

INV. 2 ACTIVITY—MOTION IN OUTDOOR EVENTS

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Focus Question: What forces influence motion in an outdoor activity

Materials:

Common outdoor equipment and/or tasks:

Outdoors—swings, slides, basketball, baseball, soccer, football, tennis, frisbee, biking, scootering and/or skateboards, running, walking etc.

- What more can you come up with?

Suggested procedure

Explore outdoor activities and identify the force needed to put yourself or the object in motion.

Do you observe any patterns of motion?

Can you predict motion based on your observations?

Can you influence motion? How did you do that?

What forces influence motion?

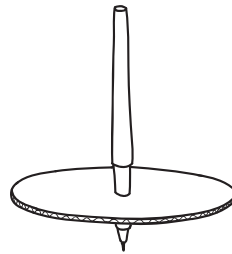
Record your ideas in your science notebook.

INV. 2 ACTIVITY—MOTION IN TOPS

Focus Question: What kinds of tops can we make with common materials found at home

Materials:

- Plastic lids from recycled containers of different sizes to make tops
- Pieces of cardboard
- Pencils with points, pens, felts-tip pens
- Paper
- Scissors
- Tape, masking or transparent



Suggested Procedure:

- Find round lids from recycled plastic containers with a diameter of 8–13 cm (3–5 inches). You will be poking a hole in the lid so make sure they can be used for making tops.
- You can also make a disk out of cardboard. Use a round lid to trace a circle onto a piece of cardboard. Use scissors to cut out the cardboard disk.
- Find the center of the plastic or cardboard disk by drawing diameter lines and see where the line meet.
- Use a sharp pencil or pen to poke a small hole in the center of the disk. Don't make the hole too big.
- Push the pencil or pen through the hole in the circle. If it doesn't fit snug enough, use tape to cover up the hole and then push the pencil or open through the tape.

Make a number of tops with different disks. Put them at different locations on the shaft of the top and observe the behavior. Be sure to use get the top spinning using the palms of your hand.

If you use a felt-tip pen, you have made a drawing top that will trace a path. Put paper on the floor before testing your drawing top.

Have fun twirling your top. Try making different sizes and compare how they work.

Record your observation with labeled drawings and words.

How does the way a top is made affect the way it spins?

Login to FOSSweb and read "What Goes Around" on the eBook.

Think and write a response in your notebook: What do all tops have in common?

INV. 2 ACTIVITY—SPINNING ART PROJECT

Construct and create spinning art

Materials:

- Cardboard
- Paper
- Pencil
- Tape
- Tempera paint
- Box
- Ruler
- Scissors

Suggested procedure:

Draw a large circle on cardboard. Use a large lid to trace. It can be around 15 cm (6 inches). Cut a piece of paper the same size. Poke a small hole in the center of the cardboard disk and the paper. Attach the paper circle to the cardboard circle with a loop of tape. Insert a very sharp pencil through the center of both. You have just created a top. If the cardboard is not snug on the pencil add a little tape. Place your top in a box. Add a few drops of paint to the paper and spin the top in the box. Add a few more drops and spin the top in a different direction. Continue until the art work is done.

Remove artwork to dry.

Add more paper and make more art.