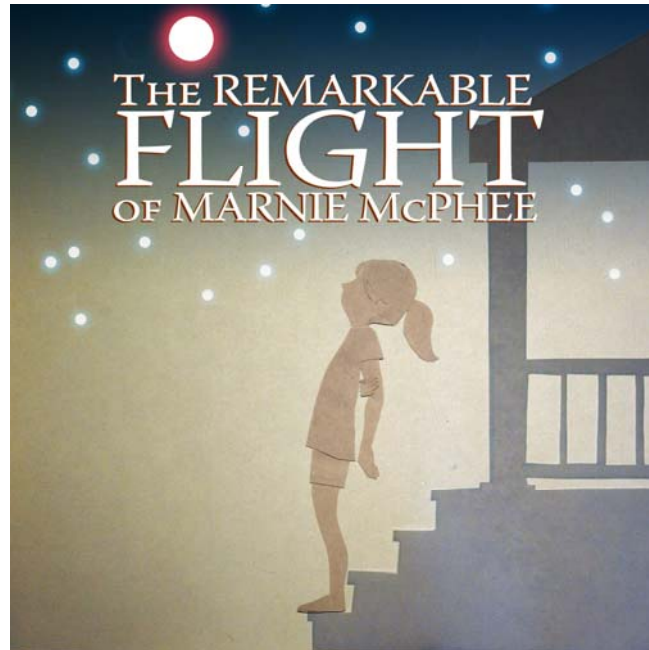


Carousel Players

Presents



Written by Daniel Karasik

Tour Sponsored by



Teacher's Study Guide for Grades 4-8

By Anna Gigliotti, Megan Kidd, Kendel O'Hara and Carlene Thomas

THEMES

Accepting others for who they are
Empathy and understanding for others
Rules, relationships and responsibilities
Being different
Character development
Honesty and Integrity
Curiosity, Science and Technology

You can download this study guide at www.carouselplayers.com

The Remarkable Flight of Marnie McPhee

Written by **Daniel Karasik**

Directed by **Pablo Felices-Luna ***

Set and Costume by **Michael Greves**

Sound & Lighting design by **Gavin Fearon**

Study guide by **Anna Gigliotti, Megan Kidd, Kendel O'Hara and Carlene Thomas**

Cover illustration by **Ernest Harris Jr.**

Stage Management by **Kevin Olson ***

The Characters

Sarah English* *in the role of **Marnie***, a would-be astronaut, 9

Andrea Scott* *in the role of **Mom***, her mom

Graeme Somerville* *in the role of **Dad***, her dad

Colin Doyle* *in the role of **Alan***, her 16 year-old brother

* members of Canadian Actors' Equity Association

The Creator

Daniel Karasik is an up-and-coming Toronto based playwright. His previous play *In Full Light* was presented to acclaim in Toronto, New York City, and Potsdam, Germany, and is published by Playwrights Canada Press. He's also a published and anthologized poet, and an actor with extensive professional experience in theatre and on film and television.

The Story

Marnie is a 9 year old would-be astronaut. She secretly builds a spaceship in her basement but gets caught. Much to her amazement, she doesn't get in trouble. Instead, her family actually helps her finish the job. In a surprising turn of events, Marnie and her family find themselves in a truly remarkable flight through space into the unknown. This heart warming and funny play follows the adventures of an imaginative and colorful young girl as she discovers the importance of family.

Carousel Players

Carousel Players is an award-winning professional theatre for young audiences based in St. Catharines that is committed to the development of new work and the production of theatre that entertains and challenges our audiences. We present inspiring and creative plays for children aged 5 to 14 in schools, theatres and other venues. We ensure that our performances, theatre school and classroom programs are affordable for all children regardless of their socio-economic status or situation. Our home is in the Old Courthouse in downtown St. Catharines at 101 King Street where 7 theatre and dance companies regularly perform in our space – the Sullivan Mahoney Courthouse Theatre.

Our Activities

Throughout our 39 year history, over 2.7 million students, teachers and families have seen our productions. We regularly perform in schools across Ontario, and frequently tour to theatres in London, Toronto and Orangeville and festivals in Ottawa, Vancouver, Winnipeg, and Calgary. Our award-winning plays have toured as far away as England and Japan. Carousel Players offers theatre camps, youth outreach programs and is a partner with Brock University in the new Commotion Youth Theatre Project. We host student volunteer placements and internships for young professionals.

Our History

Carousel Players is a non-profit charitable organization that was founded in 1972 by Desmond Davis, a Professor of Drama at Brock University in St. Catharines. Des and his wife Faye came to Canada in 1970 from Australia where both had gained considerable experience in professional theatre and created a theatre to serve youth in Niagara. The name for the company is inspired by one of Canada's oldest carousels in nearby Port Dalhousie where you can still take a ride for just a nickel. Other artistic leaders of the company include Duncan McGregor (1977 to 1990), Pierre Tetrault (1990 to 1998), Kim Selody (1999 to 2006) and Pablo Felices-Luna (2007 to present).

Carousel Players Staff

Pablo Felices-Luna (Artistic Director), Jane Gardner (General Manager), Carrie Costello (Production Manager), Donna Vandecoevering (Accounts & Tour Manager)

Carousel Players Board of Directors

Debra McLauchlan (Chair), Carolyn Mackenzie (Vice-Chair/Secretary), Corey Miles (Treasurer), Janis Barlow, Sarah Lynch, Glen McCann, Margaret Newby, Paddy Parr, Gyllian Raby.

Carousel Players acknowledges the support of our generous funders



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CURRICULUM CONNECTIONS

The study guide activities for The Remarkable Flight of Marnie McPhee provide numerous links to Ontario Ministry of Education Grades 4-8 curriculum expectations in Language Arts, The Arts, Science and Technology, and Health and Physical Education.

LANGUAGE ARTS

Oral Communication

- Communicate in a clear, coherent manner, presenting ideas, opinions, and information in a readily understandable form.
- Listen to understand.
- Identify purposes for listening in a variety of situations, formal and informal, and set goals related to specific listening tasks.
- Demonstrate an understanding of appropriate listening behaviour by adapting active listening strategies to suit a variety of situations, including work in groups.
- Identify some vocal effects, including tone, pace, pitch, volume, and a variety of sound effects, and use them appropriately and with sensitivity towards cultural differences to help communicate their meaning.
- Demonstrate an understanding of appropriate speaking behaviour in a variety of situations, including paired sharing, dialogue, and small- and large- group discussions.
- Communicate orally in a clear, coherent manner, presenting ideas, opinions, and information in a readily understandable form.

HEALTH AND PHYSICAL EDUCATION

Healthy Living

- Analyze, over a period of time, their own food selections, including food purchases and determine whether or not they are healthy choices.
- Adopt personal food plans, based on nutritional needs and personal goals, to improve or maintain their eating practices.

Fundamental Movement Skills

- Apply locomotion/travelling, manipulation, and stability skills in combination and in sequence in specific physical activities.

Active Participation

- Participate vigorously in all aspects of the program.

THE ARTS : Drama and Dance

- Demonstrate the ability to sustain concentration in drama and dance.
- Rehearse and perform small-group drama and dance presentations drawn from novels, poems, stories, plays, and other source materials.
- Write in role in various forms, showing understanding of the complexity of a dramatic situation and using appropriate vocabulary, tone, and voice for the character portrayed.
- Demonstrate understanding of the appropriate use of the voice, gestures, and the level of language in different dramatic situations.
- Research and dramatize material from various sources.
- Demonstrate body awareness, use of body parts, body shapes, locomotor and non-locomotor movements, body bases, symmetry versus asymmetry, geometric versus organic shape, curved versus angular shape.
- Demonstrate understanding of spatial pathways, directions, positive versus negative space, proximity of dancers to one another, various group formations.
- Demonstrate understanding of tempo, rhythm, pause, stillness, with music, without music, duration, acceleration/deceleration.
- Demonstrate understanding of effort, force, quality of energy.
- Display relationships: dancers to props/objects, meet/part, follow/lead, emotional connections between dancers, groupings.
- Engage actively in drama exploration and role play, with a focus on identifying and examining a range of issues, themes, and ideas from a variety of sources.
- Express personal responses and preferences and make connections to themes and issues presented in their own and others' drama works.

SCIENCE AND TECHNOLOGY

- Use appropriate science and technology vocabulary, in oral and written communication.
- Identify the properties of air that make flight possible.
- Identify and describe the four forces of flight – lift, weight, drag, and thrust.
- Describe, in qualitative terms, the relationships between the forces of lift, weight, thrust, and drag that are required for flight and ways that the four forces of flight can be altered.
- Use scientific inquiry/research skills to investigate scientific and technological advances that allow humans to adapt to life in space.
- Use technological problem-solving skills for investigating the motions of different bodies in the solar system.
- Describe the effects of the relative positions and motions of the earth, moon, and sun.
- Analyze the long-term impacts on society and the environment of human uses of energy and natural resources, and suggest ways to reduce these impacts.
- Identify renewable and non-renewable sources of energy and assess the environmental and economic impacts of using conventional and alternative forms of energy.
- Evaluate the effects of technologies on energy consumption
- Assess the social and environmental benefits of technologies that reduce heat loss or transfer.

Classroom Activities — (Pre-Performance)

“I am From...” Poem (Dramatic Arts & Language Arts)

Students will write an “I am From...” poem. This is a poem that includes a variety of different statements about you to present in front of the class. You may share as little or as much as you want in this poem as it is an exploration of your life. The poem should include about 15-20 lines. Try to include as many similes and metaphors as possible. Some topics might include:

- Where you are from (city, town, neighbourhood)
- Information about your cultural/religious background
- Information about your friends and family
- Activities you participate in
- Your favourite (colours, food, games, hobbies, school subjects, etc)
- Your dreams for the future

Example of how to begin: I am from St Catharines, Ontario.
 I am from a loving mother, father, and older brother.
 I am from dancing four nights a week.
 I am from loving to travel.

The teacher may put together a class “I am From...” poem including statements from each member of the class’ poem and post it in the classroom.

Anticipation Guide (Language Arts)

Anticipation guides are a tool, designed by Kyleene Beers, that can be used to get students to connect with ideas and themes that will be presented in a piece of literature, or in this case, a play. Anticipation guides allow students to think about ideas critically, while also getting them to identify what they currently know and do not yet know. Students will be encouraged to revisit the anticipation guide after viewing the performance.

Directions: Read each statement and write “Yes” in the blank if you believe the statement and could support it OR write “No” in the blank if you do not believe the statement and could not support it.

*After you see the play *The Remarkable Flight of Marnie McPhee*, revisit the statements. This time decide whether or not you now feel more confident with some of the responses you wrote to the statements prior to the play.*

Before The Play

_____ *Family is the most important group of people.*

_____ *Imagination is more important than reality.*

_____ *Adults don’t know how to have fun.*

_____ *Adults should be serious and accept responsibilities.*

_____ *Children can’t handle responsibility.*

After The Play

Time Capsule (Social Studies and Language Arts)

Materials:

- Shoe boxes
- Pencil crayons, crayons, or markers
- Construction paper
- Glue
- Scissors
- Magazines that can be cut up

Activity:

- Have each student decorate a time capsule out of a shoe box.
- Then have students think about and bring in items that hold some sort of significance to them. Items could include things that would best describe the student's character, likes, hobbies, time period, cultural background, etc. These could include objects, photos, quotes, videos, music CDs, etc. (Items must ultimately be key representations of themselves).
- Collect the completed boxes from all students.
- Put students into pairs and distribute two Artefact boxes to each pair (Distribute boxes that do not belong to members of that particular pair.)
- Invite students to examine the box as though they were aliens from outer space. Have them pretend that the box was buried perhaps 100 years ago. Have students discuss with their partners what the box would teach them about our society and being human.
- Invite students to present their findings to the class. Explain to the class what they have learned about human beings and their culture, social needs, character, family, recreational activities, etc.
- Just for fun, see if each group is able to guess whom the time capsules belong to in the class.



Classroom Activities — (Post-Performance)

Corridor of Voices **(Drama and Language Arts)**

Corridor of Voices is a drama technique used for exploring the inner thoughts and feelings of a character. The character moves through the corridor, which is made up of other students who represent the character's thoughts, conscience, or other characters in the story. As the character passes through the corridor, the voices of those in the corridor express a range of thoughts and feelings. Moving through a corridor of voices can also be useful in exploring the thoughts of a character who is facing a difficult task or decision. In this case, the voices give advice and warnings. This exercise allows students to delve into characters' thoughts and feelings, making them more relatable. Students are able to engage in the feelings of the character and those surrounding the character as they walk through the corridor.

Activity:

1. Pick a volunteer to be a character who will be walking through the corridor
2. Divide the class into 2 groups; Group 1 lines up directly across from Group 2, creating a corridor.
3. Give students a context in which the corridor will occur. It should be a point where a character is facing a difficult decision (e.g., the night before Marnie leaves).
4. Each student must speak a statement regarding the character's thoughts, feelings, hesitations, concerns, etc. Or the voices can give warnings as to what might happen if the character follows through with a particular action or plan.
5. Allow the students one minute to silently decide what their corridor statement will be.
6. The character will first walk through the corridor silently, listening intently to every piece of advice or feeling the wall speaks.
7. The character will return through the corridor, this time either agreeing or disagreeing with the statements being spoken and stating how the character actually feels.
8. Allow for reflection from the students after the process. What did they learn about the character and the character's situation?

Plot Tableaux **(Dramatic Arts)**

A tableau is a still image created by a group of performers, representing a frozen moment or photograph of an action or occurrence. Participants are frozen in the midst of action.

Elements of Tableaux

1. Stillness and silence
2. Frozen action
3. Variety of levels
4. Expression and mood

Activity:

1. Assign students to groups of four.
2. Each group creates a series of tableaux to represent, in order, the four moments they have selected. In creating the tableaux, not all students have to represent human figures; some might portray objects.
3. Link the tableaux with slow motion transitional movement.
4. Practise and present for the class
5. Ask students to identify the moments selected in each tableaux series.

Role Playing (Drama and Language Arts)

- In groups of 3- 5, have students choose a scene from the play to re-enact for the class.
- Groups will first brainstorm and collaboratively write a short script of their most memorable scene.
- Students will rehearse and perform their scene, in the order in which the scenes occurred in the play.
- After performing, the students will explain why they chose that specific scene to re-write and re-enact.

The Dream State / Writing in Role (Drama, Language Arts, and Music)

Marnie had an amazing imagination to be able to pretend that she was really going to live in outer space. Ask your class to use their imaginations and try to engage with the feelings and emotions Marnie might have experienced the night before she left to go into outer space.

Materials:

Outer space music

Activity:

- Have everyone lie on the floor while the teacher narrates. Have the students imagine that they are in their bedroom the night before they must leave for their new homes in space. Due to lack of room on the spacecraft, they will only be able to bring three of their most valuable possessions. Ask the students to quietly select which three items they will take with them.
- Tell the students that this is the last time that they will be able to see, touch, and be with most of their possessions. Ask them to imagine saying good-bye to everything they are leaving behind.
- Playing appropriate “space” music, ask students to turn their attention to what it would be like to arrive on a strange planet in outer space.
- Ask students to slowly rise from the floor and pretend they are walking on the new planet. Show what it might be like to walk in a space suit and discover things on a new planet. Are you anxious? Happy? Frightened? Use various volumes of music to encourage and enhance the space-like mood and atmosphere.
- Have students return to their initial positions on the floor, and give them a few seconds of silence. Then ask the class to write a letter to their families, in the role of space travellers. In the letters, explain:
 1. What three items they decided to bring to space and why,
 2. What emotions they feel about their new life in space.
 3. What they hope to accomplish in outer space.
 4. What they will miss about Earth.

Designing a Space Facility (Drama and Visual Arts)

Materials:

- Large chart paper
- Pencil crayons, crayons, or markers

Teacher sets the stage:

“Marnie was designing a space ship to take her to live in outer space. I wonder what kind of things Marnie would find if she really went to live in outer space? NASA has hired you as futuristic designers to design the various space facilities that will make Marnie and her family’s life in space as comfortable and familiar as possible. There are some major important factors to remember when designing your facilities. For example, space suits must be worn at all times, and people need a constant supply of oxygen.”

Activity:

1. In groups of 4, have students design on large chart paper a whole new community in outer space.
2. Groups (in role as futuristic designers) will present their designs to the rest of the class.
3. Have students in the audience play the role of citizens who are taking the journey with Marnie to outer space. Have the citizens interview the designers, voicing all their questions, concerns and excitement about their new home in outer space.

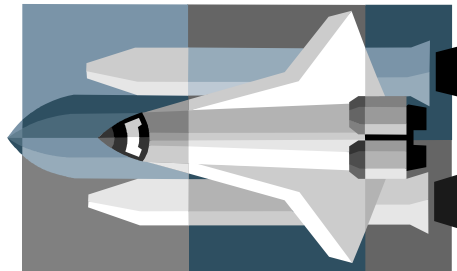
Teacher sets the stage in role as Mayor of the city:

“Welcome citizens! As you know, I am Mayor _____. I have asked that we all gather here today because we have all volunteered to move to outer space. It is true that Earth has become too crowded. This is a really great time of change and evolution for us all. I know many of you are excited and anxious about this move. I know I am! I’m sure you all have plenty of questions and concerns to voice. This is why I have called us all here today to this community meeting. I am honoured to present the futuristic designers who have designed our new dwellings in outer space. They will now present their designs of the facilities you may find in your new outer space communities. After each presentation, you will be able to question the designers about these new facilities.”

The teacher introduces each group to present and answer questions about their designs.

Sample questions:

1. Will we be able to take off our space suits indoors?
2. Will we be able to eat solid food? Where will it come from? Where will we store it?
3. How will we move from one building to another?
4. Will we each have a separate home, or will we live in group residences?



Soundscaping **(Music)**



1. As a class, brainstorm sounds Marnie and her family might hear in their voyage to outer space. (e.g., voices of people boarding the spaceship, engine starting, door opening and closing, beeps and sounds of buttons being pushed to prepare for take-off, etc.)
2. Divide the class into groups of 4 or 5 students. Assign each group a specific sound identified by students in the brainstorming process.
3. Have each group rehearse their specific sounds.
4. The teacher becomes the soundscape “conductor”, guiding each group to begin making their specific sound. Using hand gestures, instruct the groups to become louder, softer, start, and stop.

Historic Inventors **(Science and Technology)**

This activity invites students to research and present historic information about scientific inventors. The play serves as a jump-off point to this subject area because Marnie is an inventor who creates a spaceship. The activity involves a research component, a poster/table display, and a group oral presentation.

Materials:

Research materials from the library or internet
Glue & Scissors
Markers, crayons, pencil crayons etc...



Activity:

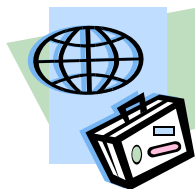
1. Introduce the assignment by asking questions such as:
 - What did Marnie create in the play?
 - What did she use to make her spaceship?
 - How did Marnie learn to make a spaceship?
 - Where do some of scientific ideas and inventions like spaceships come from?
2. Divide class into small groups.
3. Assign each group an inventor (e.g., Thomas Edison, Benjamin Franklin, Charles Goodyear, Alexander Graham Bell, Wilbur Wright, Nikola Tesla etc.)
4. Provide resources for the students in the form of textbooks, library books, internet, etc.
5. Give the students time to research and write up the following information:
 - Inventor’s Name and inventor’s main invention(s)
 - Description of the invention(s)
 - Process of discovery / invention (how they came up with the invention)
 - Diagrams / pictures of the inventor and/or the inventions
 - Impact – An explanation of how this invention affects the way we live today.
6. Ask students to create posters / table displays of the information they have collected.
7. As an oral presentation, each group presents their poster / table display to the class.
8. Reflect on each group’s impact section, inviting the class to add to the discussion about how these inventions influence the way we live today.

Planet Exploration (Science and Technology)

This activity is designed to teach the students about the different features of each planet and their physical relation to one another within the solar system. It will use Marnie's "flight to space" as a jumping off point. The teacher will act in the role of Marnie who is going on a space trip and visiting each group's planet. Upon arriving to the planet the group will explain why their planet is unique and why Marnie should live there. This activity provides group work opportunities, research skill building and practice in report writing and oral presentation.

Activity:

1. Students will research their assigned planet and are to include the following items in a written report:
 - Planet's name
 - Planet's properties (Including: Climate, Size, Makeup, Gravity, Location within the Solar System etc.)
 - Discovery date
 - Scientist who first located the planet
 - Any interesting facts
 - Students will also come up with a slogan or jingle for their planet that they will present after reading the sections of their reports to the class. This slogan or jingle will be directed to Marnie and its purpose will be to try to convince Marnie that their planet is the best choice for her.
2. Place students into groups (one group for each of the 9 planets) or eight if you are not including Pluto.
3. Students are then given a work period to research their planet. Resources such as textbooks, articles, other books, encyclopedias and the internet will need to be provided during this work period.
4. On Day Two, the students will finish writing their report and have time to create / practice their slogan.
5. On Day Three, the students will be placed around the classroom in their solar system order (Use a yellow beach ball, or a sun created from Bristol board in the middle of the room to act as the center of the solar system).
6. The teacher, in their role as Marnie, will then get into her spaceship and travel to each planet. As she arrives at each planet each group listens as that planet takes turns reading their report information and presenting their slogan.
7. The teacher / Marnie continues around the room until all groups have presented.
8. Give each planet an award (i.e. 'Brightest Planet' – 'Coldest Planet' – 'Most Unique Planet' – 'Friendliest Planet' etc.)
9. Invite the students to orbit the sun moving around the Sun in the centre of the room in their planet order.



Energy and Sustainability **(Science and Technology)**

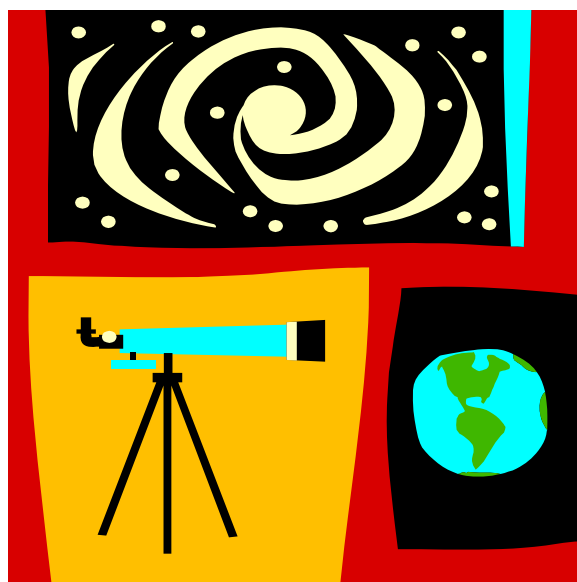
This activity fulfills the “Conservation and Sustainability of Energy” portion of the Grade 5 science curriculum. It is suggested that this activity follows the ‘Planet Exploration’ activity in order that students brainstorm ways that Marnie could sustain energy on any of the given planets. This activity will teach students about the different types of energy (renewable and non-renewable) and also different ways of storing energy, using energy, transmitting energy and conserving energy. By the end of this activity students will have a solid understanding of different forms of energy, and most importantly why energy sustainability is vital to our existence on the planet.

Materials:

Handout on energy and sustainability
Appendix A and Appendix B

Activity:

1. Begin by introducing the topic of Energy and Sustainability and linking it to ideas presented in the play. Ask questions such as:
 - Do you think there would be enough resources on any of these planets for Marnie to survive on them?
 - What things we need in our everyday life that Marnie wouldn't have in space?
2. Ask the class to list their daily activities. Then identify which activities involve energy of some sort, such as electricity, gas, etc. Record the students' suggestions on the board.
3. Ask students to imagine life without common sources of energy. What would they have to give up or do differently?
4. Divide the class into five equal groups. Each group will be assigned one of the topics: and corresponding questions in Appendix A
5. The groups will then find Appendix B—an “answer sheet” posted somewhere in the room and will collect the data from this sheet to answer their questions.
6. Students will then present their information to the class.



Appendix A — Energy and Sustainability—Assigned Questions **(Science and Technology)**

Group 1 – The age of new energy

- What are some of today’s new sources of energy?
- What are some examples of fossil fuels? Do we have a lot of fossil fuels? Do they create pollution?
- What are some examples of renewable energy? Can renewable energy be used up? Do renewable energy sources create pollution?

Group 2 – Earth is a spaceship

- How is the Earth like a spaceship?
- In the past, how did people view the Earth’s spaceship?
- How do people view the Earth’s spaceship today?

Group 3 – Sustainability

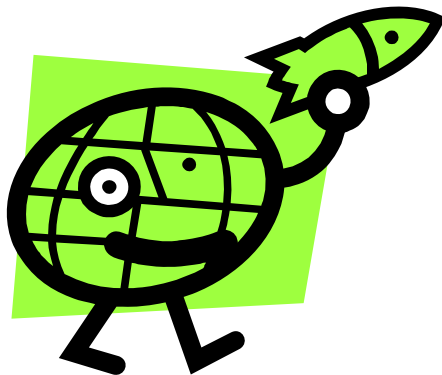
- What does “sustainability” mean?
- What will happen if we keep using non-renewable energy?
- Do you think renewable energy would be better than non-renewable energy for our planet? Why or why not?

Group 4 – Global warming

- How can the Earth and its atmosphere act like a greenhouse?
- What causes global warming?
- What can we do to stop or slow global warming?

Group 5 – New energy tools

- Why do we need energy?
- What is an example of a new energy tool being used today?
- What are some new sources of energy?



Appendix B — Energy and Sustainability—Answers **(Science and Technology)**

Group 1 – The age of new energy

- Today's new sources of energy include sunlight, wind and water: special shingles or panels that change sunshine into electricity (solar energy); huge towers with slow-turning propellers that change wind energy into electricity; free light and heat from the sun (passive solar energy).
- Coal, oil and natural gas are examples of fossil fuels. We have only a limited supply of them. Yes, they create pollution.
- Sunlight, wind and water are some examples of renewable energy. Renewable energy can not be used up. It does not create pollution.

Group 2 – Earth is a spaceship

- Like a spaceship, our planet carries a limited supply of air, fresh water, coal, oil and natural gas; we have to keep all of our trash and pollution with us.
- People once believed the Earth's resources would never run out.
- Many people have decided that we are treating the Earth's spaceship badly and that its resources will one day run out.

Group 3 – Sustainability

- Sustainability means that we make sure we meet our energy needs now without stopping people in the future from meeting theirs.
- If we keep using non-renewable energy, pollution will become a serious problem, and we will run out of energy.
- Yes, renewable energy would be better for the planet because it does not pollute and will not run out.

Group 4 – Global warming

- Light from the sun hits the Earth and changes into heat, which is trapped by the blanket of air surrounding the Earth. Light can pass through the atmosphere like the glass in a greenhouse, but heat cannot escape.
- Pollution in our atmosphere traps more of the sun's heat energy.
- We stop or slow global warming by changing the way we use energy: use less by efficiency; use renewable sources and stop burning fossil fuels.

Group 5 – New energy tools

- Energy helps us do things every day, like giving us light, warming our bodies and homes, cooking food, keeping food cold, running our TVs, cars and toys.
- Compact fluorescent light bulbs are an example of new energy tools being used today.
- Wind farms and solar panels (or wind and sunshine) are new sources of energy.



What Makes An Airplane Fly? (Science and Technology)

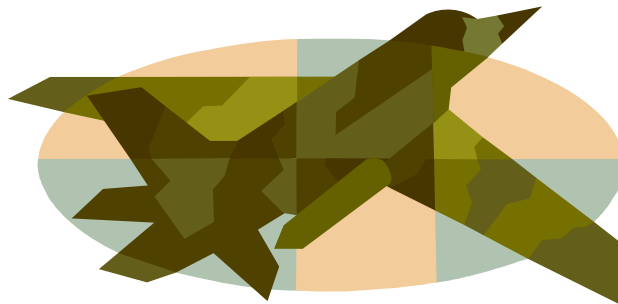
This activity covers the Aeronautics component of the Science and Technology curriculum. It also covers the 'Flight' component of the grade six curriculum. Using *The Remarkable Flight of Marnie McPhee* as a jumping off point engage the students in a discussion about flight. Students will then design and create their own airplane and test out their capacities to fly.

Materials:

- Paper (to create airplanes out of)
- Markers / Crayons / Pencil Crayons (for decorating their planes)
- Notes / Resources for teaching the properties of Aeronautics

Activity:

1. Introduce the topic of Aeronautics by asking questions about Marnie's flight in the play.
 - Do you think Marnie's flight would have been successful?
 - What do you think it takes to make a successful airplane?
 - How do things fly?
 - What makes a paper airplane fly?
2. Inform the students that they are going to be learning about Aeronautics and will make their own paper airplanes.
3. Begin with a note / handout about Aeronautics. A good resource for this is: www.allstar.fiu.edu/aero/
4. Show a diagram that outlines the properties of lift, thrust, drag and gravity. Define each and talk about their significance.
5. Invite students to create their paper airplanes.
6. Provide different airplane designs to choose from, having different groups make different shapes and sizes of planes. This will help to illustrate the different effects of size and shape on flight. A good resource for different styles of airplanes is a book called Paper Airplanes and Other Super Flyers written by Neil Francis. Paper airplane designs can also be found online.
7. Have the students race different styles of planes.
8. Ask the students to reflect on the following questions:
 - Did my plane fly well?
 - How far did it go?
 - What could I do to make my plane fly farther?
 - How does my airplane relate to the properties of Aeronautics that I learned today?



Marnie's Space Obstacle Course

(Healthy Living and Physical Education)

Materials:

- Gym equipment
- Gymnastics mats
- Skipping ropes
- Anything that could be a part of the obstacle course

Activity:

1. In groups, students will create a space-like obstacle course for the rest of the class to complete. This obstacle course must include the following elements...
 - Completing a certain area of the obstacle course in slow motion (space)
 - Going over and under a large or small object
 - Doing 10 jumping jacks, 5 push ups, 5 log rolls
 - Three additional creative activities that have to do with being in outer space!
2. Students will complete each obstacle course as a relay in the team they built their own course with. Students will experience team work while exploring different movements.

Packing a Healthy Snack

(Healthy Living and Physical Education)

Each student is responsible for packing a lunch to go to outer space with Marnie.

Activity:

1. Chose five healthy items that you would include in your lunch.
2. Write a paragraph explaining...
 - Why you chose each item
 - What the nutritional information is for each item
 - The cost of each item
3. Each student will present their lunch along with their explanation to the class.
4. The teacher can combine all the different snacks into a "Healthy Snack" menu for students to take home.



SAMPLE ASSESSMENT TOOLS

“I am From” Poem (Dramatic Arts and Language Arts)

“I Am From...” Poem Presentation

Name: _____

Content (clarity of ideas, details)	/5
Presentation Skills (eye contact, expression, clarity)	/5
Creativity (a wide variety of statements)	/5
Total	/15

Comments:

Historic Inventors (Science and Technology)

Student Name: _____

Group Mark:

Poster / Table Display Included all 6 required elements

1 2 3 4 5 6

‘Impact’ section of the poster was effective and thoughtful

1 2 3 4 5 6

Individual Mark:

Oral presentation was clear, volume was appropriate, eye contact was made, pace was good.

1 2 3 4 5 6

Comments: **Total** /18

SAMPLE ASSESSMENT TOOL

Writing in Role

(Language Arts, Drama, and Music)

Criteria	Level 1	Level 2	Level 3	Level 4
1. Understands the issues from the perspective of the character.	Student has limited understanding of the character's issues & perspectives.	Student has some understanding of the character's issues and perspectives.	Student has considerable understanding of the character's issues and perspectives.	Student has a clear & strong understanding of the character's issues and perspectives.
2. Demonstrates commitment to and belief in the role.	Student has displayed limited commitment & portrayed limited belief in the role.	Student has displayed some commitment & portrayed some belief in the role.	Student has displayed considerable commitment & portrayed a considerable belief in the role.	Student has displayed a clear & strong commitment & portrayed an accurate belief in the role.
3. Incorporates details from the play.	Student has displayed limited reference & detail from the play.	Student has displayed some reference & detail from the play.	Student has displayed considerable reference & detail from the play.	Student has displayed several reference & detail from the play.
4. Communicates effectively .	Student has displayed a limited effort to organize written thoughts so that communication lacks coherence.	Student has displayed some attempt to organize written thoughts so that communication is somewhat coherent.	Student has displayed a considerable effort to organize written thoughts so that communication is mostly coherent.	Student has displayed a great effort to organize written thoughts so that communication is consistently clear & coherent.