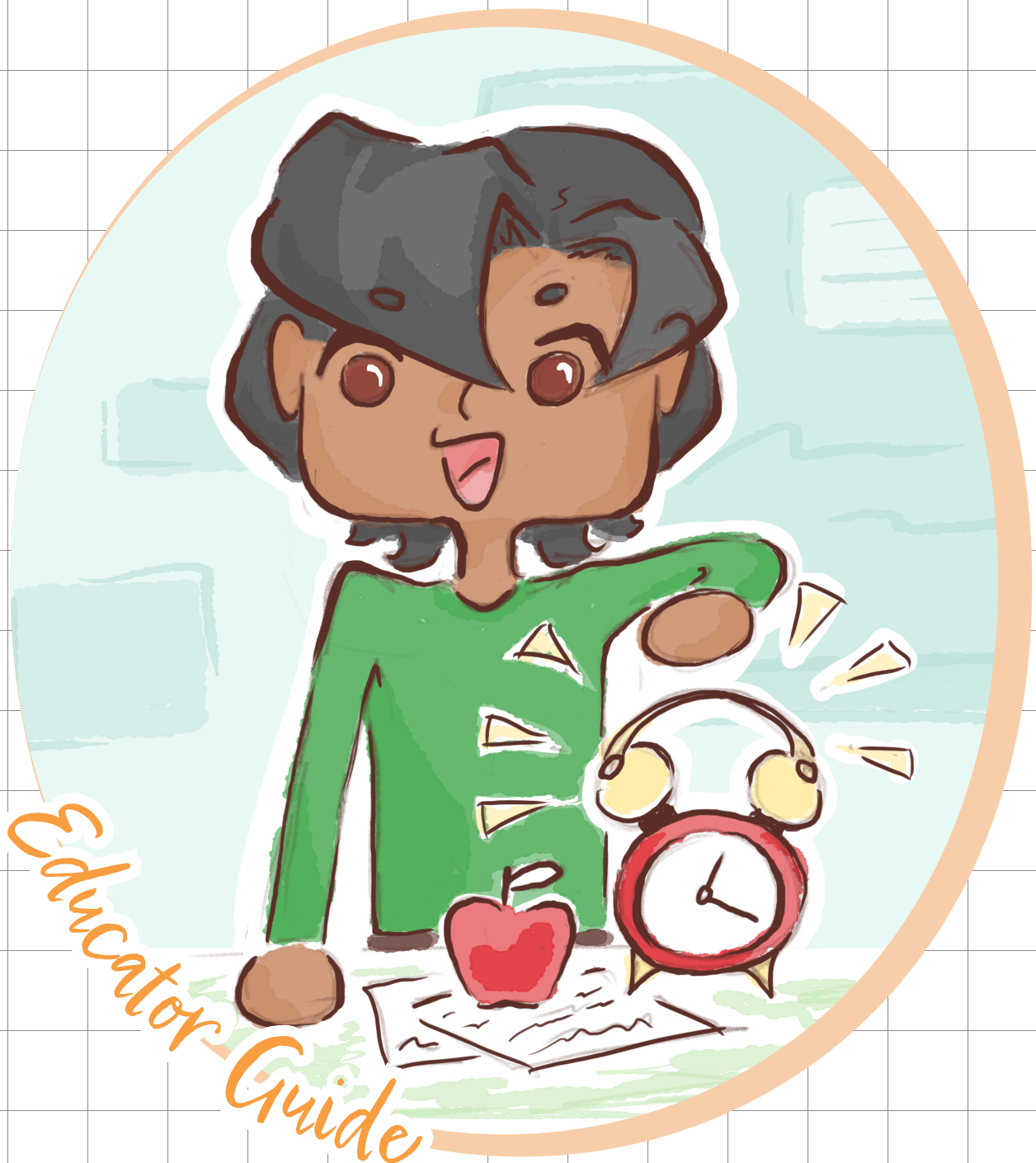


STEAM Sprint Showdown





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A Quick Look into STEAM Sprint Showdown

Make the most of every minute with **STEAM Sprint Showdown!** Inspired by our exciting enrichment program, *60 Seconds or Less*, these fast-paced STEAM challenges are the perfect way to fill those in-between moments with collaborative, STEAM-based fun.

Every game requires minimal or no materials at all, making setup quick and easy. While each can be adapted to fit the needs of any grade level, they've been selected to give you an exclusive glimpse into one of our many programs designed especially for grades 6-8.

- *Survivor Camp*
- *Summer Camp Classics*
- *Flying Disc Enrichment Program*
- *BrickLAB Genetics*
- *Discover Digital Video LAB*

Watch your learners light up as they discover the joy of learning through creative play with these and many of our STEAM Enrichment programs. In the meantime, get ready, get set, STEAM!



Activity 1: Hidden Talent Relay

You can't spell STEAM without TEAM! A successful team plays off one another's strengths. It's up to teammates to discover everyone's unique skills and make the most of them. In this challenge, each learner will put their attributes to the test during a hidden talent relay! Be silly and have fun! You never know what skills can lead your team to victory.

Materials:

- Stopwatch

Instructions:

1. Without giving away the hidden talent, teammates assign each player in their group to a category listed below. All teams should have the same number of players assigned to each category, doubling up as necessary.

Categories:

- a. The Fastest
 - b. The Highest
 - c. The Best
 - d. The Quietest
 - e. The Most
2. Once all categories are selected, assign the following actions or develop your own. You may want to write each task on the board for all to see.

The Fastest	Crabwalk (from point A to point B)
The Highest	5 High Kicks
The Best	5-Second Animal Impersonation
The Quietest	Alphabet Song Singer
The Most	20 Hops on Non-Dominant Foot

3. Racing simultaneously or one after the other, players complete each task one at a time for their team. The fastest team wins!

Discussion Questions:

- What is something new you learned about yourself or your teammate(s)?
- How can discovering teammates' hidden talents be helpful when working together to achieve a goal?

Fast Track to Quality STEAM Instruction:

This activity is based on the exciting team-building STEAM challenges found in *Survivor Camp*. Take on adventures that boost positive character development all while learning real-world survival skills with this immersive, hands-on program.



Activity 2: Paper Bag Challenge

You're likely to find that the world's greatest scientists, engineers, artists and mathematicians enjoy a bit of creative freedom. It's that thrill that comes from thinking beyond boundaries and trying something new that inspires innovation. In this challenge, work with your team to embrace the spirit of creativity. Let your imaginations run wild and craft a one-of-a-kind masterpiece.

Materials:

- Paper bags filled with a random assortment of items

Consider paper scraps or leftover materials found in your learning environment. Anything will do!



Instructions:

1. Determine how much time groups will have to collaboratively assemble their work of art using only the items in their bag.
 - a. Keep it quick to inspire creative decision-making. If time permits, teams can explore additional designs using the same materials.
2. Be sure each group has a flat surface to work on. Distribute paper bags to each group.
3. When time is up, host a quick gallery walk so that all learners can see everyone's creation.



Discussion Questions:

- Which masterpiece was your favorite?
- Did the designs represent anything?
- Did any of the designs show symmetry?

Fast Track to Quality STEAM Instruction:

This activity is based on one of the many creative challenges from *Summer Camp Classics*. As a part of this STEAM-filled program, learners engage in fun crafting activities that help foster key social-emotional skills.

Share Out! Show off your STEAM creativity by sharing your paper bag challenge creations on social media using the hashtag #PCSedventures.

Activity 3: Under Pressure

What would happen if you blew a steady stream of air over a strip of paper with the far edge drooping down? At first, you might expect the air to push the paper even lower. Go ahead and experiment! You're likely to find that the paper strip does something fascinating. Engineers have taken advantage of this surprising phenomenon to design things as large as airplane wings and as small as ping pong balls.

Background Knowledge:

According to Bernoulli's principle, when air moves rapidly across a surface it generates a pressure difference between the top and bottom surfaces of the paper strip, causing it to lift and flutter. This, along with Newton's third law of motion, where an equal and opposite force pushes the paper upward, is the basis for today's STEM Sprint competition.

Materials:

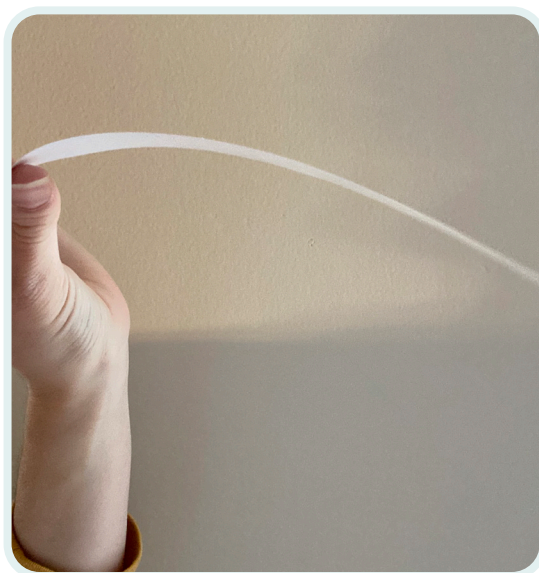
- Strips of paper (one per participant)
Paper length may affect difficulty level
- Unsharpened pencil or marker

Instructions:

1. Have learners hold the top of their paper between their thumb and pointer finger and let it hang straight downwards. Ask them to observe what happens when they blow over the top of their paper strip (it should lift).



Without Air



With Air

2. Learners balance an unsharpened pencil (or marker) over the edge of a desk or table so that half of it is suspended.
3. Using only the strip of paper from their position beneath the pencil, participants have 60 seconds to push their pencil fully onto the table. If they push it off the table, they may reset the pencil and try again.

Discussion Questions:

- What tips would you give others to help them succeed in this challenge?
- Did the paper move in the way you expected? What factors might have caused it to move that way?

Fast Track to Quality STEAM Instruction:

This activity is inspired by our *Flying Disc Enrichment Program*, where learners are immersed in a high-energy, game-based learning experience. They'll take to the great outdoors to investigate how discs use spin (lift), angular momentum (thrust), shape (drag) and weight (gravity) to fly.

Activity 4: Letter Linkers

Have you daydreamed about transforming into your favorite animal? You shouldn't get your hopes up for sudden tail growth or a scaly makeover, but the connection between you and that animal is more than skin-deep! All living organisms share the same basic genetic code called DNA (deoxyribonucleic acid). Just like the 26 letters in the alphabet come together to form millions of different words, the four bases of DNA combine to form different proteins. These combinations give everything their unique traits and characteristics.

Background Knowledge:

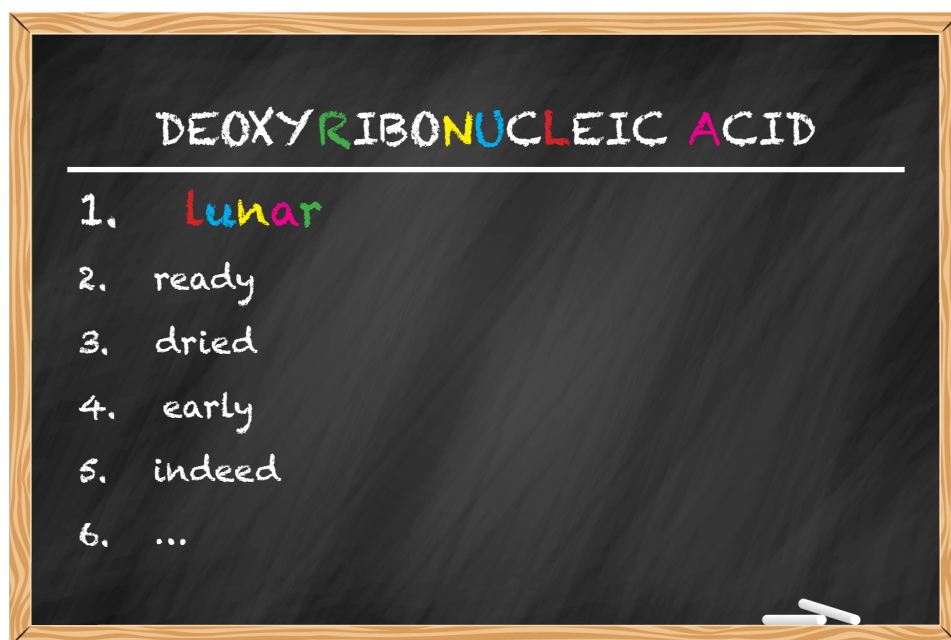
What are the names of DNA's four bases? They are adenine (A), cytosine (C), guanine (G) and thymine (T).

Materials:

- A writing implement and tool to write on (e.g., paper and pencil, marker and whiteboard)

Instructions:

1. Write the words "DEOXYRIBONUCLEIC ACID" on the board for all learners to see.
2. Give teams a set time to list as many words as they can using only the letters in these words.



3. The team with the greatest number of three or more letter words wins!

★ Try this game using any word or phrase connected to the STEM topic you're covering. The combinations are endless!

Discussion Questions:

- What strategies did you use to come up with new words from the given letters?
- Did you find any patterns or rules that helped you generate more words from the given letters?
- How did you communicate with others to share your ideas and contribute to the collective word pool?

Fast Track to Quality STEAM Instruction:

This activity is based on concepts explored in *BrickLAB Genetics*, an inquiry-driven program that builds learners' understanding of genetics and heredity. Using bricks, they'll construct models that make visualizing impossibly small DNA codes possible.



Activity 5: Rapid Trivia

Answer: This media format is believed to have first debuted on American television in 1941.

Question: What is a quiz show?

Did you correctly answer the *Jeopardy*-style question? Whether for the pursuit of knowledge or the flashy prizes, game shows have been entertaining audiences for generations. In this fast-paced activity, you'll play both host and contestant as your team competes to answer questions correctly. Think fast and have fun!

Materials:

- A list of five questions per player (learners develop their own questions).

Instructions:

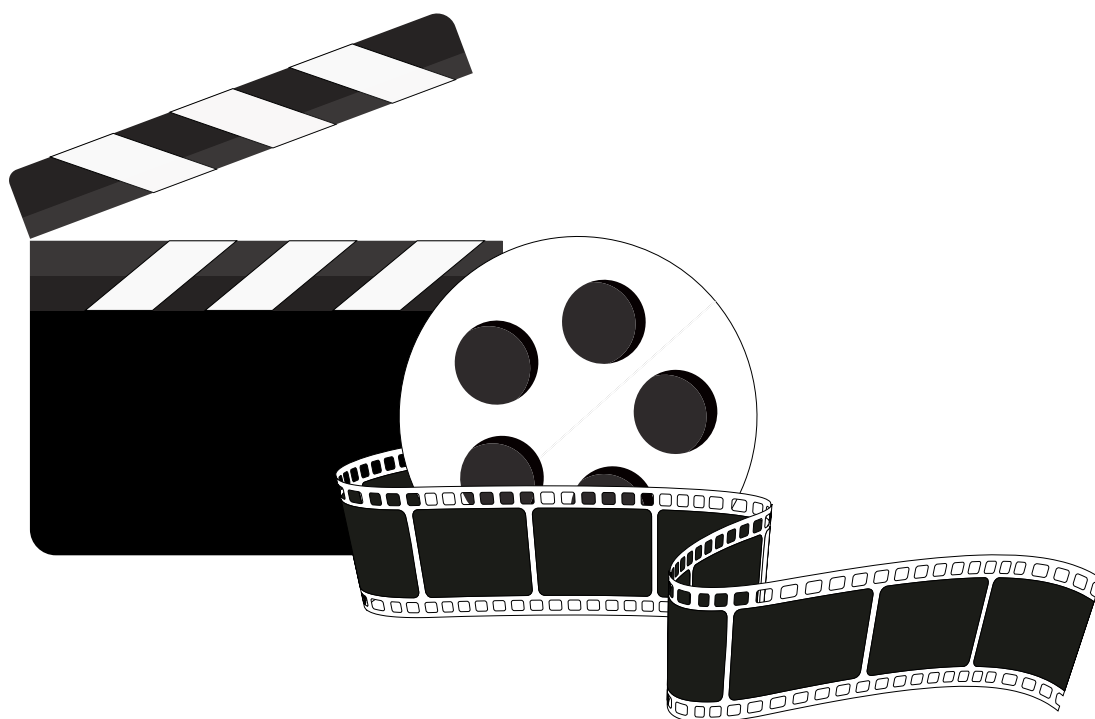
1. Have every teammate individually brainstorm five questions about a STEM topic recently discussed in class. You may choose a topic or allow learners to select their own.
2. Determine how much time groups will have to ask and answer questions.
3. Teams should sit in a circle, each player with a written list of questions. This game is meant to move quickly, so remind learners to take a moment to read through their questions before time starts.
4. Follow the rules of the game below.
 - If you ask a person a question and they answer correctly, it is their turn to ask a question. They turn to the person on their right and ask the next question.
 - If you ask a person a question and they answer incorrectly, you may ask the next player the same question.
 - If someone answers two questions incorrectly, they are out of the game.
5. The team with the greatest number of players still in the game when time is up wins!
 - Tiebreaker: The team with the greatest number of correct responses.

Discussion Questions:

- How did you ensure that your questions were clear and understandable for your teammates?
- How did answering your teammates' questions contribute to your understanding of the STEM concept(s)?

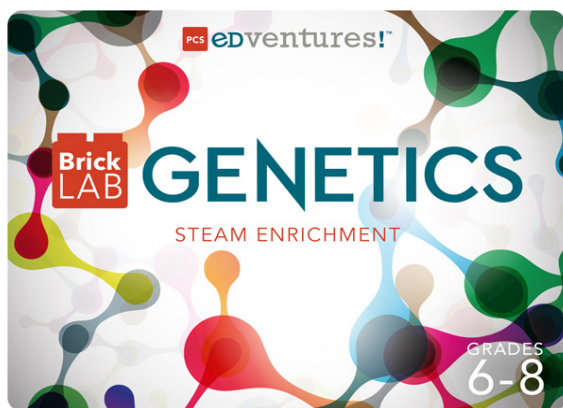
Fast Track to Quality STEAM Instruction:

This activity is based on the immersive experiences found throughout *Discover Digital Video LAB*. Channel learners' creativity with a host of application-based, collaborative projects. From digital documentaries, historical recreations, game shows, original films and so much more, there's something for every budding producer.



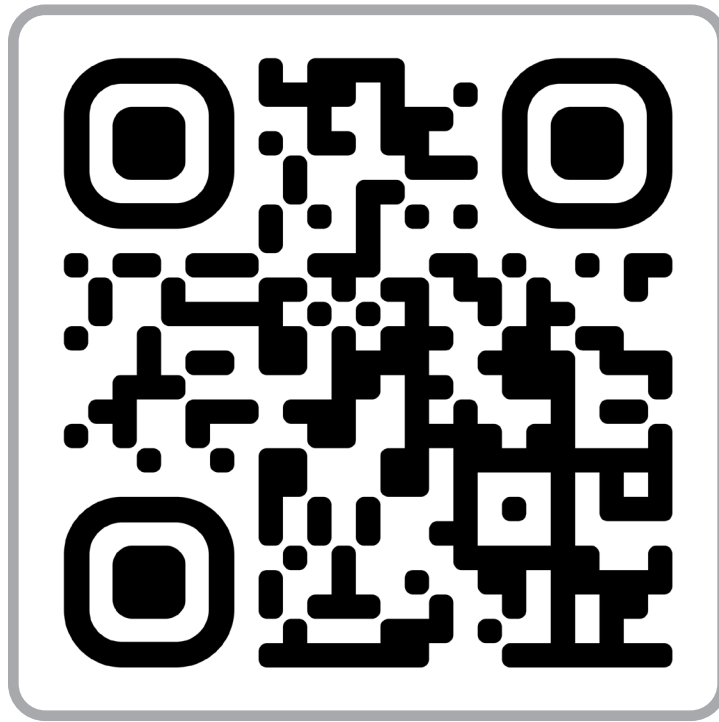
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