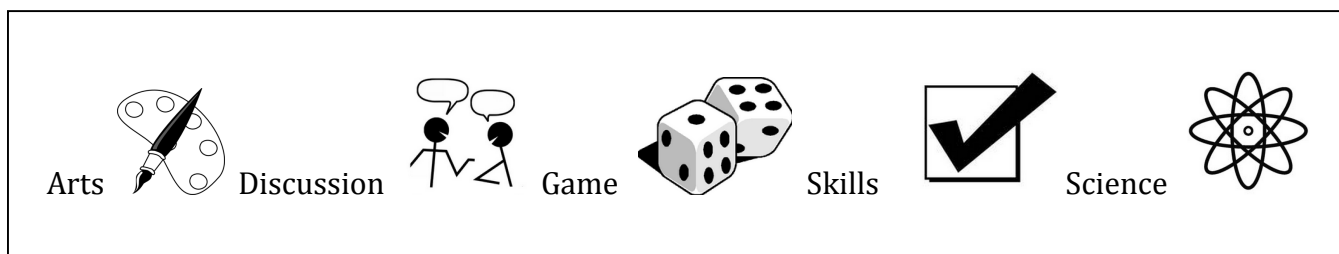


# Meeting-in-a-Box: Space Night

*This meeting is aimed at **Sparks and Brownies** and covers most of the **Exploring Space** badge, the **Reach for the Stars** portion of the **Key to STEM** and part of the **Exploring and Experimenting** Keeper. There are enough elements for about three hours' worth of activities, but you can pick and choose or run more than one meeting with this theme.*



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## Supplies

- 1 batch of black playdough
- Sparkles
- Space-themed cookie cutters or shapes
- Sharpie
- 1 ziplock/girl
- Shoe boxes or Kleenex boxes
- Paper towel rolls
- Decorating supplies (paint, paper, glue, pipe cleaners, etc.)
- Large piece of poster paper (or many small ones)
- A basket ball
- A hula hoop
- A stress ball
- A tennis ball
- A golf ball
- A volley ball
- A ping pong ball
- A beach ball
- A soccer ball
- A piece of paper folded into a fan
- Freeze-dried ice cream
- Markers
- Toilet paper rolls
- Black construction paper
- Push-pins
- Styrofoam plates
- Your favourite space-themed book
- White paper

### Activity 1: Intro

(10 minutes)



Start by asking questions:

- Do you know what planet we live on? Do you know the names of any planets?
- Do you know which one the blue planet is? The red one? The main one with rings?
- What do you call people who travel in space? (Astronauts, Cosmonauts, Taikonauts or Spacionauts depending on their country of origin)
- Have you ever looked at the night sky? What did you see? Do you know what a constellation is?
- If you could travel in space, where would you go?
- Do you think it would be exciting? Dangerous? Fun? Lonely?

## Activity 2: Action Game

(15 minutes)



Have all the girls line up against one wall. Tell them that you are going to say different words and that they have to do the corresponding actions. You can practise for a while (adding more actions as the girls learn them) and then eliminate the slowest girl each turn so that you end up with a winner if you like.

Words:

- **Star:** Spread your arms and legs like in a jumping jack
- **Rocket:** Make a rocket ship shape with your arms above your head
- **Astronomer:** Hold your hands out in front of you like a telescope
- **Saturn:** Find another girl and have one make rings with her arms around the other
- **North:** Run to one side of the room designated as north
- **Alien attack:** Huddle up in a little ball with your arms around your head
- **Space Station:** All the girls run to the center of the room and make a “structure” together



## Activity 3: Galaxy Playdough

(25 minutes)

Make this playdough ahead of time and give the girls sparkles, star-shaped cookie cutters, etc. to mould it however they like. Write each girl's name on a ziplock and put her creation inside to send it home.

2 cups plain flour

2 cups water mixed with black and blue food colouring (as much as you can get)

1 Tbsp. cooking oil

1 Tbsp. cream of tartar

1 cup salt



- Mix liquid ingredients in a large saucepan.
- Begin to heat liquids.
- In a separate bowl, mix dry ingredients.
- Add to the heating liquids.
- Stir until the dough gathers and thickens.
- Cook until it develops a sheen.
- Let it cool slightly and then knead to the proper consistency. Store in plastic container.

<http://www.instructables.com/id/Galaxy-Playdough/>



#### **Activity 4: Space Story**

(20 minutes)

Read the girls one of these stories about space. Have them act out or draw a picture of their favourite scene.

If You Decide to Go to the Moon, by Faith McNulty

Welcome to Alien School, by Caryl Hart

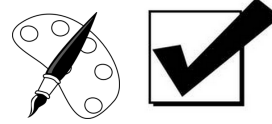
I Want to be an Astronaut, by Bryon Barton

Astronaut Handbook, by Meghan McCarthy

The Magic Schoolbus: Lost in the Solar System, by Joanna Cole

## Activity 5: Build your Own Space Station

(35 minutes)



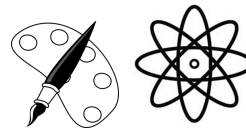
Do the girls know what there are people living in space right now? You can visit <http://howmanypeopleareinspace.com> for the answer. There have been many space stations over the years, but the most popular one right now is the International Space Station (ISS). Astronauts from many countries around the world (mainly Americans and Russians) live, eat, sleep, bathe and do science from a set of interconnected modules that altogether are about the size of a football field. The pieces were put together using American space shuttles, and Canada's greatest contribution is the Canadarm 2.

Show the girls some pictures (Appendix 1) and split them into small teams. Each team (representing a country) should get a shoe box or a Kleenex box that they can decorate however they like. They can use paint, glue, pipe cleaners, construction paper, etc. Once all the modules are done, you can connect them with paper towel rolls and show off your very own space station.

\* Alternatively, if you're feeling really ambitious, you could make a kid-sized space station out of refrigerator boxes.

## Activity 7: Constellation Telescopes

(25 minutes)



Give each girl a toilet paper roll and have her decorate it. Once she is done, have her cut out (or pre-cut them) pieces of black construction paper that are slightly larger than the opening. By placing the paper on a styrofoam plate, girls should be able to easily poke holes through it using a pushpin. They can try to replicate known constellations or create their own.

Once they are done, by pointing their telescope at a light and holding the paper in front of it, they should see the constellations appear. Alternatively, you can turn off all the lights, hold a flashlight inside the tube and see them projected onto a wall.

You will find some common constellations in Appendix 2. They are from <http://scleratusclassicalacademy.blogspot.ca/2012/11/homeschooling-as-decorating-choice-part.html>

## Activity 8: Space Food

(10 minutes)



Ask the girls what they think astronauts eat in space. While you pass out pieces of freeze-dried ice cream (available many places online as well as museum gift shops and MEC), tell them some cool facts about eating in space.

- Astronauts eat freeze-dried food because it stays good for longer outside a fridge and it is lighter to pack than most typical food.
- Even though astronauts may eat together, they don't all eat the same thing. They each have an individualized menu they chose with a dietician before they left Earth.
- The only food astronauts don't eat is bread. It makes too many crumbs that end up floating all over the place.
- Astronauts don't eat at a table. Since there is nothing to keep them sitting on a chair, they simply eat floating around.
- They have to drink out of a straw, otherwise their beverages would make a mess by floating around them.
- Astronauts love eating m&m's because they can make a game out of chasing them around and trying to catch them with their mouths.
- Although astronauts take freeze-dried food into space, they rehydrate it before eating it.
- If they want to heat their food, they simply add warm water when rehydrating it.
- A portion of the water they drink is recycled from urine, moisture in the air and other "dirty water."
- A special Coke dispenser was once sent up in a space shuttle to experiment with drinking carbonated beverages in space.
- Astronauts season their food with salty and peppery water because normal salt and pepper grains would simply float around.
- Astronauts lose most of their sense of taste in space because they end up stuffed up due to mucus floating up in their noses.

## Activity 9: Space Alphabet Poster

(20 minutes)



Write the letters of the alphabet out on a large piece of paper. Have the girls try to come up with something that has to do with space that starts with each letter. Complete your space alphabet with words and pictures as a group.

If you can't think of any words for some of the letters, there are some ideas in Appendix 3.

## Activity 10: Sing the Martian Song

(5 minutes)

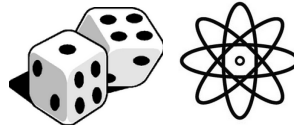


You can find someone who knows the tune or make up your own!

Once I met a Martian,  
Who comes from Mars,  
He ate all my M&Ms,  
And my chocolate bars.  
He banged on my tambourine,  
And played on my kazoo,  
And then he showed me somethin',  
He did the hula-hu.  
A hula, hula, hula, hu,  
ka tang, ka tang, ka tang,  
A glippity, gloppity, glippity, gloo,  
A hula, hula, hu.  
So if you meet a Martian,  
Who comes from Mars,  
Let him eat your M&Ms,  
And your chocolate bars.  
Let him bang your tambourine,  
And buzz on your kazoo,  
And maybe if you're lucky,  
He'll do the hula-hu.  
A hula, hula, hula, hu,  
ka tang, ka tang, ka tang,  
A glippity, gloppity, glippity, gloo,  
A hula, hula, hu.

## Activity 6: Solar System Game

(15 minutes)



Divide the girls into two teams and explain that they will be travelling around the Solar System in order to visit all the planets. They must stop at each one, complete the required action and return to their team before the next person may begin. The first team to have all its astronauts return to the starting line wins (See Appendix 3 for diagram). If the girls are having trouble remembering what they have to do on each planet, you can make it more of a follow the leader activity and do it everyone together.

Mercury (ping pong ball): As Mercury is the smallest planet, they must jump over it.

Venus (tennis ball): As Venus is the hottest planet, they must fan themselves on it.

Earth (volley ball): Since we live on Earth, they must wave to it.

Mars (golf ball): As Mars is NASA's next destination, they should act out a rocket landing on it.

Jupiter (beach ball): As Jupiter is the largest planet, they must travel all the way around it.

Saturn (hula hoop): As Saturn is the planet best known for its rings, they must hula hoop on it.

Uranus (soccer ball): As Uranus rotates on its side, the girls should drop to the floor and roll to the next planet.

Neptune (basketball): Since Neptune is the coldest planet, the girls must shiver on it.

Pluto (stress ball): Since Pluto is no longer a planet, the girls get to stomp on it.

## Activity 11: Invent Your Alien

(15 minutes)



Split the girls into teams of three and give them each a piece of paper folded in 3. Have the first girl on each team draw an alien head on the first third of the paper before flipping it over and giving to the next girl, who will draw the body. Once she is done, she will flip it once more and give it to the third girl, who will draw the legs and feet. Once all three girls are done, they can unfold their creations and admire their aliens.

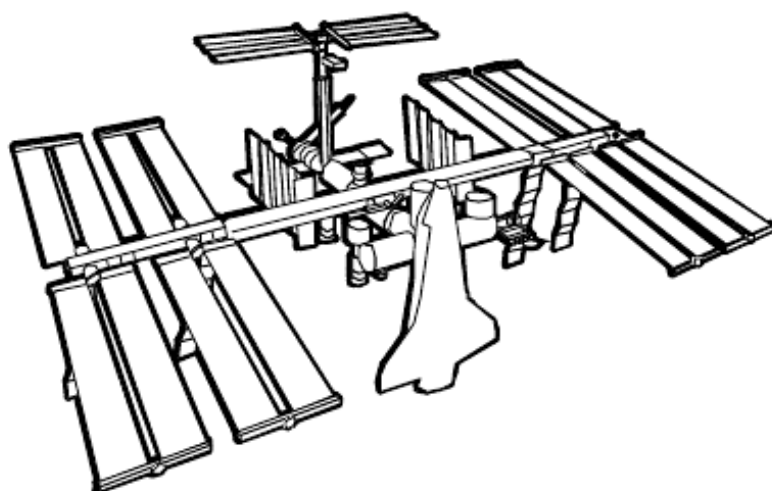


## Program work completed

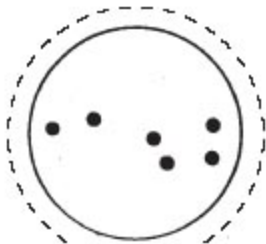
<b>Activity</b>	<b>Spark Program Work Completed</b>	<b>Brownie Program Work Completed</b>
Introduction		Reach for the Stars
Action Game	Exploring and Experimenting 5 Being Healthy 8	Reach for the Stars D Exploring Space
Galaxy Playdough	Exploring and Experimenting 1	Super Crafts All about Arts
Space Story	Exploring and Experimenting 4	People in Science B Reach for the Stars C Reach for the Stars E Exploring Space
Build Your Own Space Station	Exploring and Experimenting 5	Exploring Space Reduce! Recycle! Reuse! D Terrific Trash Super Crafts
Constellation Telescopes	Exploring and Experimenting 5	Reach for the Stars A Reduce! Recycle! Reuse! D Terrific Trash Super Crafts
Space Food	Being Healthy 8	
Space Poster Alphabet	Exploring and Experimenting 5	
Martian Song		Sing and Shout
Solar System Game	Exploring and Experimenting 5 Being Healthy 8	Reach for the Stars D Exploring Space
Invent Your Alien		

*Meeting Submitted by Elizabeth Knowles from the 85<sup>th</sup> Montreal Guides in September 2014*

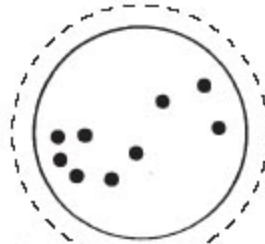
## Appendix 1: International Space Station



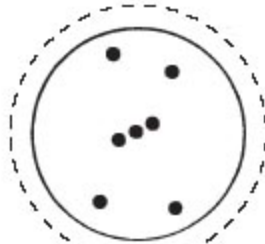
## Appendix 1: Constellations



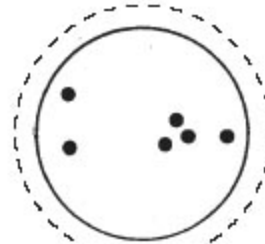
URSA MAJOR,  
the Great Bear



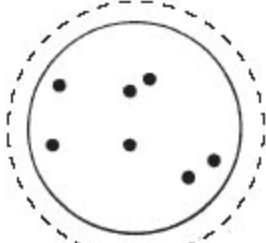
SCORPIUS,  
the Scorpion



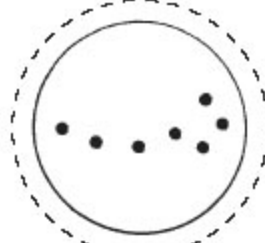
ORION,  
the Hunter



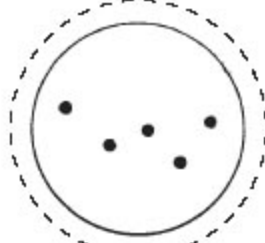
TAURUS,  
the Bull



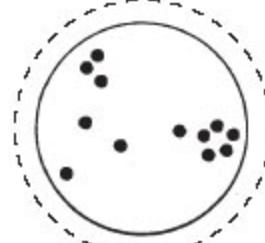
PEGASUS,  
the Flying Horse



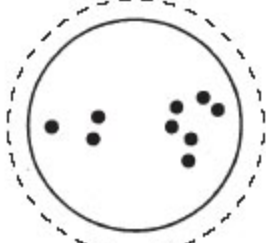
URSA MINOR,  
the Little Bear



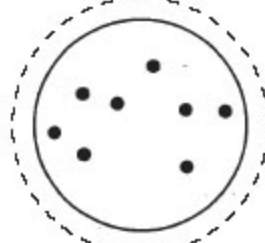
CASSIOPEIA,  
the Queen



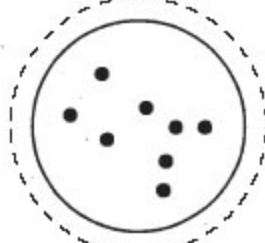
PISCES,  
the Fishes



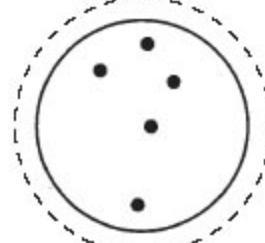
LEO,  
the Lion



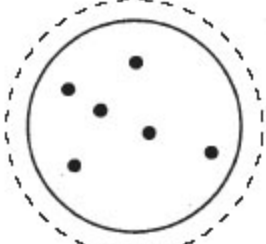
SAGITTARIUS,  
the Archer



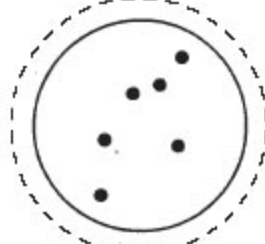
GEMINI,  
the Twins



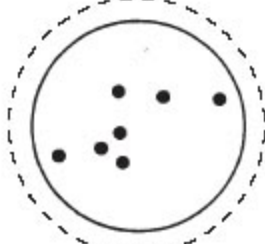
BOOTES,  
the Herdsman



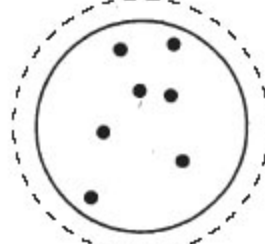
CYGNUS,  
the Swan



PERSEUS



CANIS MAJOR,  
the Big Dog



HERCULES

## Appendix 2: Space Alphabet Ideas

Alien, Astronaut  
Black Hole  
Constellation, Comet  
Day, Dark  
Earth  
Fly  
Galaxy  
Hot  
Ice  
Jupiter  
Kuiper Belt  
Lunar Module, Landing  
Mars, Mercury, Moon  
Night, Neptune  
Orbit  
Pluto, Parachute, Probe  
Quest  
Rocket, Ring, Robot  
Sun, Shuttle  
Telescope  
Uranus, UFO, Universe  
Venus, Voyager  
Wonders  
X-traterrestrial  
Yellow Supergiant  
Zodiac, Zoom!



### Appendix 3: Solar System Game Diagram

