Activity #4

Practice Makes Perfect

Mythbusters: The Explosive Exhibition Component: Change Like a Superhero
Wonder

Challenge yourself with a physical task. Do you get better with practice?

Research

When you tie your shoe or ride your bike, you're following a learned procedure – a particular set of steps followed in a regular order. Life is full of procedures we follow - getting dressed, walking to school, even making a paper airplane! Once you've got it down, you may not even have to think about the procedure because you have done it so many times. You can learn to complete procedures quickly and efficiently through practice, repetition and training. A good memory helps too!

Test and Discover

Materials

- Quarter
- Stopwatch
- Blueprint

Safety First!

Stepping into the shoes of a MythBuster should not mean sacrificing your safety. Keep these guidelines in mind for each activity:
1. Read or listen carefully to all the directions before your start the experiment.
2. Use the equipment and materials only as instructed.
3. Keep your work area clean and organized.
4. Take care when using scissors, or restrict their use to adults.
5. Use plastic instead of glass wherever possible.

Special Notes: Coins may pose a choking hazard for younger children.

Procedure

1. Form a group of two. Find the directions on the Blueprint.
2. One person will follow the directions to move the coin, while his/her partner times how long it takes to complete the instructions.
3. Start with the instructions and game board face down. When your partner says GO, follow the directions as fast as you can. DO NOT touch the coin until the game starts.
4. Clap your hands once between each step of the procedure.
5. Stop timing when the player yells “STOP.”
6. Record your time on the Blueprint.
7. Switch roles and repeat Steps 2-4.
8. Repeat Steps 2-5 until all 5 trials are completed.

Think About It

- Why does it take so long the first time you follow the procedure?
- Why do you seem to get faster the more you try it?
RESULTS

The first time you ran through the directions, you had no idea where the correct boxes were located, or the order in which to touch them. But you may have noticed that the more times you repeated the procedure, the easier it became to find the correct box. By the end of the fifth trial, you probably didn’t even have to look for the right spot, and were pretty sure where to go next. The procedure becomes easier as you practice and begin to remember the steps.

Memory is the ability to store, retain and recall experiences and information. Each time you repeat the procedure, your brain stores information about the steps and the location of the boxes. As you practice again and again, you get even faster at accessing and using that stored information.

KEEP DISCOVERING!

Use the following ideas to create an obstacle course at your school or in your backyard. Set up a series of 5 or more of the challenges listed below, and ask a partner to use a stopwatch to time how long it takes you to run the course. Switch roles and have your partner follow the same steps. Try it several times – do you get better with practice?

BALANCE

- Lay a board across some bricks to make a balance beam. Can you walk across?
  *Safety alert! Be sure your balance beam is low to the ground to avoid injury from a fall.*
- Stand on one foot and count to ten. 20? Even better - stand on one foot on the balance beam!

TOSS

- Throw balls or beanbags into a bucket.
- Toss rings (cut the middle out of a paper plate) onto a water bottle.

JUMP

- Line up some hula hoops (or make rings with rope) and jump from ring to ring.
- Make some hurdles with swimming pool noodles set across buckets.

CRAWL

- Lay a broomstick across some chairs and crawl under.
- Make a tunnel with empty boxes (open the tops and bottoms and tape them together), or use a pop-up tunnel to crawl through.

RUN

- Set up a series of cones (or empty boxes or milk jugs) and weave back and forth between each one.
- Run in a figure 8 pattern around the entire obstacle course, cutting through the middle.
WANT TO LEARN MORE?

THIS GUY’S JOB IS TO MAKE SURE MOVIES ARE SCIENTIFICALLY ACCURATE – COOL!


SOMETIMES REAL PEOPLE EXHIBIT SUPER-HUMAN STRENGTH. FIND OUT HOW.


NATIONAL SCIENCE EDUCATION STANDARDS

Grades 5-8, Standard A: Abilities necessary to do scientific inquiry
Grades 5-8, Standard A: Understandings about scientific inquiry
Grades 5-8, Standard C: Structure and Function in living systems
Grades 5-8, Standard C: Regulation and Behavior
Grades 5-8, Standard F: Personal Health
Grades 5-8, Standard G: Nature of Science

This guide has been developed for use by educators, group leaders and families for use in connection with “Mythbusters: The Explosive Exhibition” (the “Educators”). The activities described in this guide are potentially dangerous and could result in injury or damage. This guide is provided on an “AS IS” basis and the Museum of Science and Industry disclaims all warranties, express or implied, regarding the guide. Use of this guide is done at the risk of the Educators. By using this guide, you release the Museum of Science and Industry, its officers, employees, directors, trustees, agents and volunteers from and against any and all liability, claims, actions, costs, expenses, damages, attorney fees, breach of contract actions and all causes of actions whatsoever, that you may now have or may acquire in the future, arising out of or relating to any loss, damage or injury that may be sustained by you, the people you are educating, or to any property belonging to you or the people you are educating, as a result of the use of the guide.
COMPLETE THE FOLLOWING STEPS AS FAST AS YOU CAN.
DON'T FORGET TO CLAP YOUR HANDS AFTER EACH STEP.
START WHEN YOUR PARTNER SAYS "GO".

1. PLACE THE COIN ON THE SPACE MARKED START. CLAP.
2. PLACE THE COIN ON THE MYTHBUSTERS LOGO. CLAP.
3. PLACE THE COIN ON ADAM'S FACE. CLAP.
4. PLACE THE COIN ON THE BIG BAD WOLF. CLAP.
5. PLACE THE COIN ON THE KING OF HEARTS. CLAP.
6. PLACE THE COIN ON JAMIE'S FACE. CLAP.
7. PLACE THE COIN ON THE CLIFF. CLAP.
8. PLACE THE COIN ON THE EXPLOSION. CLAP.
9. PLACE THE COIN ON KARI'S FACE. CLAP.
10. PLACE THE COIN ON THE RAIN. CLAP.
11. PLACE THE COIN ON THE SUPERHERO. CLAP.
12. TELL THE TIMER TO "STOP!" CLAP.

RECORD YOUR RESULTS.

BLUEPRINT:
PRACTICE MAKES PERFECT
Complete the following steps as fast as you can.
Don't forget to clap your hands after each step.
Start when your partner says "Go".

1. PLACE THE COIN ON THE SPACE MARKED START. CLAP.
2. PLACE THE COIN ON THE MYTHBUSTERS LOGO. CLAP.
3. PLACE THE COIN ON ADAM'S FACE. CLAP.
4. PLACE THE COIN ON THE BIG BAD WOLF. CLAP.
5. PLACE THE COIN ON THE KING OF HEARTS. CLAP.
6. PLACE THE COIN ON JAMIE'S FACE. CLAP.
7. PLACE THE COIN ON THE CLIFF. CLAP.
8. PLACE THE COIN ON THE EXPLOSION. CLAP.
9. PLACE THE COIN ON KARI'S FACE. CLAP.
10. PLACE THE COIN ON THE RAIN. CLAP.
11. PLACE THE COIN ON THE SUPERHERO. CLAP.
12. TELL THE TIMER TO "STOP!" CLAP.

RECORD YOUR RESULTS.

GRAPH YOUR RESULTS.

WHY DOES IT TAKE SO LONG THE FIRST TIME YOU FOLLOW THE PROCEDURE?

WHY DO YOU SEEM TO GET FASTER THE MORE YOU TRY IT?

BLUEPRINT:
PRACTICE MAKES PERFECT
MYTHBUSTERS
THE EXPLOSIVE EXHIBITION

TORY

KARI

START!

JAYME

GRANT

ADAM

GAME BOARD

MYTHBUSTERS
THE EXPLOSIVE EXHIBITION