



CBHC Grade One Aviation Program



INTRODUCTION

At the Canadian Bushplane Heritage Centre we are passionate about our Northern Ontario heritage. We are also very excited about educating the public on our many historical aircraft exhibits as well as forests and forest firefighting exhibits. Our Education Program will allow you to engage your students and give them a personalized, relevant and exciting new take on the curriculum.

Our program is developed with teachers in mind and will allow you to build on curriculum expectations before and after the tour that all tie into the materials presented in the tour. We would love to partner with you to allow your students to discover and learn about their Northern Ontario heritage and the exciting life as a bushplane pilot or forest fire fighter. Our tour guides are retired educators, MNR workers and/or pilots who love working with kids and students. Our experts make the experience one you and your students will never forget!

Our Grade One Tour Program focuses on the mathematics curriculum. We look at the bushplane and how it is designed focusing on symmetry, shapes, counting and nonstandard units of measurement. Students will have a chance to climb inside, play, touch and even “fly” with their classmates in an old Saunders passenger aircraft. Students will also discover how bushplanes help fight forest fires and will get a chance to climb a fire tower to put out a forest fire on their own. We will ignite your student’s imaginations and interest. Your class will learn quickly that adventure takes off at the Canadian Bushplane Heritage Centre!

For more information and preparation lessons please visit us at:
www.bushplane.com/education/lessons/gradeone

You may also speak to someone for more information or to book your school tour at
Toll Free: 1-877-287-4752
Local: 705-945-6242

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OVERVIEW OF CURRICULUM EXPECTATIONS

The following is a list of expectations from the grade one curriculum that will be met by following the Canadian Bushplane Heritage Centre Grade One Tour Program.

Big Idea:

Number Sense and Numeration

Overall Expectation:

Demonstrate an understanding of magnitude by counting forward to 100 and backwards from 20.

Specific Expectation:

Count backwards by 1's from 20 and any number less than 20 with and without the use of concrete materials and number lines.

How:

During the tour we will discuss water-bombers and count backwards from fifteen to zero which is the time it takes to fill the on board tanks with water.

Big Idea:

Measurement

Overall Expectation:

Estimate, measure and describe length, area, mass, capacity, time and temperature, using non-standard units of the same size.

Compare, describe and order objects, using attributes measured in non-standard units.

Specific Expectation:

Compare two or three objects using measurable attributes and describe the objects using relative terms.

Compare and order objects by their linear measurements, using the same non-standard unit.

Name the months of the year in order and read the date on a calendar.

Relate temperature to experiences of the seasons.

Demonstrate an understanding of the use of non-standard units of the same size for measuring.

Estimate, measure and record lengths, heights and distances.

Construct, using a variety of strategies, tools for measuring lengths, heights and distances in non-standard units.

How:

Students will discover that the longer the wings are, the bigger and heavier the aircraft is through measuring the wing span by using their own arm span.

Students will order aircraft from largest to smallest by wingspan.

Students will discuss the first flight on Canadian soil, which occurred in February the coldest month of the year where they had to take off on a frozen lake.

Students will use non standard units of measure (their arms span) to measure the wingspan of various aircraft and record their results.

Students will understand this is an estimation not an actual measurement because we are not using a standard measuring tool.

Big Idea:
Geometry and Spatial Sense

Overall Expectation:

Identify common two-dimensional shapes and three-dimensional figures and sort and classify them by their attributes.

Compose and decompose common two-dimensional shapes and three-dimensional figures.

Describe the relative locations of objects using positional language.

Specific Expectation:

Identify and describe common two dimensional shapes and sort and classify them by their attributes.

Using concrete materials and pictorial representations.

Describe similarities and differences between an everyday object and a three dimensional figure.

Locate shapes in the environment that have symmetry and describe the symmetry.

Identify and describe shapes within other shapes.

How:

Students will be looking at aircraft and the different shapes contained in them.

During tour students will look at symmetry of an aircraft and other shapes and this will help them take measurements, as some aircraft will only be measured through spanning half the aircraft.

Big Idea:
Data Management and Probability

Overall Expectation:

Collect and organize categorical primary data and display the data using concrete graphs and pictographs without regard to the order of labels on the horizontal axis.

Read and describe primary data presented in concrete graphs and pictographs.

Describe the likelihood that every day events will happen.

Specific Expectation:

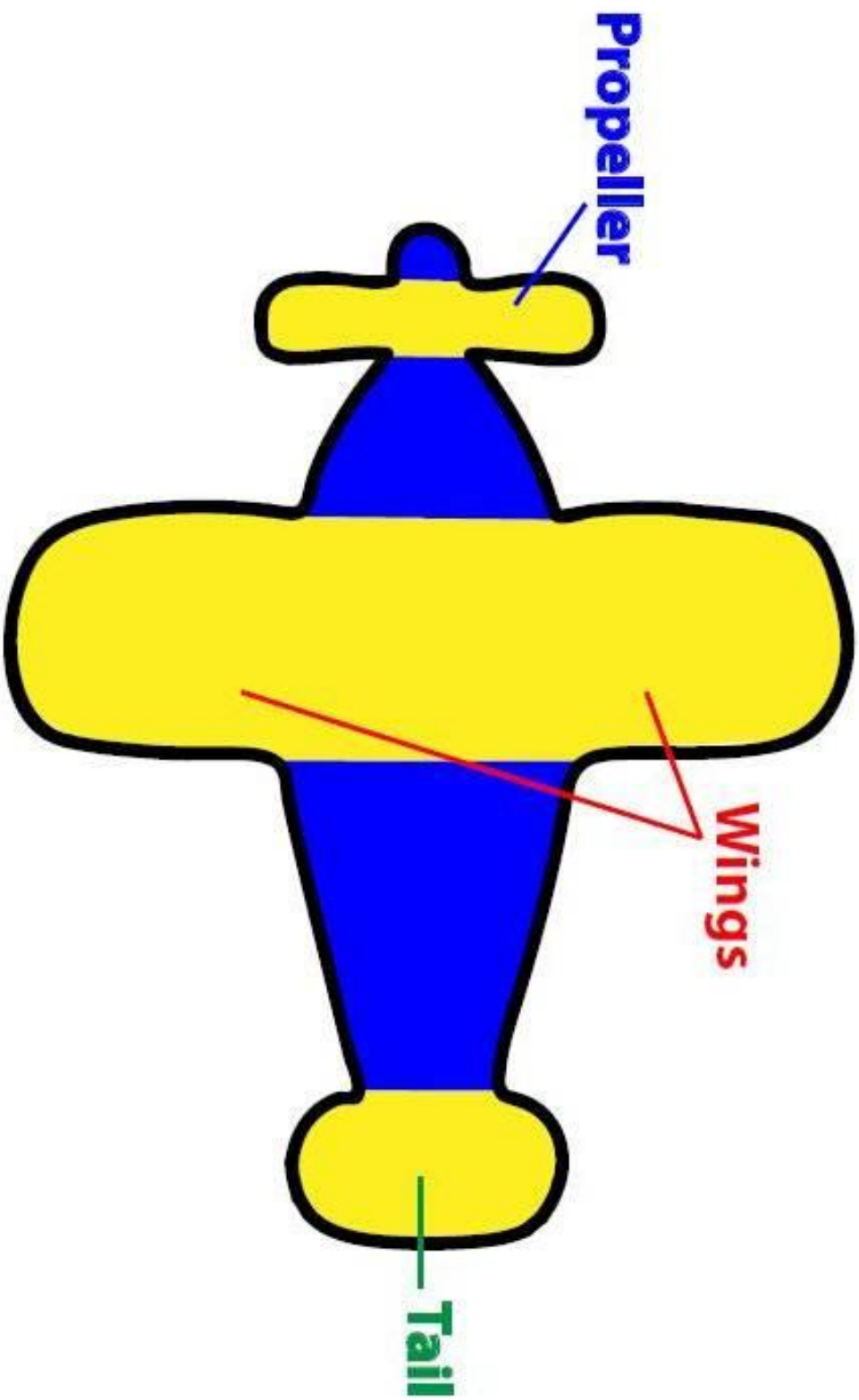
Demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute and by describing informal sorting experiences.

Collect and organize primary data that is categorical and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs and a variety of recording methods.

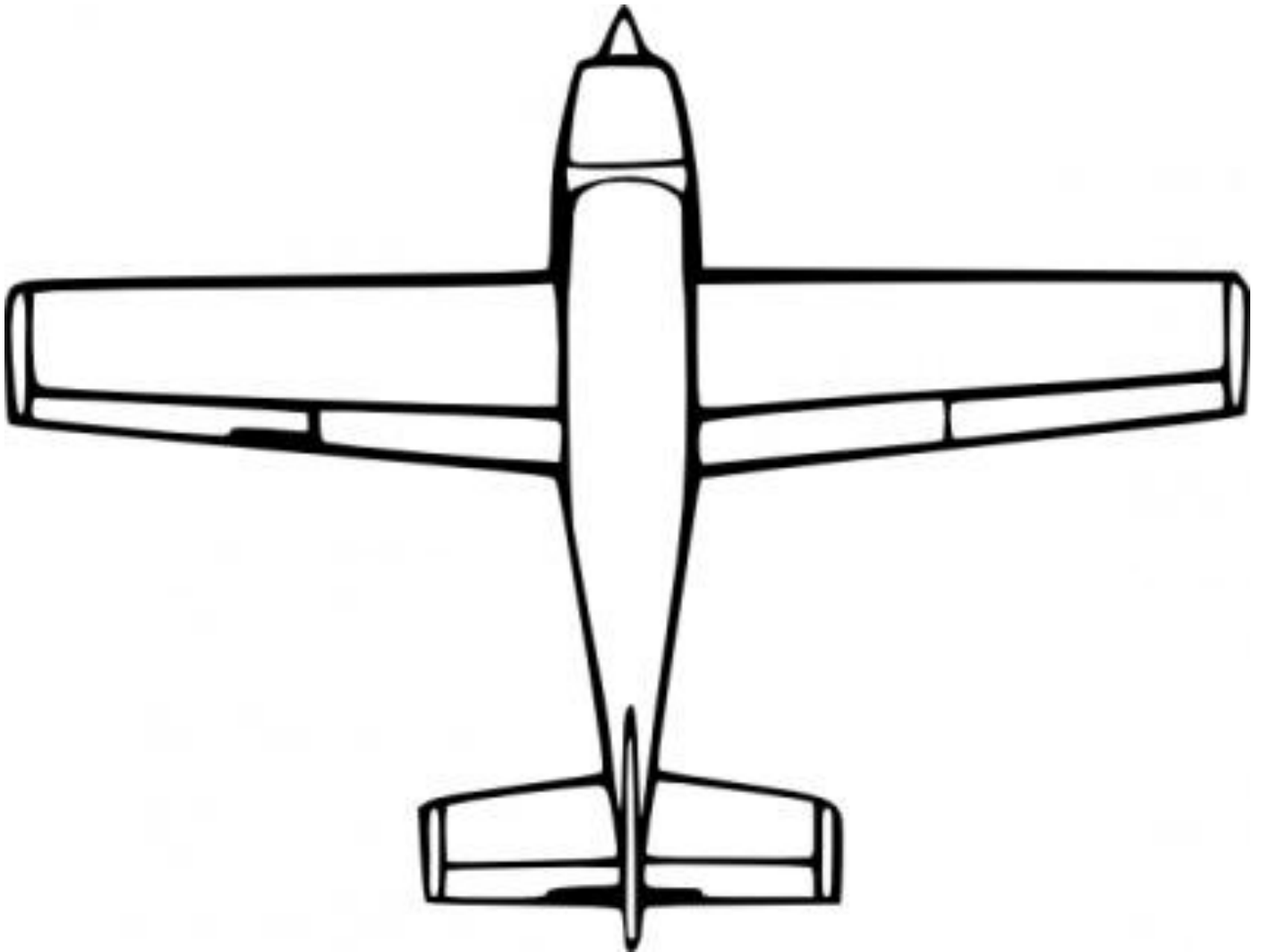
How:

During tour students will sort aircraft in various categories, biggest to smallest, which can dispense the most amount of water etc.

AIRPLANE PARTS



Aircraft Shapes Diagram



GRADE ONE LESSONS

Associated lessons are encouraged before and after the field trip. Many students may not have been to a museum and it is helpful to establish the rules of the Canadian Bushplane Heritage Centre as well as get them excited to come and experience all the fun adventures they are about to have. The following activities are all optional; our tours are developed to be stand-alone and pre or post lessons are not required to experience a field trip at the Canadian Bushplane Heritage Centre.

You can use one lesson or a combination of lessons to aid your students in their experience. All the instructions for the activities are supplied and most of the suggested books may be lent out through our own library for up to one week. Some books are also noted to be in the Public Library for teachers to take out for longer periods of time.

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Lesson 1

Students Will Discover:

- What a museum is
- What types of museums there are
- How to act and behave on a field trip
- Discuss the field trip to the Canadian Bushplane Heritage Centre to the students
- What types of questions do we want to ask on our field trip

Materials:

- Children's Book on museums (see suggested reading)

Circle Time:

- Ask the students what they know about museums. Have they ever been to one? What did it have in it? Was it fun to visit?
- Read the book: *Franklin's Class Trip* by Paulette Bourgeois & Brenda Clark (Clark's bright illustrations capture the expressions of Franklin and his friends as they explore the museum-from their joy when dressing up as knights in the medieval room to their fear of the dinosaur exhibit. This book will make a good read-aloud, both one-on-one and in a story time setting. Children who have been to museums will see plenty of familiar things and those who haven't may find themselves eager to take a trip to see the dinosaurs and more.) Or read other book about visiting a museum (see suggested reading).
- Have students discuss the book and what kind of museums would they like to see, dinosaur, animal, aircraft, etc.
- Let the group know that they will be going to the Canadian Bushplane Heritage Centre soon. Ask the class who has been to the Canadian Bushplane Heritage Centre? Who likes air planes?
- Discuss what you will be doing at the Canadian Bushplane Heritage Centre.
- Students will be able to:
 - Touch aircraft.
 - Go inside aircraft.
 - Sit in the driver seats of the aircraft.
 - Look at symmetry in aircraft, measure aircraft, compare and order smaller aircraft to larger aircraft.
- Ask the class to brainstorm a set of standards of conduct for the trip (no running, wandering off, touching things you are told not to) and reasons why we shouldn't do these things.
- Discuss appropriate clothing to wear for the trip (if in the winter students are asked to bring their jackets and potentially mitts and hats as it can become quite cold in the hangar).
- Discuss with students: what are some good questions they might want to ask about aircraft and write them down as a class have them try to remember to ask those questions during the trip.

Lesson 2

Students Will Discover:

- Information about aircraft, including what they are and how they are used.
- What a biography and autobiography is.

Materials:

- Aircraft Diagram
- Book: Young Amelia Earhart: A Dream to Fly

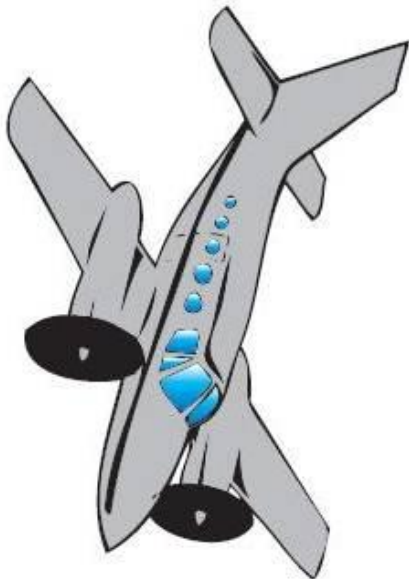
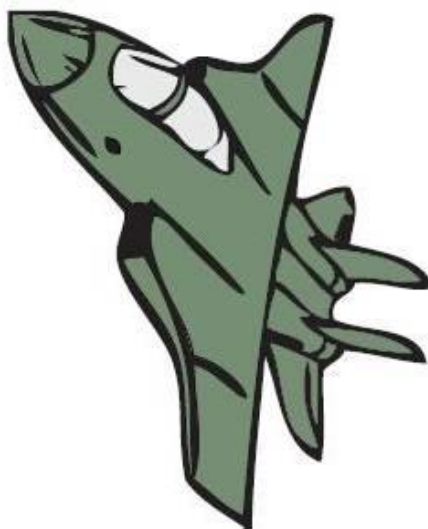
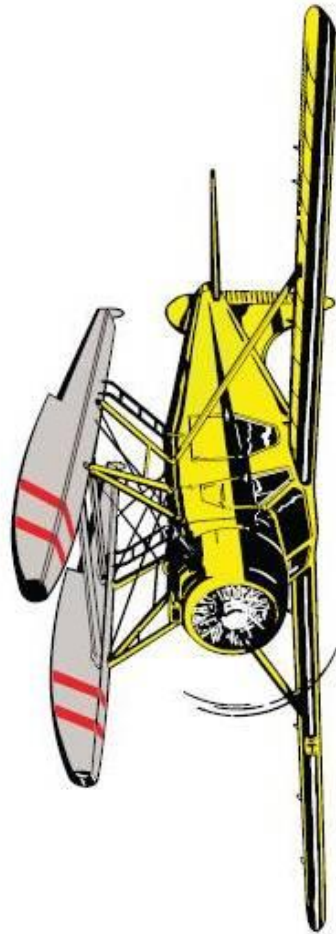
Circle Time:

- Explain to the children that the airplane was designed long ago by people who experimented with the idea of flying.
- What is a plane? Who has been on a plane? Where did you go on a plane? Why did you take a plane rather than drive there?
- Tell them about different types of aircraft using Aircraft Diagram to help describe some different types. Military aircraft and helicopters protect the people, the cargo aircraft and crop dusters help us work, bushplanes protect our forests, gliders and hot air balloons help us have fun and jet aircraft help us travel. All of these aircraft have different shapes
- Introduce the new words, "biography" and "autobiography" and explain what they are. A biography is a true story written about a person's life and an autobiography is the same but written by that person.
- Read the book, Young Amelia Earhart: A Dream to Fly, by Sarah Alcott and James Anton. (Amelia Earhart's story is a wonderful way to start presenting biographies to young children because both boys and girls will identify with her adventurous spirit and airplanes are fun!)
- Discuss Amelia's qualities and how her dedication to learn everything she could about aircraft was instrumental in making her the most admired woman pilot in the world.

Activity:

- Have students write their own short biography of a person they know or someone famous or an autobiography. Tell them they need to include information such as name, description of appearance, likes, dislikes, schooling, family members, and some significant events in their life etc.

AIRPLANES



Lesson 3

Students Will Discover:

- Symmetry in shapes
- Symmetry in objects around them
- Symmetry in aircraft

Materials:

- Shape Symmetry Diagram
- Shape Symmetry Worksheet

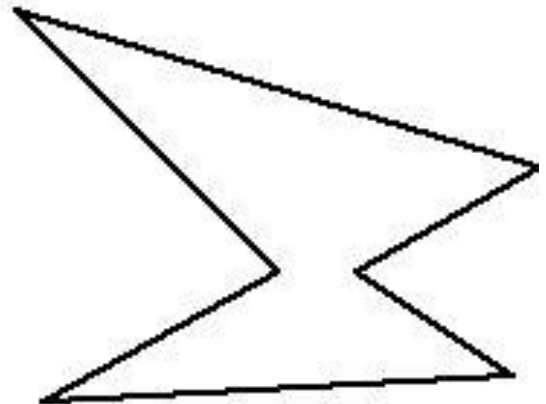
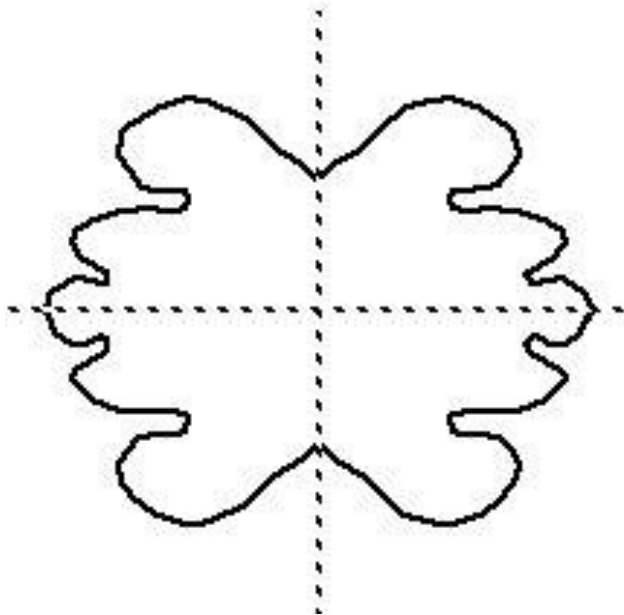
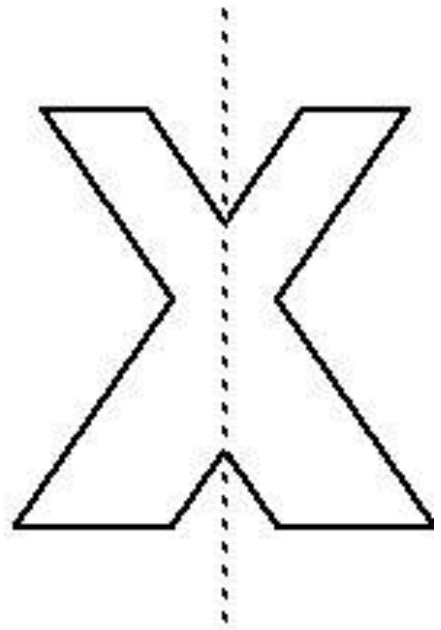
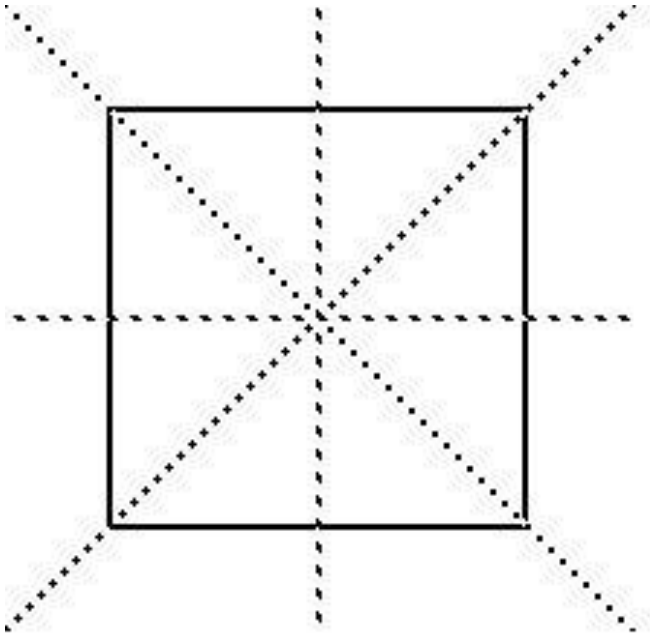
Circle Time:

- Show students Shape Symmetry Diagram.
- Explain symmetry and show examples using diagram.
- Show different classroom object and discuss symmetry rotating them around and asking where there is symmetry and where there is not symmetry.
- Demonstrate activity to students before beginning. Draw a shape on the blackboard and draw the lines of symmetry on the shape. Explain to students that there can be more than one line of symmetry in a shape.

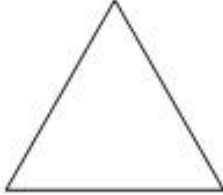
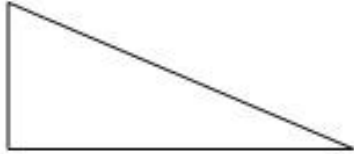
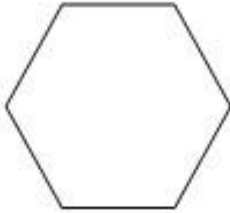
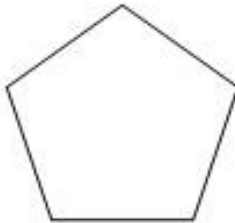
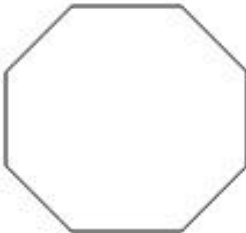
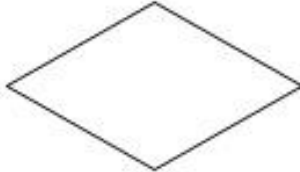

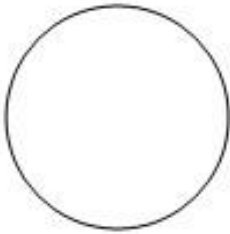
Activity:

- Students will find the lines of symmetry in different shapes and record how many different lines of symmetry they can find.

Shape Symmetry Diagram



Shape Symmetry Worksheet

Shape	Number of Lines of Symmetry	Shape	Number of Lines of Symmetry
1. Name _____ 		2. Name _____ 	
3. Name _____ 		4. Name _____ 	
5. Name _____ 		6. Name _____ 	
7. Name _____ 		8. Name _____ 	

Suggested Reading:

Young Amelia Earhart: A Dream to Fly.

Sarah Alcott and James Anton, Troll Communications, 1992.

- ❖ Amelia Earhart grew up in a time when girls were not treated the same as boys. But through her courage, persistence and her dream to fly, she became the greatest woman pilot in the world. Amelia Earhart's story is a wonderful way to start presenting biographies to young children because both boys and girls will identify with her adventurous spirit and planes are fun!

A Day at the Airport

Richard Scarry, Random House, 2001.

- ❖ Sally, Huckle and Lowly are supposed to go sailing with Huckle and Sally's father, but it starts to rain. Father says they will have to stay inside and play, but their friend Rudolf von Flugel saves the day when he picks the kids up in his plane-car and whisks them off to the airport for a fun day of sightseeing. Full of airport fun and "Scarry" mishaps.

All Aboard Planes

Frank Evans and George Guzzi,

- ❖ Welcome aboard! From crop dusters to state-of-the-art military fighters, it's all here, complete with easy-to-read text and clear, colourful pictures that explain the uses and features of the aircraft. Clever illustrations highlight this book filled with interesting facts about many types of fascinating flying machines.

Franklin's Class Trip

Paulette Bourgeois & Brenda Clark, Kids Can Press, 1999.

- ❖ This time, Franklin is going to a museum with his classmates. He can't wait to go, until he hears from Beaver that, "There are real dinosaurs inside." Terrified, Franklin and his friend Snail worry throughout the entire visit, until they find themselves face to face with a Tyrannosaurus Rex and learn that all that's left of the dinosaurs are their bones. This book will make a good read-aloud in a story time setting. Children who have been to museums will see plenty of familiar things and those who haven't may find themselves eager to take a trip to a museum.

Maisy Goes to the Museum

Lucy Cousins, Candlewick Press, 2008.

- ❖ Maisy Goes to the Museum is fun and informative. Children are apprehensive of new experiences. Maisy Goes to the Museum gives children a glimpse of the types of exhibits and activities in the big building adults call a museum. The story book helps to alleviate their fears of the unknown.

How to take your Grandmother to the Museum

Lois Wyse, Molly Rose Goldman, Marie-Louise Gay, Workman Publishing in Association with the American Museum of Natural History, 1998.

- ❖ The narrator takes her grandmother through a natural history museum while acting as a knowledgeable guide. At pauses in front of dinosaurs, animal dioramas, the Hall of Ocean Life, a meteorite and other exhibits, the girl provides facts while the grandmother is appropriately impressed and unhurried. A friendly introduction to natural-history museums.

The Fantastic Flight of the Silver Dart

Linda Brand, Canada Aviation Museum, 2009.

- ❖ The Fantastic Flight of the Silver Dart tells the story of the Aerial Experiment Association (A.E.A) founded by Alexander Graham Bell and his wife, Mabel Bell. Through a lyrical poem, the author takes the readers along with a friendly little mouse and teaches them about experiments leading to the creation of the aircraft that achieved the first powered flight in Canada, the Silver Dart.