

Investigations To Explore Perception

Maddy and Martina think that the human brain is the most fascinating “machine” of all. They were especially curious about how much humans remember when their minds are focused on conversations or activities.



Question

How well can people pay attention to two things at once?

Investigation

The girls gathered six of their friends to play a game of soccer. They told their friends to form a circle and keep passing the ball around. The girls DIDN'T tell their friends that a juggler was going to come out from behind some trees during the game. Maddy and Martina wanted to find out if their friends would notice the juggler and be able to describe her accurately. They wrote a list of interview questions to ask each friend about what they saw.

Results

They found that most of their friends didn't even mention the juggler when they asked how the soccer game went. But when Maddy and Martina asked if the soccer players saw the juggler, they all insisted that they had. However, almost nobody described the juggler's hair and clothes correctly, even though they were sure they had it right.

Conclusion

The girls concluded that when you are focused on one activity and something unusual happens, you don't notice all the details of the unusual event.

Scientist: Idit Harel

Web developer Idit founded MaMaMedia.com, a Web site where kids can write online stories, create digital art, make their own animated characters, and more. MaMaMedia.com now serves 4.5 million kids in 36 countries!



Roller Coasters

Christopher and Zohabiya love to go to the amusement park with their friends, and were curious about why some rides are more scary than others.

Question

How does your pulse rate correspond to the scariness of a thrill ride?

Investigation

Christopher and Zohabiya gathered a bunch of their friends and went on three different rides: Supreme Scream, Ghost Rider, and Boomerang. They found out how much each person's pulse rate changed before and after the ride, and compared that to how scary each person thought the ride was.

Conclusion

Christopher and Zohabiya learned that there was a direct relationship between increase in heart rate and a ride's “scariness.” The scariest ride, Supreme Scream, gave the greatest increase in pulse rate.

Find out more: pbskids.org/dragonflytv.



Challenge Cards

Classroom Inquiry

1) Getting Started

- What activities do you do that really grab your attention? Why is it easy to focus on them?
- When do you have a hard time paying attention? If you say, “When I’m bored,” then what’s the difference between a boring activity and an exciting one?
- Have you heard the phrase, “Time flies when you’re having fun”? Why is that? Why is it easy to lose track of time when you are having fun?

2) Going Deeper

- Try listening to two conversations at once and then recount as much as you can about each conversation. How many details can you remember accurately?
- How often do you see people driving while putting on make-up, or talking on a cell phone? Call your local police department and ask if there has been an increase in accidents among cell phone users.

3) Investigate with DragonflyTV

- Watch the video and see how Maddy and Martina investigated perception – OR – give your students results from the video (see opposite page) and have them draw their own conclusions.
- Were the girls interested in how well their friends played soccer? What was their real interest?
- What did the girls conclude about “eyewitness” testimony? Is it always reliable?

4) Investigate On Your Own

- Using Perception or Roller Coasters as a model, ask your students to design their own investigations. Here are some challenge cards to hand to student teams to get things rolling.

1) The Human Compass

Different animals have been known to navigate using the sun, stars, and natural landmarks. Some animals can even detect magnetic fields to tell North from South. Test if humans have an internal compass. If not, how do we find our way when we don’t have a map?

2) A Closer Look

Try an experiment with your family or friends where some of you change your looks only slightly. You might change the color of your shoelaces or part your hair differently. Predict which changes are the easiest to spot. The most difficult? You might test your predictions using lineups.

3) Test Your Memory

Some kids are ready to rock the minute they jump out of bed, while others don’t hit their stride until later in the day. For example, do you crank in the a.m., and crash after lunch? Or maybe your brain is at its sharpest after sundown. Visit the DragonflyTV Web site to take a cool memory test that will indicate your memory’s “peak time.” Go to pbskids.org/cgi-registry/dragonflytv/investigate3.pl to get started; you can even share and compare your data with kids across the nation!