empty box that says treasure on it. When they open it up, it will say “ treasure cannot be discovered till the end.”

**Development:**
- Break students into groups of three or four and get them to make a set of directions to get from one place to the next.
- The students will be given set spots to start, so that groups can be spread out.
- Encourage students to use more than just their feet to measure how far they have to go.
- When students are done creating their map of instructions give each groups map to another group.
- Let the students investigate, and follow the set of directions.
- When all students have had a chance to follow their map, bring students into a circle to talk about it.

**Closure:**
- Have a class discussion on what made it easier to find the location.
- Was it hard making up the map?
- Was it sometimes hard following the directions?
- What could you do to make it easier for people to find? (be more specific on the map)
- As a wrap- pull out the treasure box again, and give each student a “treasure” (give a sticker or candy)

**Student Engagement/ Classroom Management Strategies:**
- have the groups pre-made.
- by giving students the “treasure” at the end they have an incentive to keep working and they won’t be as distractive.

**Assessment:**
- To assess this assignment I will use a rubric – marking them on how well they worked in their group. How well they developed their map, and if they could follow the instructions.
Lesson Plan
#6

**Name:** Tara Baade
**Date:** TBA

**Subject:** Science
**Grade:** 2

**Content (topic):** Motion and Relative Position

**Instructional Strategies:**
- Direct Instruction
- Interactive Instruction
- Indirect Instruction

**Outcomes:**
MP2.1: Analyze methods of determining the position of objects relative to other objects.
MP2.2: Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

**Cross Curricula Competencies:**
- developing thinking
- developing literacy’s

**Adaptive Dimension:**
- Pair students who struggle, with stronger students.

**Preparation: (equipment/materials/set-up)**
- textured surfaces to cove the ramp (sandpaper, waxed paper, tile, carpet, sand, gravel, wet board, grass, pavement)
- Toy cars
- ramps
- hand-outs from Science made Simple
- box of sand
- two cans.
Background Knowledge:
- **Friction** is the force resisting the relative motion of solid surfaces, fluid layers, and/or material elements sliding against each other. Rougher surfaces, make it harder to move things. Smooth surfaces can speed up objects, by reducing friction.

Set:
Show the students a piece of sandpaper and a piece of waxed paper, and ask them to describe how each one feels. Then ask:

- What other materials can you think of that are smooth? Bumpy?

List students’ responses, then ask:

- how do you think a toy car would move on different kinds of surfaces.

Development:
- Together brainstorm some available surfaces that would offer a variety of textures (tile, carpet, desk, sand). You might also want to provide other surfaces such as a wet or soapy board, corrugated paper, gravel, grass, or pavement.
- Invite volunteers to test the car on some of the materials. Ask:
  - how does the car move on the sandpaper? How is that different from how it moves on the waxed paper.
- Let your class experiment to find out if it is easier to slide or roll a heavy load across the ground.
- First divide the class into pairs and give each pair a copy of Sliding and Rolling. Also provide each pair with two cans and two pans (or shallow boxes) of sand. After your students compare the actions of pushing and rolling the cans across the sand, have them discuss the results (your class will discover that it is easier to roll a heavy load rather than slide it along the ground: this is because rolling produces less friction)

Closure:
- Conclude by asking some questions.
  - Which surfaced did the car move along easily? Which surfaces made it more difficult to move the car? Why do you think it is harder to move the car along rougher surfaces?

Student Engagement/ Classroom Management Strategies:
- make the groups for the students
- use rhythmic clapping to bring students back if they are not paying attention
Assessment:
As you observe children at work, assess how comfortable they are becoming with the testing and recording procedures. Listen to the comments children make during the procedure. Are they using appropriate vocabulary? Are they asking questions and making predictions? You can record your observations.
Question:
Is it easier to slide or roll a heavy load along the ground?

Prediction:
Is it easier to slide or roll a heavy load along the ground?

Results:
Write what you think is the answer:

Conclusion:
Was it easier to push or roll the can across the sand?

Rolling and Sliding
Slliding and Rolling

Experiment

Question: Is it easier to slide or roll a heavy load along the ground?

Prediction: Write what you think

Materials: Two cans, two pans of sand, on the record sheet

Do: Put a can in a pan of sand.
2. Put a can in another pan of sand.
Roll the can along.
Put the can on its side.
Push it across the pan.
Stand the can on its end.

Results:

Describe what happened on your record sheet.

Conclusion:
Lesson Plan
#7

Name: Tara Baade  Date: TBA
Subject: Science  Grade: 2

Content (topic): Motion and Relative Position

Instructional Strategies:
- Direct Instruction
- Interactive Instruction
- Experiential Instruction
- Indirect Instruction

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

Cross Curricula Competencies:
- developing thinking
- develop identity and interdependence
- developing literacy’s
- developing social responsibilities

Pre-requisite Learning:
- Students will be using what they have learned throughout the unit about forces and motion, to think of ways to move the potatoes.

Adaptive Dimension:
- If there are students that struggle with this task, you could have them work in partners.

Preparation: (equipment/materials/set-up)
- Various materials for students to use.

Background Knowledge:
- Friction is the force resisting the relative motion of solid surfaces, fluid layers, and/or material elements sliding against each other. Rougher surfaces, make it harder to move things. Smooth surfaces can speed up objects, by reducing friction.
- Force is needed to make something move. Force is a push or a pull. Forces cannot be seen, but the effects can. Animals and People have muscles that allow them to move, allowing them to perform action such as pushing, pulling, and lifting.

**Set:**
- Before the day of this lesson, let the students know of what they will be doing, so that they can bring things from home and start thinking of ideas they can use.
- Have student complete the hand outs “moving day” and “A puzzling Problem”

**Development:**
- Have each child bring a medium or large potato from home (also have some extras in case students forget)
- Tell the children that they are all workers in a factory called the Hot Potato Factory. Explain that the potatoes on the table at the front of the classroom are very hot – so hot, in fact, that they cannot be picked up and carried with the hands. As factory workers, they have to find ways to move the potatoes one at a time, from the table at the front of the classroom to a place at the back of the classroom. As the factory production manager, instruct the children that each potato must be moved using a different method. Children may bring in objects from home to used to move the potatoes. TO stimulate the children’s thinking, you may want to suggest one or two of the following ideas.
  - Can you use a broom to move the potato? A ruler? Two erasers?
  - Can the potato be wrapped in something?
  - Can the potato be pushed or pulled by something?
  - Can you spear the potato with something in the classroom, such as a pencil, and put it in an envelope to be moved?
  - Can you put the potato in or on something, such as a book or drawer or box?
  - Can you make a ramp and roll the potato?
  - Can you catapult the potato?
- List on a chart or on the chalkboard the methods that the students described for moving the potatoes. Have each child demonstrate his or her method. If a suggested idea is too difficult for a first-grade child to construct, such as an intricate pulley, have the child describe the method in detail

**Closure:**
- After children have demonstrated or explained their methods for moving the potatoes, have them decide which method is the best and which is the worst. Have them cite reasons for their choices
- Have children name some things that can be moved but are difficult to handle. These may include wild or frightened animals, heavy objects, objects that are too dangerous to handle, and those that are too cold to handle. Discuss ways these things could be moved.

**Student Engagement/ Classroom Management Strategies:**
- use clapping rhythm to bring students back when being noisy.

**Assessment:**
- use a checklist to rate how well the students did with their activity.
Moving Day

Draw a circle around the things Benji packed:

Look at the pictures:

Benji packed some of his things in boxes.

Benji and his family are moving.

---

Warm-Up
Draw a line to show him where the missing pieces go.

He has dropped his puzzle.

Benji is unpacking in his new home.

A Puzzling Problem
Lesson Plan
#8

Name: Tara Baade                        Date: TBA
Subject: Science                        Grade: 2
Content (topic): Motion and Relative Position.

Instructional Strategies:
- Direct Instruction
- Indirect Instruction

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

Cross Curricula Competencies:
- developing thinking
- developing literacy’s

Adaptive Dimension:
- Have students work together to write their riddles if they struggle. Teacher can also give them ideas.

Preparation: (equipment/materials/set-up)
- skis, skates, crutches, wheel chairs, bicycle, skateboard, snowshoes, etc

Background Knowledge:
Force is needed to make things move. People invented tools and techniques to solve problem.

Set:
- Bring in a variety of objects (skis, skates, crutches, wheel chair, bicycle, skateboard, snowshoes, etc. (Engage, Explore)
- Let students think of what these objects do for us
- How do they make things easier

Development:
- After students have examined the various objects, discuss why each item makes moving easier. Students can identify one surface on which each object helps movement and one
surface on which each object helps movement and one surface on which the object would make movement harder.
- Have students work in pairs to mirror or mimic the movements of a partner. Encourage them to use turns being the mirror.

**Closure:**
- use riddles to have students identify different kinds of motion or objects that demonstrate a kind of motion. For example, I am on the playground and people go back and forth on me as they play. What am I? (swing) I am on the playground. Two people balance on me as they play.. I go up and down. What am I? (Teeter totter)

**Student Engagement/ Classroom Management Strategies:**
- use clapping rhythm or hand up to get students attention
- make sure students know that they are not suppose to play with the objects that are brought in
- gather students closer around objects so that they are more engaged.

**Assessment:**
- At the end of the lesson, use a form of dynamic assessment. Get all the students to close their eyes. Explain before that thumbs up means clear understanding, sideways so-so, and thumbs down means they don’t understand. Ask students if they now know why we have machines and how they assist us.
Lesson Plan
Closure Lesson

Name: Tara Baade
Subject: Science
Content (topic): Motion and Relative Position.

Instructional Strategies:
- Direct Instruction
- Indirect Instruction
- Independent Instruction

Outcomes:
MP2.1: Analyze methods of determining the position of objects relative to other objects.
MP2.2: Investigate factors, including friction, which affect the motion of natural and constructed objects, including self.

Cross Curricula Competencies:
- developing thinking
- develop identity and interdependence
- developing literacy’s
- developing social responsibilities

Pre-requisite Learning:
- Students will be using all the knowledge have from what they have learnt to look more closely at specific thing.
- Students will be expected to already know what a force is, and what makes things move.

Adaptive Dimension:
- For students who struggle, can give them something to research beforehand, Can make it something easy for them to find things about.
- Could have a student help them also, or teacher or EA.

Preparation: (equipment/materials/set-up)
- Have lots of resources open to the students: Computers, books, paper, drawing utensils, etc.
Background Knowledge:
- The whole world is in motion. Force is needed to make something move. Force is a push or a pull. Forces cannot be seen, but the effects can. Animals and People have muscles that allow them to move, allowing them to perform action such as pushing, pulling, and lifting.
- Friction is the force resisting the relative motion of solid surfaces, fluid layers, and/or material elements sliding against each other. Rougher surfaces, make it harder to move things. Smooth surfaces can speed up objects, by reducing friction.

Set:
- Have a class discussion, about what the students have learned throughout the unit.

Development:
- break students into groups
- Inform the students that they will be required to research something that moves.
- The point of this activity is for students to look at something that interests them. It will be wide open to students to do their project on whatever they want.
- When they choose what they want to look at (it could be a machine that helps us move, an object, an animal, magnets, etc)
- The students will be given a little bit of a guideline that they need to address. How does this move? What makes it move? (outside force or muscle). What is its purpose?
- give the students some time to research and think about their object.
- Students will be encouraged to make some sort of visual to go along with what they found if they have time. (Students will have a class to do their researching and put together what they want to share with the rest of the class)
- Students will share with their peers, what they were found about what they decided to research.

Closure:
- Get students thinking about motion in water or space. How does the motion change?

Student Engagement/ Classroom Management Strategies:
- Have the groups pre-made to put students who can help others, and for those who don’t work well together.
- Use clapping rhythm to bring students back, when they are being noisy.

Assessment:
- use exit slips to assess the students. What do you remember most about what we have learned? What do you wish we could have done more of?