

# FORENSIC FUN (CSI CHALLENGE)

The CSI Challenge is designed to introduce forensic science to girls and Guiders. There are a wide variety of activities available in the CSI Challenge booklet, so if you want to change up an activity, please check it out for ideas. We have only selected a few for this article. If you think your girls would be interested in doing more forensic science, there are several activities in the booklet including the plan for an entire mystery to be solved (great for a sleepover or camp). Doing all the activities in this Instant Meeting will earn Sparks, Brownies, Guides & Pathfinders the CSI Challenge crest.

### **Meeting Plan**

- S,B: Gathering, Patrols (5-10 min)
- All: Opening (5-10 min)
- All: Opening Discussion (5-10 min)
- All: Fingerprint Art Bookmark (15 min)
- All: What's That? Round Robin (24-30 min)
  - What's that Noise?
  - What's that Smell?
  - What's that Texture?
- S: Closing (5 min)
- B,G,P: Fingerprints (20 min)
- B: Closing (5-10 min)
- G,P: Guest Speaker (20 min)
- G, P: Girl-led Active Campfire (15-20 min)
- G,P: Closing (5-10 min)

### What's that Noise?

#### Supplies:

 A variety (10—15) of common items that make noise or a recording of common sounds (examples: telephone, mixer, bell, computer keyboard, stapler, party noise maker, crinkling plastic, keys)





### Gathering

Have copies of the Super Sleuth Maze (found on page 7 of the CSI challenge booklet) available for the girls to try and complete when arriving at the meeting. You can also create your own mazes online - try the Discovery Education website at <u>http://</u> <u>puzzlemaker.discoveryeducation.com</u> /AdvMazeSetupForm.asp. Guides and Pathfinders can work on this after they have finished Patrol Duties.

#### Instructions:

With the girls' backs turned so they can't see what is making the noise, start up each of the noise-makers in turn and ask them to identify what is making the sound. To increase the

difficulty, look for items that sound similar but not identical (jingling keys vs. a chain).



### **Before Meeting**

Gather all supplies for the meeting activities.

### **Opening Discussion**

Explain to the girls that you'll be working on the CSI Challenge. Ask them for ideas about what they think forensic science is and how it might be used in a broad context. Television shows often depict forensic science as a way to investigate violent crimes, but use this opening discussion to help the girls understand that forensic science is used to investigate other crimes, as well - from theft and art forgery to accounting fraud and cybercrime.

### Fingerprint Art Bookmarks

#### Supplies:

- Cardstock cut to bookmark size
- Yarn for bookmark tail
- Non-toxic ink pad (washable makes
- for easier clean up, but permanent
- is better if you would like to colour on top of the prints
- Markers, crayons or
- pencil crayons
- Hole punch



### Instructions:

examples.

Prep for this craft will depend on the age level of girls. If needed, pre-cut and hole punch bookmarks. Press your thumb or finger onto an ink pad and then on to the bookmark. Use markers, crayons or pencil crayons to add details to your fingerprint artwork. When the decoration is finished, use the yarn to create a tassel for the bookmark. Encourage the girls to make a CSI-themed bookmark with

# What's That Texture?

#### Supplies:

- A variety of common items with distinct textures and/or shapes (examples: sandpaper, small distinctively shaped toys, baking supplies, fabrics, tinfoil)
- Tea Towels

#### Instructions:

Place one item under each tea towel, so that it is hidden from view, and ask the girls to try and identify



what is under the tea towel. Again, using similar but not identical items might make it more difficult for older girls.

### **Guest Speaker**

Having a guest speaker or field trip is a requirement for Guides and Pathfinders to complete the CSI Challenge. If you are unable to schedule someone to come speak at your CSI Challenge meeting then make sure and do this part of the challenge on at a later date.

### Ideas for a Speaker

- Invite a local police officer to come in and talk to your group about local laws, law enforcement, street safety or cyber bullying.
- Ask your fire department to do a presentation on arson investigation.
- If your RCMP detachment has a forensics department; they may be able to speak about crime scene investigation and the tools they use.
- Have a lawyer or judge teach your group about the BC legal system and court procedures.

### What's That Smell?

#### Supplies:

- A variety of common items with a strong—but not harmful or potent scent (examples: vanilla, chocolate, black and red liquorice, lemon, coffee)
- Opaque cups
- Cotton Balls



Place one item in each cup and cover with cotton balls so you can't see the item. Then, ask girls to



try and identify the item in each cup using only their sense of smell.

### Fingerprints

#### Supplies:

- Ink Pads
- Clean drinking glasses
- Sifted cocoa
- Small spoon
- Transparent tape—not the "magic" invisible kind
- White Paper
- Magnifying Glass
- Two or more "suspects"

### Instructions:

Have everyone press their own fingers onto the ink pad and then onto a sheet of white paper, being careful not to smudge. Use the magnifying glasses to examine your fingerprints and identify which features you can see (arches, loops, whirls). Make sure all your suspects get their fingerprints taken as well.

Ahead of time, have one of your suspects (a Guider) press her fingers onto the glass, being careful not to smudge the fingerprints that are left. For better fingerprints, have the suspect touch her forehead before touching the glass.

After everyone has taken their fingerprints, gather everyone around and demonstrate how to take fingerprints from a glass.

1. Carefully handle the glass by the rim, the base or the stem so that you do not smudge the fingerprints left by the suspect.

Hold the glass up to the light to find where the fingerprints are.

- 2. Using the small spoon, sprinkle a small amount of cocoa over the fingerprints, making sure they are completely covered. Gently blow off the excess cocoa.
- 3. Press one end of the tape to the glass on one side of the fingerprint, then stretch the tape across the fingerprint and down onto it. Be careful not to drag the tape across the fingerprint or to press it down onto the fingerprint with your fingers.
- 4. Lift the tape off the glass and stick it to a sheet of white paper.
- Ask each girl to compare the fingerprints from the glass to the sample prints provided by the suspects and see if they can guess who dirtied the glass.



### Forensic Science in Real Life: The Cold Case of the Iceman

Ötzi the Iceman was found in September of 1991 by a couple hiking in the Alps. They called the authorities thinking they had found a hiker or skier buried in an accident but forensics revealed that he was over 5000 years old! Initially, scientists thought he had perished from exposure to the elements but in June of 2001, forensic investigators found evidence that pointed to another cause of death – Murder!

### Closing

#### Sparks

After the round robin stations, gather the girls together and talk more about forensic science and let them know they've earned the CSI Challenge crest at this meeting. You may wish to ask them which part of "What's that" they found the hardest and what made it hard to identify.

Do your usual closing.

Ask Guides and Pathfinders to research the story of Ötzi the Iceman and ask some of the following questions. Results can be discussed at the opening of your next meeting.

- What role did forensic evidence play in the investigations?
- What forensic science techniques did the investigators use?
- Was there any controversy about any of the evidence?

• Were there any questions about the case that couldn't be answered by forensic evidence?



#### Brownies

Gather everyone together and talk about the different forensic activities. Ask them which part of "What's that" they found the hardest and what made it hard to identify. The prints we found on the glass were pretty easy to find – what could make the job of a fingerprint analyst more difficult?

Let the girls know that they have earned the CSI Challenge crest today.

Do your usual closing.

#### **Guides & Pathfinders**

To wrap up your meeting and the challenge, discuss what you've learned about forensics from the activities. How do you think forensics in real life compare to what we see on television? We only tried one forensic activity at this meeting – how else do forensic scientists discover the answers to their guestions?

Do your usual closing.

### **Program Connections**

#### Sparks

Exploring and Experimenting Keeper: Additional Activity

#### **Brownies**

Key to STEM: Interest badge "S Stands for Sound," Part A

Key to STEM: Create special interest badge on CSI

#### **Guides**

<u>Beyond You: Try New Things</u> 4. Try experiments relating to STEM

6. Complete an activity of your choice trying something new

### Bodyworks Interest Badge

1. Find out something about how the human body works.

6. Take your own fingerprints and compare to others.

Discovering You: Discovering your Creativity—Mystery Night 3. Act out a dramatic presentation

Discovering You: Discovering What's Important to You

4. Hold a Career Night—invite someone to speak at your meeting

Science Interest Badge 1. Explore three fields of science and find out what people do in those areas.

2. Investigate an area of science that has improved through technology

6. Participate in a science program or event.

#### Pathfinders

Exploring a Theme: Secret Agent 007

- 1. Collect Fingerprints
- 2. Tour a police station
- 3. Investigate a career in forensics
- 7. Design your own maze

Creating Your Future: Your Dream Career

3. Invite older women to talk about career options when they were your age.

Exploring a Theme: Everything Comes from STEM

4. Invite someone in scientific research to talk about their work.



### PET KINDNESS NIGHT (NOVA SCOTIA SPCA CHALLENGE)

The full details of this challenge can be found at <u>http://</u> <u>www.girlguides.ns.ca/pdf/fun%</u> <u>20pages/challenges/SPCA.pdf</u>. Crest availability to units outside of Nova Scotia is unknown.

### **Meeting Plan**

- All: Gathering and collect items for SPCA Donation Baskets (5-10 min)
- All: Opening (5 min)
- All: Opening Discussion (5-10 min)
- All: SPCA Presentation or Be a Dog Detective (15 min)
- All: Pet Games (10-15 min)
- S: Closing (5 min)
- B,G: Animal Kindness Skits (10-15 min)
- B,G: Make a Pet Poster (10 min)
- B,G: Pet Food Bowls Craft (10 min)
- B,G: Pet Showcase (10 min)
- B,G: Closing (5 min)

### Gathering

Have the girls complete a fun pet themed worksheet (word search, crossword, etc.) as they arrive.

Sparks could draw a picture of their favourite animal or their pets, or colour pictures of animals as a gathering activity.



### **Before the Meeting**

Contact the SPCA branch or Animal Shelter in your community, and arrange for a staff member or volunteer to visit your meeting and talk to the girls about pet safety, how to approach a new animal, pet health and the importance of spaying and neutering pets. Also, ask what types of donations they are in need of (e.g. pet toys, leashes, chew toys, food dishes, etc.) and record these onto a "SPCA/Shelter Wish List". Send home a notice to girls asking them to bring in something on the SPCA/Shelter's Wish List as a service project.

 Print BCSPCA activity sheets for girls to work on as they arrive: <u>http://www.spca.bc.ca/assets/</u> documents/youth/word-puzzle.PDF  Print Pet Care charts to send home with Guides (Pet Lover badge). Charts can be found at: <u>http://</u> <u>www.rewardcharts4kids.com/</u> <u>reward-charts-for-pet-care/</u>

Collect craft supplies for Brownies and Guides craft (2 plastic water bottle lids per girl, hot glue gun and glue sticks, brown seed beads, Sharpie markers, string, white/tacky glue and 1 safety pin per girl).



### **Discussion: What our Pets Need**

Make this discussion age-appropriate

On a large sheet of paper or chalkboard, write "pets" and "humans" at the top. Ask the girls to tell you what humans need to be healthy. Record responses in a list, under the "humans" header. Answers may include food, water, shelter, love, warm clothing, exercise, medicine, etc.

Now ask the girls to tell you what pets need to stay healthy. Again, record the responses in a list. Answers will most likely be similar to what they said for human needs. Explain to girls that pets, like humans, require certain things to stay healthy. Draw lines connecting similar needs from the Pets to the Humans list to help demonstrate this.

Next ask the girls to brainstorm how to be kind to animals. In your discussion be sure to include the following: the importance of correct handling, taking your pet to the vet if they are sick, playing with your pet, and calling an animal rescue office (e.g. SPCA, WILD ARC, Animal Shelter, etc.) if you find a stray animal or an injured animal.

Remind the girls that they should never approach an animal that is not accompanied by an owner or an injured wild or domestic animal. Girls should always ask permission before petting an unfamiliar dog. Some dogs are nervous or uncomfortable around new people. Animals act unpredictably when scared or nervous, and animals that are usually friendly may become aggressive when feeling threatened. You may wish to have the girls make a small card with the numbers of your local animal shelter(s) for them to take home to use if they come across an injured or abandoned wild animal and/ or a stray pet.

Books appropriate for Sparks and Brownies to discuss the topic of animal kindness: *Buddy Unchained* by Daisy Bix and *May I Pet Your Dog?* By Stephanie Calmenson (also available on DVD).

### **Discussion: Pet Safety and First Aid**

Ask the girls "how can we keep our pets safe in hot and cold weather?" Let girls share responses in small groups or as one large group. Be sure to include the following in the discussion:

- provide lots of fresh, cool water
- a shady place to rest (if outdoor pet)
- NEVER leave pets in a car
- offer a "cool down" with a hose or sprinkler
- talk to a groomer about having a trim for dogs and cats with long fur

### Presentation

This presentation could include a lot of different topics. Speak to the staff member or volunteer that is planning to join you prior to your meeting to discuss what topics you would like included. Some topics may include: pet overpopulation, importance of spaying/neutering pets, how to adopt an animal, adopting from a shelter vs. buying a pet from a pet store, and how to approach an unfamiliar dog or cat. Some speakers may be able to bring in an animal from the shelter to show girls how to read an animal's body language and how to approach an animal safely. Check with parents to find out if any of the girls have fears about certain animals before arranging for a pet guest to join the meeting. At the end of the presentation have the girls present the speaker with the donations your unit has collected for the SPCA or Animal Shelter in your community.

### Be a Dog Detective



Knowing how to approach an unfamiliar dog is important for the safety of humans and dogs. Have the girls

become Dog Detectives and learn doggy body language so they can tell whether a dog is friendly or aggressive. It is important to remember that even friendly dogs can

- when it is cold outside, provide a warm shelter for outdoor animals with lots of blankets and insulation.
- · If possible, bring your animal inside when it is extremely cold outside.

Explain to girls that pets should only eat pet food. Chocolate, medications, household plants, toys, and garbage should be stored securely so dogs, cats, and other pets can't accidently ingest them.

Ask the group if they know the

# **Make a Pet Poster**

Have the girls make a poster to address a safety topic for animals. Topics may include: how to be kind to animals, how to approach an unfamiliar dog, preventing pet overpopulation, sun/heat safety for pets, correct way to handle small animals, safe vs. harmful food for pets, or what to do if you find a stray or injured animal.

Find out if the posters can be posted somewhere in your community.



become unpredictable when nervous or afraid. You can find pictures and explanations of dog body language here: http://www.be-a-tree.com/dog% 20detective.htm

Remind girls to always ask the owner before petting a dog and always let the dog sniff your hand before petting him.

symptoms of a sick or injured animal. Girls should always consult a veterinarian if they suspect their pet is sick or is acting unusual. The following are some signs your pet may need to see a veterinarian:

- limping when walking
- not eating/drinking
- vomiting

hiding

itchy skin

lack of energy/



### **Craft: Pet Food Bowls Hat Craft**

#### Supplies:

- 2 plastic water bottle lids per girl
- hot glue gun and hot glue sticks
- Sharpie permanent markers
- brown seed beads
- white/tacky glue
- safety pins
- string

### Instructions:

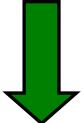
- 1. Write "WATER" on one bottle cap, and "FOOD" on the other bottle cap using the Sharpie markers.
- 2. Fill the bottle cap labelled "WATER" with hot glue (it will dry clear looking like a dish full of water).
- 3. Put a dollop of white glue or tacky glue into the bottom of the cap labelled "FOOD". Next, put brown seed beads into the cap. Again, the glue will dry clear so it will look like a little bowl of dog/cat kibble.
- 4. Glue the two caps together using hot glue gun. Attach a string using hot glue.

Attach a pin so the girls can wear it on their camp hats.



### Pet Kindness Skills

Have the girls work in small groups to act out different scenarios regarding kindness to animals. Use the cards below or create your own. Visit each group as they are practicing to answer any questions they have, ensure cooperation, and keep them focused.



# Game: Doggie, Doggie, Where's Your Bone?

#### Supplies:

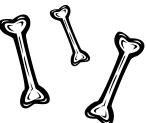
- dog bone
- blindfold

### Instructions:

- Have children sit in a circle, with one person (the dog) in the middle on a chair. Blindfold the "dog" and place a dog bone under her chair.
- Choose one person to quietly go steal the bone from under the chair, return to the circle, and hide it in their hands. All girls should hold their hands clasped in the

same manner.

- Next the group sings: "Doggie, Doggie, where's your bone? Someone stole it from your home!"
- At this point, the Dog removes her blindfold and has three guesses to find out who has her bone. Whoever has the bone gets the next turn to be the Dog in the middle.





### Game: Animal Sounds

#### Supplies:

 small slips of paper, each with an animal name or picture on it. You must have at least two of each animal.

#### Instructions:

- 1. Give each girl a slip of paper with an animal name or picture. She is not to show anyone her card.
- When you say "Go," have girls walk around and make the sound of their animal on their card.

- 3. Girls move around the room to try and find their "animal family".
- 4. To make this game harder, create cards that only have one match (i.e. 2 birds, 2 cats, 2 dogs, 2 snakes, 2 mice, etc.). To make it easier, use less animals and have more in each group (i.e. 5 cats, 5 dogs, 5 mice, etc.).
- 5. The game is over when everyone has found their "animal family."

### Game: Dogtastic Obstacle Course

#### Supplies:

Will depend on how you set up your obstacle course. You may need:

- playground balls
- hula hoops
- plastic spoons
- cones
- dog cookies
- balloons
- paper bag

You can make this as simple or complex as you like using supplies

your unit has. Following are some ideas you could use for a doggy themed obstacle course.

#### Instructions:

- 1. Line girls up in teams at the start line.
- 2. Girls will race through obstacles and return to end of the line when done. For an added challenge have girls complete the obstacle course on all fours!
- Jump through a hoop
- Place spoon in mouth and balance

dog cookie on spoon. Walk/crawl with spoon and drop into a bucket

- Use nose/head to push a balloon through cones
- Dig up a dog bone in a small container of sand (or sand box if outside)
- Chase your "tail" three times
- Sense of Smell: have girls guess what object is in a paper bag only using their sense of smell. When they guess correctly they can move onto the next obstacle.

## Pet Showcase

Ask the girls to bring in a photo or drawing of their pets. Have them share something about their pet (i.e. what breed, how old, favourite toy, funny story, etc.). You may choose to do this in small groups or one large group depending on the size of your unit. If a girl does not have a pet, have her share what type of pet she would like to have and why.

### Closing

Enjoy your unit's regular closing routine. Send home the "Pet Responsibility Chart" with Guides wishing to complete their Pet Lover interest badge.



### Program Connections

#### **Sparks**

Being Me Keeper: Who am I? (Talk about Pets)

### **Brownies**

Pet Pals Interest Badge

#### Guides

Discovering You: Understand how to be Responsible 5. Demonstrate that you can be responsible for taking care of a pet

Pet Lover Interest Badge

# FAMILY AND CULTURE (DIVERSITY CHALLENGE 1/2)

The BC Diversity Challenge has so much program work in it that it requires two meetings to complete. It is worth it, though! With these two meetings you will not only earn the challenge badge, but also complete a significant number of program requirements (see page 20 for program connections).



### Gathering

### [Family Picture]

Supplies:

- paper
- pencils, crayons, markers

### Instructions:

To prepare the girls to talk about diverse families, have them draw a picture of their family.

### [Different Families Scavenger Hunt]

Instead of talking about different kinds of families (as suggested in the challenge document), have the girls mingle and see if they can find someone to fit in each of the boxes on the next page. Yes, each girl can fill in as many squares as she fits into!



### Before the Meeting

Ask the girls to bring in an item that represents her cultural heritage. Note: in case not all girls bring in an item, the Guiders should bring some items from different cultures to the meeting to use in the Cultural Heritage Kim's Game.



### Opening Discussion

Using the gathering activity sheets as a starting point, talk about the different types of families that are represented in your unit. Explain that not all families are the same, and we need to respect that everyone is different. What type of family is not represented in your unit?

### **Meeting Plan**

Before: ask for cultural items to be brought in

S: Gathering: Family Picture (10 min)

B,G,P: Gathering: Different Families Scavenger Hunt (10 mins)

- All: Opening (5 mins)
- All: Opening Discussion (10-15 mins)
- All: Cultural Heritage Kim's Game (10-15 mins)
- S: Irish Daisy Chain Game (5-10 mins)
- S,B: African Catching Stars Game (5-10 mins)
- G, P: Kongki Noli (Korean Jacks) (10 mins)
- B, G, P: Australian Dot Art (20-25 mins)
- G, P: International Food (30 mins)
- B, G, P: Songs From Other Countries (10-15 mins)

The International Welcome Song Tzena (Israeli song) Tingalayo (Carribean song) Tongo (African chant)

All: Closing (5 mins)

### Game: Cultural Heritage Kim's Game

### Supplies:

- the girls' cultural heritage items that they were asked to bring in (Guiders to bring in extras just in case there aren't enough)
- paper & pencils
- tray to place items on
- towel to cover items

### Instructions:

- 1. Place about 10-15 of the cultural heritage items on the tray. If you have a large group, split into two groups to do this activity.
- 2. Allow the girls about a minute to look at the items, then cover them

with the towel.

- 3. The girls then must list on their paper as many of the items as they can remember.
- After they have listed as many as they can remember, lift the towel and see how many items they remembered.
- 5. Allow the girls to briefly talk about the items that they brought.

Alternate option for Sparks: have the girls each take a turn to say one of the items they remember from the tray (but it can not be the item that they brought). No writing required!

### Find Someone Who Lives in a Family That....

has no brothers or sisters.	has a grandparent living with them.	has two parents living with them.	…has a stay-at- home dad.	lives with a stepsister or stepbrother.
lives with just one parent or guardian.	has more than 6 people in her family living together.	has two people of different races living together.	lives with a stepmother or stepfather.	lives half the time with one parent, and half the time with the other parent.
has adopted or foster children in their family.	…has a stay-at- home mom.	has a young mom or dad (less than 20 years older than her.)	does not live with mom or dad, but with aunt or uncle.	has a mom or dad who works away from home and is away more than they are at home.
lives with either two moms or two dads.	has a brother or sister who is more than 10 years older, and no brothers or sisters in between.	has another family living with them.	lives with half- brothers or half- sisters.	speaks a language other than English at home.

### Game: Irish Daisy Chain

This game is played by Irish Daisy Bird Guides, who are the same age as Sparks.

Sung to the tune of: Mulberry Bush

We can make a daisy chain, A daisy chain, a daisy chain, We can make a daisy chain, A daisy chain for you.

- 1. Girls sit spaced out on the floor.
- 2. A Guider walks in and out, around the girls, while everyone sings the song.
- At the end of the song, she holds hands with the girl she is closest with, who stands up to join her in a "daisy chain."



Actions :

4. Repeat until you have a long daisy chain, each time adding a new girl to the end of the chain.

### The International Welcome Song

Learn to say Hello in two languages other than English or French with this public domain song which includes English, French, German and Spanish. Hear the song online at http://youtu.be/mTLGZTLPliw.

Public Domain (2-part round)

Hey, Hello, Bonjour, Guten Tag Welcome, Welcome, Welcome, Welcome! Buenos Dias, Buenos Dias!



This is a game from Zaire, which is now called the Democratic Republic of Congo.

### People all around the

world have always been fascinated by stars. In this game, the children try to catch the stars.

**Game: African Catching Stars** 

### Instructions:

- Divide the girls into two groups the Stars and the Catchers. You should have more Stars than Catchers to begin the game.
- 2. Define two boundaries, about 20 feet apart. This could be from one wall to another wall in your meeting place.
- 3. The Catchers stand in the middle of the playing area, while the Stars stand together at one of the boundaries.
- 4. The Catchers all call out together: *Star light, star bright, how many*

# **Craft: Australian Dot Art**

Dot art is a traditional form of artwork by Australian Aboriginals. See the following online article for more information about dot art <u>http://bubblegumpost.com/2011/05/</u> <u>australian-aboriginal-dot-painting/</u>.

### Supplies:

- Paper or template to fill in (i.e. colouring pages of Australian animals); the sample was done on brown construction paper.
- Pencils
- Poster paint or tempera paint
- Cotton swabs

### Instructions:

- Either sketch a picture of a traditional Australian animal, or choose a template.
- Dip a cotton swab into the paint and dab it onto the paper, careful to only make dots and not to drag it.

stars are out tonight?

- 5. The Stars all answer: *More than you can catch!*
- The Stars then run across the playing area, trying to make it to the other boundary without being tagged. The Catchers attempt to tag as many Stars as they can, and tagged Stars become Catchers for the next round.
- 7. Continue the game until all of the Stars are caught.





- 3. Change cotton swabs for each colour of paint.
- 4. Option for older girls: use acrylic paints on a cork trivet or coasters and varnish when dry.

### Game: Kongki Noli (Korean Jacks)

### Supplies:

• 5 stones for every two girls.

#### Instructions:

- 1. Split girls into groups of two. Each group has five stones.
- 2. One girl throws one stone into the air and scoops up a stone from the ground while the first stone is in the air. She must then catch the stone that she threw into the air.
- 3. If she succeeds, she keeps the

### Music: Tzena (Israeli Song)

Tzena is a lively Israeli song which can be sung in a round. This song can be found in the Our Chalet Songbook and in the Sangam Songbook, where it is listed as Public Domain. Hear the song at <u>http://</u> tuneguide.e-guiding.com/tzena.mp3.

Tzena, Tzena, Tzena, Tzena, Can't you hear the music playing in the village square? Tzena, Tzena, Tzena, Tzena, Can't you hear the music playing in the village square?

Tzena, Tzena, join the celebration. There'll be people there from every nation.

Dawn will find us dancing in the sunlight,

Dancing in the village square.

### **International Food**

Depending on the setup of your meeting place, you could either have the girls prepare some international foods at the meeting or ask them to bring a sample of international foods to share from home. The girls could bring their own choice of foods, but here are some online recipes for ideas:

The Irish Girl Guides have an outreach pack which includes recipes from a number of countries at <u>http://</u>

first picked up stone in her hand, and again throws a stone in the air while picking up one more stone from the ground. Each time she catches a stone, she keeps it in her hand. This continues until all stones are picked up.

- 4. For the next round she picks up two stones each time she throws one in the air.
- Each round increases the number of stones picked up while one is in the air, until all stones are picked up at once.

# Music: Tingalayo (Caribbean Song)

Tingalayo is a Carribean song found in the Jubilee Songbook and listed as Public Domain. Hear the song at http://youtu.be/GTtnvGhyMAU.

Tingalayo, come, little donkey, come. Tingalayo, come, little donkey, come.

My donkey walk, my donkey talk, My donkey eat with a knife and fork.

Tingalayo, come, little donkey, come. Tingalayo, come, little donkey, come.

My donkey eat, my donkey sleep, My donkey kick with his two hind feet.



Tingalayo, come, little
donkey, come.
Tingalayo, come, little
donkey, come.

www.irishgirlguides.ie/images/forms/ International%20ideas%20from% 20outreach%20pack.pdf\_as well as some traditional Irish recipes at http:// www.irishgirlguides.ie/images/forms/ Irish%20Recipes.pdf

Girl Guides South Africa lists some traditional South African recipes on their site: <u>http://www.girlguides.org.za/</u> <u>index.php/south-african-info?</u> <u>showall=&start=2</u>

Girl Scouts of the USA has a 2010

 For the final round, she tosses all the stones in the air and tries to catch them on the back of her hand, then



tosses them all into the air again and tries to catch them in the palm of her hand.

7. If the player fails to catch the stones at any time, play passes to the other player, who starts at the beginning with one stone.

### Music: Tongo (African Chant)

Tongo is an African chant song found in the Jubilee Songbook and listed as Public Domain. Each bar is chanted by the leader, then repeated by the whole group. At the end, the last two phrases gradually slow down and die away. Hear the song at <u>http://</u> tuneguide.e-guiding.com/tongo.mp3.

Sing through the following song twice.

Tongo (Tongo) Jim-de-be-na be-i-oh (Jim-de-be-na be-i-oh) Tongo (Tongo) Oo-pe-oo-kum-ba-yah (Oo-pe-oo-kum -ba-yah) Oh-wa-lay (Oh-wa-lay) Mah-lee-pah-may-lee-way (Mah-leepah-may-lee-way)

World Thinking Day Guide with links to a number of international recipe websites <u>http://</u> www.girlscouts.org/ who we are/global/ world\_thinking\_day/ wtd\_guide\_2010.pdf



For the Program Connections for this meeting and the second Diversity Challenge meeting, see page 20!

### CELEBRATING AND UNDERSTANDING OUR DIFFERENCES (DIVERSITY CHALLENGE 2/2)

### **Meeting Plan**

Before: ask for food bank items

- S: Gathering: Body Pride Pledge (10 min)
- B,G,P: Gathering: Food Bank Donations Word Search (10 mins)
- All: Opening (5 mins)
- S: I Like Girls Game (5-10 mins)
- S, B: Rich Rabbit, Poor Rabbit Game (10-15 mins)
- G, P: Skittles Game (10-15 mins)
- G,P: Feed a Family for \$5 (15 mins)
- All: Hidden Disabilities: The Misunderstood Child (10-20 mins)
- G, P: No Hands! (10 mins)
- B: Awesome Aliens craft (15-20 mins)
- B: Queimada (Brazilian Tag) (10 mins)
- All: Make New Friends Song with Sign Language (5-10 mins)
- G, P: Dove Evolution Video (5-10 mins)
- G, P: Graffiti Wall (30-35 mins)
- All: Closing (5 mins)

### Game: I Like Girls



This game can be used to reflect on the Body Pride pledges that the Sparks made during their gathering time.

### Supplies:

• A chair for each girl to sit on.

### Instructions:

1. All girls sit on a chair facing into a circle.

# **Gathering: Body Pride Pledge**

From the NEDIC/Girl Guides of Canada-Guides du Canada Love Yourself Challenge.

### Supplies:

- Body Pride template 8.5x11 paper with "Body Pride – I Love Me!" and a space to write their name; paper divided into 4 boxes, with the bottom box labeled "I am beautiful"
- pencils, crayons, markers

### Instructions:

- Have the girls write down (or draw) on a piece of paper three personal traits they like about themselves (Guiders to help). For example, "I am funny, I like my smile, I am a good friend, I am a great soccer player".
- 2. Finish each pledge with "I am

beautiful".

- 3. Have each girl decorate their Body Pride Pledge.
- 4. Encourage girls to take it home and hang it up in their room so they can be reminded every day of how special they are.



# 2. The Guider stands in the middle of the circle without a chair.

- The Guider call out something which describes some of the girls in the circle, for example, "I like girls who have long hair" – now all girls with long hair must get up from their chair and find a different chair to sit in.
- 4. As the girls search for a new chair, the Guider takes a chair. This will leave one girl in the middle without a chair to sit on. She now starts the game again with another statement, such as "I like girls with blue eyes" and all

girls with blue eyes change seats...

5. Girls cannot be in the centre of the circle more than twice in a row. At the end,

etc.

say "I like girls who are girls!" so that everyone must change seats!

### **Gathering: Food Bank Donations Word Search**

Find the words listed below in the puzzle. Use the leftover letters to fill in the blanks below to reveal a secret message.



### Game: Rich Rabbit, Poor Rabbit

From the WAGGGS Global Action Theme (GAT) Curriculum booklet, <u>http://www.wagggsworld.org/en/</u> grab/20082/1/2GATcurriculumENG.pdf

To lead into this activity, thank the girls for bringing items for the food bank and talk about why these donations are important. Explain that this activity will help to show them the difference between being rich or poor.



#### Supplies:

- Pictures of different items that would be sold in a green grocer, toyshop and music shop. Each item must be labeled with a price of between one and three beads.
- beads

#### Instructions:

- Explain to the girls that extreme poverty is living on less than \$1 per day. In developed countries, poverty is defined as living on less than \$10 per day.
- Guiders prepare by setting up some shops such as a green grocer, toyshop and music shop. Display pictures of different items

Game: Skittles

From the BC Girl Guides website.

To lead into this activity, thank the girls for bringing items for the food bank and talk about why these donations are important. Explain that the next activity will show them the difference between being rich or poor.

Alternate activities to fulfill this section of the challenge are the **Unequal Resources Simulation Game** found at <u>http://incite.tear.org.au/?p=216</u> and **It's Just Not Fair** Oxfam Education activity found at <u>http://bit.ly/160PYHV</u>.

### Supplies:

- 1 set of game cards (printed from <u>http://www.bc-girlguides.org/wp-</u> content/uploads/skittles-game.pdf)
- 1 large bag of Skittles
- A napkin or small plate or other receptacle for each player to place her Skittles on. Everyone should be able to see the number of Skittles she has in front of her.

### Instructions:

 Place cards in a box or bag so that players cannot see what is written on the card. Place Skittles in a bowl in the centre of the playing Area.

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

- 2. Instruct all players to place their Skittles in front of them on their napkin and not to eat any of the Skittles until the end of the game unless the instructions on their card indicate they are to eat them.
- Pass the box around the circle and one at a time each player should take one card and read what it says aloud. She may then take the specified number of Skittles.
- Once everyone has Skittles in front of them, discuss why some people have more than others, why some people got to take other people's Skittles or why some people had to give their Skittles away.
- 5. Ask the girls if this is fair. \*They will say NO!
- Discuss how this is reality in other countries.
- 7. Discussions should be age appropriate.
- If there are fewer than 30 people, remove the appropriate number of cards, starting with #30 and moving backwards.



where each item is between one and three beads to buy.

- Divide the group into two. One group is the rich rabbits and one is the poor rabbits.
- Give the rich rabbits 20 beads (seeds or beans) each and the poor rabbits one bead each.
- Ask all the rabbits to hop around and choose what they want to buy.



 Afterwards, discuss with the group what it felt like to be a rich rabbit or a poor rabbit.



# Feed a Family for \$5

It is possible to feed a family of four people for just \$5.00! Challenge your girls to plan a meal (lunch or dinner) for \$5.00 or less.

### Supplies:

- Paper & pencils
- Grocery store flyers

### Instructions:

- Divide the girls into small groups and give each group some grocery store flyers.
- 2. Challenge the girls to plan a nutritious meal which will feed four people and costs \$5.00 or less.
- Give the girls about 10 minutes to plan the meal, and then gather them back together to share their plans and what the final cost would be.

### Hidden Disabilities: The Misunderstood Child

The challenge document suggests that you use your community resources to bring in someone who works in the field of "hidden disabilities" to talk to your girls about children with hidden disabilities (such as autism, dyslexia, hemophilia, sensory processing disorder, etc.). You may wish to bring someone in for a short talk during this meeting, or have them in to another meeting to allow for more time.

To introduce the girls to the concept of hidden disabilities, read The Misunderstood Child by Kathy Winters, then discuss. For older girls, you could have each girl read part of the poem aloud. If you are unable to locate a resource person, you can also share a video from YouTube. Some examples are:

- Intro to Autism for Kids <u>http://</u> youtu.be/ydGdZdTiY5c
- Asperger's Syndrome Explained for Children (an Arthur cartoon which is good for Sparks and Brownies) -<u>http://youtu.be/s9eATBV-\_lg</u> - to view the entire episode (~12 minutes long) see <u>http://youtu.be/</u> <u>nsmjwHW40ps</u>
- The Power of Dyslexia <u>http://</u> youtu.be/l\_qGJ9svUbM
- Sensory Processing Disorder -<u>http://youtu.be/-GPpbvtiwc0</u>

### **No Hands!**

This activity brings awareness to physical disabilities. What if you didn't have use of your hands? How would you write?

### Supplies:

- Paper
- Pencils/pens/ markers

#### Instructions:

- 1. Give each girl paper and something to write with.
- 2. Challenge the girls to write their name by holding the writing utensil in either their mouth or between their toes.
- 3. Optional: draw a picture in the same manner.
- 4. Discuss the difficulties of not having the use of your hands.

### The Misunderstood Child

By Kathy Winters (reprinted with permission from the author)

I am the child that looks healthy and fine. I was born with ten fingers and toes. But something is different, somewhere in my mind, And what it is, nobody knows.

I am the child that struggles in school, Though they say that I'm perfectly smart. They tell me I'm lazy -- can learn if I try --But I don't seem to know where to start.

I am the child that won't wear the clothes Which hurt me or bother my feet. I dread sudden noises, can't handle most smells, And tastes -- there are few foods I'll eat.

I am the child that can't catch the ball And runs with an awkward gait. I am the one chosen last on the team And I cringe as I stand there and wait.

I am the child with whom no one will play --The one that gets bullied and teased. I try to fit in and I want to be liked, But nothing I do seems to please.

I am the child that tantrums and freaks Over things that seem petty and trite. You'll never know how I panic inside, When I'm lost in my anger and fright.

I am the child that fidgets and squirms Though I'm told to sit still and be good. Do you think that I choose to be out of control? Don't you know that I would if I could?

I am the child with the broken heart Though I act like I don't really care. Perhaps there's a reason God made me this way Some message he sent me to share.

For I am the child that needs to be loved And accepted and valued too. I am the child that is misunderstood. I am different - but look just like you.



### **Craft: Awesome Aliens**

From the NEDIC/Girl Guides of Canada-Guides du Canada Love Yourself Challenge.

#### Supplies:

A variety of craft supplies

#### Instructions:

 Before beginning this activity, talk about how everyone is different, and everyone is beautiful. Explain that this activity will reinforce that it's cool to be different.

### Graffiti Wall

From the NEDIC/Girl Guides of Canada-Guides du Canada Love Yourself Challenge.

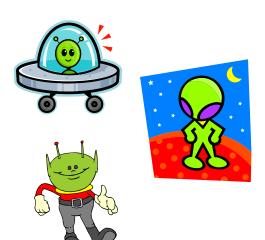
### Supplies:

- Sheets of flip chart paper or blank newsprint, taped to the wall
- Markers (make sure they won't bleed through the paper to the wall)
- Magazines
- Scissors
- Glue sticks
- Stickers and other items girls can use to express themselves visually

### Instructions:

- 1. Tape the flip chart paper onto the wall. If this isn't possible, put it on the floor or even over a desk.
- 2. Write *Body Image* in large letters in the centre of the paper.
- 3. Put out the markers, magazines, scissors, glue sticks, etc.
- 4. If you have a particularly large group, you may want to make multiple pages available and divide the group.
- Have a short discussion about what messages girls get about body image and where they get those messages from (TV, movies, advertising, magazines, family, friends, school, jobs, etc.)
- 6. Tell the girls that you want them to put aside their own beliefs and consider instead what society's

- 2. Using your Unit's craft supplies, have each girl draw and create her own alien.
- She can make it look any way she wants – three eyes, purple teeth, funny feet, etc.
- Ask the girls to volunteer to present her alien to the Unit and describe how it looks.
- 5. Celebrate the differences between each girl's creations!



views are. Telling them not to censor or judge their responses, ask them to create a graffiti page naming the messages that they get as girls about how they are supposed to look and behave.

- 7. After about 10 minutes, get the girls to step away from their graffiti page. If there is more than one, ask them to walk over and in silence look at the other pages before returning to their own page. If there is only one page/group, get the girls to walk around the room in silence and then to return in silence to their graffiti page. The purpose of this is to allow some contemplative time before asking them to help debrief the messages that they are getting about what a 'real' girl is.
- Have a discussion with the girls about the different messages that they get about being a girl/woman in Canadian society. Issues that may arise include:
  - a. Sub-cultural messages that reinforce or undermine the larger societal messages
  - b. Contradictory messages about being smart and strong but weaker and more vulnerable than boys
  - c. The unrealistic and unattainable beauty ideal –

and how parts of the ideal change with the fashions, e.g. big breasts with one type of dress and small with another

- d. How certain types of bodies, including those that are of average or larger size, racialised (with a race or racial interpretation imposed on them) or with disabilities or differences are excluded from the images we see of what is desirable or acceptable
- Following the discussion of what society expects of girls, you may want to ask the girls for ideas of how to counter these messages with ones that are more realistic and strengthen self concept and body image.



### **Dove Evolution Video**

From the NEDIC/Girl Guides of Canada-Guides du Canada Love Yourself Challenge.

#### Supplies:

- A computer to watch the video on. You can download videos onto your computer if you don't have internet access at your meeting place. Search online for how to do this.
- The Guiders should view the Dove Evolution film before the meeting: <u>http://www.dove.ca/en/Tips-Topics-</u> <u>And-Tools/Videos/Evolution.aspx</u>. This film is only about one minute in length.
- Write down a list of questions you could ask the girls before and after watching the film. Some examples are: What do you notice about the girls and women you see on TV? Do you want to look like them? What does beautiful mean? Is our thought of what is beautiful even

possible in the real world? Do you think you are beautiful? Teacher tools, including questions to ask are available online at: <u>http://</u> <u>www.dove.ca/en/Social-Mission/</u> <u>Self-Esteem-Resources/</u>

#### Instructions:

 Talk to the girls about beauty – what they think it is, what it means to be beautiful. who

> tells us what beauty is. Ask them some of the questions you thought up while previewing the film.

- 2. Watch the film.
- 3. Let the girls talk about what they have just seen and how it makes them feel. They may want to watch the film a couple of times to really understand it.

# Game: Queimada (Brazilian Tag)

You will need a large playing area divided in half – one side for each of two teams.



Beach ball or foam ball (something soft)

### Instructions:

- 1. Divide the group into two teams.
- 2. Each team occupies half of the playing area. At the far end of each side of the playing area is a cemetery. One player from each team starts in the cemetery.
- One of the girls in the cemetery throws the ball to her teammates,

and they then throw the ball across the playing area, to try and hit one of the players on the other side.

- 4. The girls on the opposite side try to catch the ball. If the ball touches someone without them catching it, then they are "dead" and must go to their cemetery for the remainder of the game.
- The girls continue to throw the ball at the players on the other team. The game continues until there are no "live" players left on one team.

Optional: use multiple balls!



### Make New Friends Sign Language Song

Explain to the girls that part of diversity is having diverse physical abilities. Different abilities means that people adapt to what they are able to do. Since deaf people can not hear spoken language, they adapt by using sign language. The girls will now learn a simple song using sign language.

To see the signs in action, visit <u>http://</u>www.handspeak.com/word/.

To hear the tune for the song, visit <u>http://guidingjewels.ca/resources/</u>songs/520-song-make-new-friends.

Detailed actions are on the next page!

### Make new friends, But keep the old. One is silver, And the other gold.





# Closing

Reflect on the activities that the girls participated in today, then do your usual closing.

<b>MAKE</b> bring both fists together, one on top of the other, then separate them slightly, rotate both fists in- ward and bump them together again.	(mart)
<b>NEW</b> Palms up, bring one open palm across the other, then bring the one palm upwards(as if something is coming out of the ground!)	A DO
<b>FRIENDS</b> Bring hands together with both index fingers extended, putting one over the other and then clasp- ing fingers together. Separate hands and repeat with opposite Index finger on top of the other and clasp again.	
<b>BUT</b> Bring both index fingers together to cross, then bring hand away to the outside of the body with fingers still extended.	A Contraction
<b>KEEP</b> Make the ASL "K" sign with both hands and bring one wrist down onto other wrist.	Mr. an
(THE) - ASL has no signs for the words like "the" or "and" or "is".	
OLD Make a fist under the chin and then bring the fist down and out (as if stroking a beard).	e de la compañía de
ONE Make the ASL sign for the number 1.	(55)
(IS)	
<b>SILVER</b> Put index finger to side of head, just in front of ear. As you bring your hand away, close your fist and shake it twice as you move hand to outside of your body.	Put for
(THE)	
OTHER Place fist with thumb up in front of chest, move hand slightly away to side of body, tilting thumb outwards.	
<b>GOLD</b> Put index finger to side of head, Just in front of ear. As you bring your hand down in front of you, open up your hand and bring it up to make the ASL "Y" sign.	Acid Finger and before a barrer de la construction de la construcción

### **Program Connections**

Note that you do not need to do the exact activity listed in the program book to fulfill the requirements of the program.

#### Sparks

Being a Spark: Additional activity (getting to know you game)

Being Me: About Me; Who Am I?

In My Community: Additional activities (food bank donation, learn about disabilities)

Exploring and Experimenting: Additional activity (song using hand motions)

<u>The World Around Me</u>: Diversity Meeting, Additional Activities (international games)

Brownies and Beyond: Additional activity (food bank donation)

#### **Brownies**

<u>Key to Me</u>: Who Am I?, I Feel Proud, Respecting Others, Helping Others

Key to My Community: My Neighbourhood (service project), Community Counts interest badge (help food bank), Family Heritage interest badge (special family treasure)

Key to Active Living: Go For It! Interest badge (play an active game)

Key to the Arts: Art By Hand, Crafts from Afar, Around the World in Song and Dance, Super Crafts interest badge (aboriginal craft, make a craft using recycled materials), Artist at Work interest badge (try different kinds of art)

<u>Key to Girl Guides</u>: Thinking Day and Guide Scout Week (play a game from another WAGGGS country)

#### Guides

You in Guiding: Learn about WAGGGS

 Play a game or learn a song from another WAGGGS country.
Do an activity of your choice. You in Guiding: Be Involved in Your Community

1. Learn about a community issue (need for food bank). Create a graffiti wall (body image).

2. Find out about an issue concerning girls your age (self esteem & special needs).

3. Supporting Your Community service project (food bank).

<u>You in Guiding: Adventures in</u> <u>Guiding</u>: Cultural Awareness interest badge

1. Learn about someone from a different culture.

2. Discover things special to another culture.

4. Play a game from another culture.

You in Guiding: Adventures in Guiding: Heritage interest badge 1. Family background (cultural item shared).

2. Cook a special dish your ancestors might have enjoyed.

You in Guiding: Adventures in Guiding: World Guiding interest badge 4. Make a simple treat from a WAGGGS country. 8. Carry out a campfire that celebrates World Guiding.

You and Others: Build Skills in Communication 2. Explore non-verbal communication.

You and Others: Learn How to Plan 4. Managing money is an important planning skill (\$5 meal).

You and Others: Personal Growth: Interpreting interest badge 5. Translate the lyrics of a song from one language into another.

Discovering You: Discover What's Important to You 6. Activity of your choice.

<u>Discovering You: Stay Fit and Healthy</u>5. Talk about self-esteem and respecting others.6. Activity of your choice.

Discovering You: Girls Creating: Creative Craft interest badge 8. Create a craft you would be able to display (dot art).

Discovering You: Girls Creating: Kitchen Creations interest badge 7. Cook a traditional dish from a country other than Canada.

Discovering You: Girls Creating: Tasty Treats interest badge depends on foods chosen

Beyond You: Discover Your Community 1. Share something from other cultures.

6. Activity of your choice.

#### Pathfinders

<u>Creating Your Future: We`re a Team</u> 1. Icebreaker activity.

Creating Your Future: Lending a Hand

5. Volunteer for a food bank.

<u>Creating Your Future: Be a Model</u> <u>Citizen</u> Multiculturalism in Canada

Do a service project

<u>Girls Stuff: Focus on Friendships</u> 6. Self-esteem activity. 8. Learn about disabilities.

Girls Stuff: Media and Image 1 & 2. Learn about media images of beauty.

6. Awareness to encourage selfesteem.

<u>Girls Stuff: Relationships, Values and</u> <u>Choices</u>

<u>A World to Discover: Around the</u> <u>World at Home</u>

2. Try some crafts with an international flavour.

4. Music from other countries.

- 5. Games from another country.
- 7. International evening.

<u>Living Well: We Are What We Eat</u> 1. Try a new food.

Living Well: Be Glad You`re You

On My Own: Now You're Cooking

Exploring a Theme: Getting Food on the Table

4. World food night

# ENGINEERS IN THE MAKING (STEM ENGINEERING CHALLENGE 1/2)



The STEM Challenge has four components – Science, Technology, Engineering, and Math – each of which can easily be completed over one or two meeting nights, depending on your branch level; Sparks and Brownies will need to complete the first meeting only, whereas Guides and Pathfinders need to complete both meeting plans to earn the challenge crest. The suggested activities listed in each of the challenges are just that—suggestions! Feel free to incorporate other

### Gathering: Marshmallow Structures

Guides and Pathfinders can do this activity following completion of their regular patrol duties.

### Supplies:

- Toothpicks
- Mini marshmallows

### Instructions:

Set out boxes of flat toothpicks and mini-marshmallows. As the girls arrive encourage them to try and construct 3D shapes (structures) with these materials. Can they make a tall tower? Keep these materials to one side for sharing.



activities you find that are challenging for your group and fit within the objectives of the specific part of the Challenge.

A note about round robin activities: if you have a sufficient number of Guiders to run each activity, and a larger group, then the round robin set up may be for you. If you are a smaller group and have less Guiders, then do the activities sequentially, as a group. This also allows for a variable length of time for each activity.

These activities (and more!) can be found directly in the Engineering STEM Challenge, which is available as a PDF on the provincial website under the Resources heading (Challenge Crests). <u>http://www.bcgirlguides.org/resources/challengecrests/</u>.

### Opening Discussion

Have the girls share their marshmallow structures and discuss how they made them.

Brainstorm ideas about what the word "engineering" means (taking science ideas and putting them to work to figure out real world problems).

"Scientists discover the world that exists; engineers create the world that never was." – Theodore Von Karman, Aerospace Engineer.

Talk about the kinds of things engineers do (i.e. build bridges, design roads, buildings, airplanes, electrical gadgets, etc.). Online resources can help you to explain different types of engineering. Some websites are:

http://www.engg-kids.com/ WhatdoesanEngdo.html

http://www.discoverengineering.org/

### **Meeting Plan**

- All: Gathering: Marshmallow Structures (10 mins)
- All: Opening (5-10 mins)
- All: Opening Discussion (10 mins)
- All: Round Robin Activities

Paper Bridges (10 mins)

Wind Energy Pinwheels (10 mins)

Hoop Gliders (10 mins)

- S: Closing (5-10 mins)
- B,G,P: Robot Pin the Tail on the Donkey (10 mins)
- B: (if time) Active game of your choice (10 mins)
- B: Closing (5-10 mins)
- G, P: Egg Protectors (30-40 mins)
- G,P: Closing (5-10 mins)

## Paper Bridge

### Supplies:

- 2 index cards (3" x 5")
- 2 paper clips
- Tape
- Scissors

### Instructions:

- Use the listed materials to build a bridge that spans 5 inches (the length of the index card), has a roadbed that is at least 1 ½ inches above the ground, and no part of the 5 inch roadbed, or supports directly under the roadbed, may touch the ground.
- Once complete, bridges will be tested by applying weight to the centre of the bridge until failure. Failure occurs when the roadbed touches the ground.



### Wind Energy Pinwheels

#### Supplies:

- Paper, cut into a square. Option for older girls: use a more complex pinwheel template. See <u>http://</u> <u>www.electricpinwheels.com/</u> <u>Free Pinwheel Templates.html</u>
- Scissors
- Straight pins with large heads
- Bead (optional)
- Pencil/dowel
- Markers or pencil crayons

#### Instructions:

- Allow some time for the girls to decorate their pinwheels squares, if you like.
- If using the square paper option, cut a diagonal line from each corner in toward the center of the paper. Do not cut all the way through; cut only about 2/3 of the way from the corner to the center.

### **Hoop Gliders**

#### Supplies:

- + 1 3x5 inch index card
- A straight plastic drinking straw
- Tape
- Scissors

#### Instructions:

- 1. Cut the index card into three pieces that are 1 x 5 inch strips.
- Tape two of the pieces of paper into a large hoop, overlapping the ends by about ½ inch.
- 3. Tape the remaining piece of paper into a small hoop.
- 4. Tape the hoops to opposite ends of the straw, with the straw lined up on the inside of the hoops.

- On each corner, bend one point down into the centre of the paper. Poke the pin through the points and the center of the paper to hold your pinwheel together.
- (Optional) Put the bead onto the pin before poking it into the eraser of the pencil. This helps the pinwheel to better rotate.
- 5. Poke the pin into the eraser at the top of the pencil. Blow on it.

Discuss: What happens when you blow on it? How does the shape/ design of the pinwheel help it to work? Where do we see structures like this in the real world? What job are they doing?

Show the girls some images of windmills, etc. from different places that use the energy from wind to generate power.

- 5. Hold the straw in the middle and throw it.
- 6. Now try some adjustments what happens if:
  - The hoops are moved to different locations on the straw?
  - The length of the straw is adjusted (cut to make smaller, or tape another straw on to make longer)?
  - More hoops are added?
  - The hoops aren't lined up?

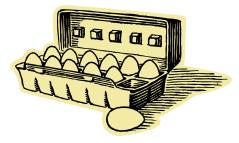
Discuss: The two sizes of hoops help to balance the straw. The larger hoop creates drag (air resistance) and the smaller hoop keeps the glider on course.



### **Egg Protectors**

The girls can work in pairs or small groups to create a container which will protect an egg when dropped from a raised location. To relate this to a real-life scenario, discuss how astronauts return to earth from the International Space Station – inside the Soyuz Capsule!

This is a challenging activity that can take quite a bit of time.



#### Supplies:

- Eggs (raw or hard boiled)
- A variety of found materials that can be used to protect and pad the egg

#### Instructions:

- 1. Have the girls use whatever materials they can to build a container that will keep their egg from breaking when it is dropped from a raised location.
- When selecting a location for the egg drop, keep an eye out for safety – both for you and your girls! Reaching over a railing on a low balcony or playground structure is a good option.

### Robot Pin the Tail on the Donkey

This is a variation of the classic party game, however in this version you are directing your 'robot friend' to do the work for you.

#### Supplies:

- · Blindfold for each pair of girls
- Tape
- Donkey tail
- Large picture of a donkey without a tail

#### Instructions:

- 1. Blindfold your partner and give her the donkey's tail.
- 2. Give her directions to navigate

### **Program Connections**

#### **Sparks**

Exploring and Experimenting Keeper: Goofy Inventions, Additional Activities

#### **Brownies**

<u>Key to STEM</u>: People in Science, Building Up, Communication is Where It's @ Interest Badge (Robot Activity) Special Interest Badge—Complete Badge

#### Guides

You and Others: Build Skills in Communication 6. Complete an activity of your choice building communication

#### Discovering You: Discover Your Creativity

1. Invent a tool, toy or other product.

around the room and stick the tail on the donkey, e.g., "Take ten steps forward" or "Turn right".

 Your "robot" must follow the instructions exactly, and she cannot ask questions to confirm or clarify your meaning.

How easy or hard is it to get her to the destination?

For Guides and Pathfinders, you can adjust the challenge of this activity by making the path to the donkey very simple, or very complex by adding obstacles that must be avoided.

6. Do any activity of your choice to

6. Complete an activity of your choice.

6. Put together a simple model glider.

Engineering interest badge - note: by

completing both meetings you have

4. Complete a hands-on activity on

discover your creativity.

STEM.

Beyond You: Try New Things 4. Create experiments relating to

Beyond You: Science and

Technology Interest Badges

Aeronautics interest badge

earned this badge.

1. What is an engineer?

any engineering topic.

5. Construct a bridge.

6. Build a structure.

Physics interest badge 8. Complete a physics activity of your choice.

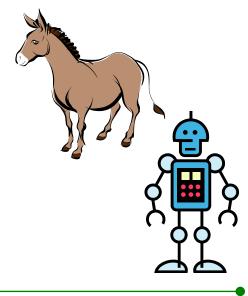
Science interest badge1. Explore three fields of science.(one field explored)5. Complete a physics activity of your choice.

#### Pathfinders

Exploring a Theme: Everything Comes from STEM Between the two meetings, the girls have done enough activities to complete this module.

<u>Creating Your Future: We're a Team!</u> 2. Build a gadget as a team





# Awesome Engineering (STEM Engineering Challenge 2/2)

In order to earn this challenge, Guides need to complete 7 activities and Pathfinders need to complete 9. The Engineering STEM Challenge is best done over two meeting nights for these branches.

## **Gathering: Marshmallow Catapult**

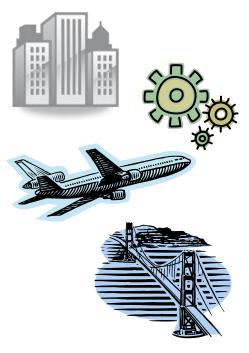
Guides and Pathfinders can do this activity following completion of their regular patrol duties.

### Supplies:

- About 10 popsicle sticks
- 5 rubber bands
- Plastic spoon
- Mini marshmallows

#### Instructions:

- 1. Stack all but two of the popsicle sticks on top of each other.
- 2. Tightly wrap a rubber band around each end of the stack, to keep all the sticks together.
- Tightly wrap a rubber band around one end of the remaining two popsicle sticks.
- Insert the larger popsicle stick stack between the two sticks, pushing the stack close up to the rubber band.



- 5. Crisscross a rubber band around the two pieces, as shown.
- Attach the plastic spoon to the top of the catapult using the remaining rubber band.
  Put a mini marshmallow on the

spoon, pull back and release.

### What is happening?

The catapult is a lever, which is a type of simple machine. Levers have a beam (the stick and spoon assembly here) attached to a hinge, or fulcrum (here, the hinge is the crisscrossed rubber band location). They are used to increase the amount of force applied to an object. In this case, a small amount of force (pushing down on the spoon) will fling the marshmallow a much farther distance than if you threw it with the same amount of effort.

### **Discussion: Discover Engineering**

The marshmallow catapults the girls made during the gathering were a simple machine – a lever – used for a purpose. Engineers use their knowledge of science, such as simple machines, to create usable items which solve problems. Other uses of levers that we see in everyday life are nail clippers, crowbars, wrenches, wheelbarrows, scissors and teeter totters. An example of how a catapult is used today is for propelling planes into the air from aircraft carrier ships (which don't have long runways).

Identify other simple machines and examples of their use in real life (levers, pulleys, wedges, screws, ramps. Wheels, axles).

To discover more about engineering, watch a video about engineers and the

### **Meeting Plan**

GP: Gathering – Marshmallow Catapults (10 mins)

GP: Opening (5-10 mins)

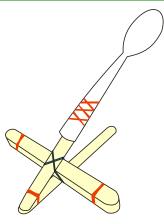
GP: Opening Discussion – Discover Engineering (10 mins)

GP: Go Fly a Kite (15-20 mins)

GP: Computer Programming (20-30 mins)

GP: Coin Sorter (30-40 mins)

G,P: Closing (5-10 mins)



work they do. For some good online resources, check out the following links:

- NASA Intro to Engineering video: <u>http://youtu.be/wE-z\_TJyzil</u> (<3 mins in length)
- Discover Engineering (<u>www.discoverengineering.org</u>): Website developed by the US National Engineers Week Foundation. Has videos with good kid appeal and ideas for follow-on activities.
- Generation-E (<u>www.generation-</u> <u>e.ca</u>): Interactive website aimed primarily at high-school and university students. Contains audio clips, video games and other interactivities exploring engineering as a career.

### Go Fly A Kite

Kite-flying is a great, fun way to experiment with aerodynamics.

The Big Wind Kite Factory, located in Hawaii, has free instructions online (www.bigwindkites.com). Their promise is "20 kids \* 20 kites \* 20 minutes". The instructions below have been reprinted with permission.

### Supplies:

- 8 1/2" x 11" copy paper (not construction paper)
- 8" bamboo BBQ shish-kabob sticks.
- surveyor's flagging plastic tape. Available at hardware or dollar stores.
- tape
- string. (about 6 to 10 feet per kite)
- piece of 1"x 3" (to wind the string on)
- Scissors
- Hole punch

### Instructions:

- Lay the paper on the table in landscape format (long side down). Fold paper in half, side to side.
- 2. Fold the paper diagonally, along the diagonal lines.
- 3. Flip over and tape the spine.
- 4. Tape the cross stick perpendicular to the spine.
- 5. Tape the tail to the bottom of the kite.
- 6. Flip kite over and fold the spine back and forth.
- 7. Punch a hole in the spine opposite the cross bar.
- 8. Tie string through the hole and fly.
- 9. Bring scissors to flying field.
- 10. Cut knots and tangles quickly, retie and keep them flying.
- 11. If one side of a kite gets crunched, crunch other side.
- 12. On windy days a longer tail helps balance the kite.

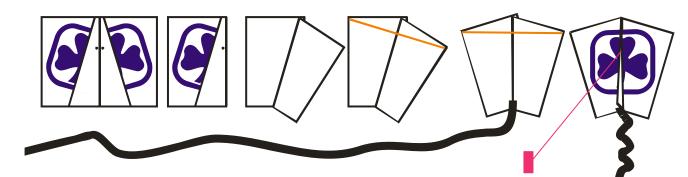
If you would like to make a more difficult kite (i.e. when you have a lot of time), you can find some instructions and ideas for different kinds of kites online:

 Information and instructions for a wide variety of kites (some simple, some complex):

www.howtomakeandflykites.com

- Sew a nylon kite: <u>http://</u> sewing.about.com/library/weekly/ aa032898.htm
- Instructions for lots of different kinds of kites: <u>www.my-best-kite.com/how</u> <u>-to-make-a-kite.html</u>

Build a variety of different kites and compare their performance. Which flies highest? Which is the most steerable? Do variations in size or materials matter?



### **Computer Programming**

Computers may seem smart, but really they are just doing what they are programmed to do. Have the girls take on the roles of Computer Engineers to write a 'program' and test it out to see if it works.

### Supplies:

- Paper
- Pens or pencils

#### Instructions:

- Divide the girls into teams of two or three. Give each team some paper and a pen.
- 2. Have each team write a program,

a set of detailed instructions, for completing a simple task. For example: tying a shoe, brushing teeth or washing hands, making a peanut-butter-and-banana sandwich, packing gear into a backpack for a hike.

- 3. When the teams have finished writing their instructions, have them trade with another team.
- 4. Each team reads the instructions they have to a "computer" (one girl or Guider) who must follow the instructions to complete the task. The instructions must be read exactly as written—no

additional details or explanations can be given to the computer and the computer must follow them precisely. If anything is confusing, or if any steps are left out, the computer must proceed as best she can.

- 5. Did the instructions work? Were any details left out? Could the computer follow the instructions?
- 6. If time allows, give the girls the opportunity to adjust their directions and see if the program runs better the second time around.



### **Coin Sorter**

Engineering is about finding a practical solution to a problem. In this activity, the girls must find a way to sort coins so that they can more easily be counted. Before you begin, explain that many times engineers have to make alterations to their designs to get them to work – it is ok to make changes as you go, this is all part of the design process. Your first design will not always work - keep trying!

#### Supplies:

- · A variety of coins
- A variety of materials, such as cardboard, boxes, paper, cardboard tubes, pipe cleaners, aluminum foil, etc.
- Tape
- Glue
- Scissors
- Something to measure with can be helpful (ruler or calipers)

#### Instructions

- 1. Put girls in to pairs or small groups. Engineers often work in teams!
- Design a coin sorter using scrap cardboard, cardboard boxes and other found materials. Your goal is to be able to drop loose change into the top and have it come out the bottom sorted into pennies, nickels, dimes, quarters, loonies and toonies.

### **Program Connections**

#### Guides

You and Others: Build Skills in Communication:

6. Do any activity of your choice to build skills in communication. Note that by completing the two meetings you have completed 2 required components of this badge although they are both additional activities

You and Others: Personal Growth Interest Badge

Career Awareness interest badge 2. Find out more about careers.

Discovering You: Discovering What's Important to You:

4. Explore career options.

Discovering You: Discover Your Creativity:

Invent a tool, toy or other product.
Do any activity of your choice

Discovering You: Girls Creating Interest Badge: Inventing interest badge 6. Create an invention.

Beyond You: Try New Things 4. Create experiments relating to STEM.

6. Complete an activity of your choice.

Beyond You: Science and Technology Interest Badges: Aeronautics interest badge 7. Make and fly your own kite.

Computer Skills interest badge Alternate activity (computer programming)

Engineering interest badge 1. What is an engineer? 2. Identify at least four simple machines.

4. Complete a hands-on activity on any engineering topic.

5. Construct a simple machine.

Physics interest badge

8. Complete a physics activity of your choice.

Science interest badge

1. Explore three fields of science.

(one field explored) 5. Complete a physics activity of your choice.

#### Pathfinders

Exploring a Theme: Everything Comes from STEM Between the two meetings, the girls have done enough activities to complete this module.

<u>Creating Your Future: We're a Team!</u> 2. Build a gadget as a team.

<u>Creating Your Future: Your Dream</u> <u>Career</u> 4. Learn about nontraditional occupations for women.

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