

Employing infographic art in the education process

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Abstract:

The rapid changes in the field of science and technology led to increased competition, in the field of design, creativity and innovation, to achieve feature competitiveness, This is what makes the importance of the creative design who achieves the highest feature competitiveness to the declaration, It has led massive influx in the information that has become it comes to us from the World Wide Web at all Areas to Positive and negative effects affected us one way or another, That we got to the stage of anger and boredom sometimes the amount of information that shows through different networking sites, Sometimes we see topic appears in more than one place at one site, In the sense that we If you want to search for specific information in Google we see some forums that took the same information and put it in the same way, which affects us negatively wasting time and effort because of the big fuss when we face to get to the source of the information, Even the infographic designs appeared in the form of information and data have an important and active role in simplifying information the show to the recipient in the form of an attractive and impressive able to read and understand very well and analyze data easy and interesting manner.

Keywords:

*Infographic
Innovation
Creative Thinking*

Paper received 7th February 2017, Accepted 16th March 2017, Published 1st of April 2017

Introduction :

The creativity on the basis of the new provision,as such leads to achieve excellence that ensures excellence and leadership in action, infographic art known for a long time, But it entered innovations through information, images and data,As well as the style of presentation and attractions and thrill, Bringing to infographic art employed in all areas, in addition to advertising, etc., Therefore we had Shed light this type of art and how to employ in the field of education.

Statement of the Problem:

It is determined by the research problem in how to use the infographic art in the work of creative, innovative designs and employ them in the education process. An attractive and interesting have a positive impact on appointed receiver either a faculty member or student.

Significance:

Find cares the need acquisition infographic designed variety of experience in the field of design, It must be to know new cultures, Being able to work professionally and employing the art of infographic in the field of the most important areas it is the field of education.

Objectives:

The research aims to identify some of the information by infographic and acquire skills to work infographic Educational successful:

- Understand the importance of infographic designs in education.
- Employ the art of infographic in the education process.
- Identify the types infographic and how to employ all sorts.
- Understand the successful infographic.

limitations:

study limited to:

Objective limit:
Showing some infographic designs and display the differences between them.

Research Methodology :

the analytical method followed by presentation and analysis of some designs,

Infographic concept:

Infographic is called the art of data and information transfer complex concepts to photographs and drawings can be understood and knowledge it, clearly and Suspense, This style is characterized by complex information display and, hard smooth, easy and clear way and more attractive.

Infographic is the art of delivering information in pictures, symbols and then writing and statistics.it contains more than just distinct “snapshots” of real-world objects and scenes; instead it holds complex sets of visuo-spatial schemas that allow the brain to successfully interpret visual

representations that bear minimal resemblance to their real-world equivalents, or even representations whose real-world counterparts haven't even been seen firsthand (Ware, 2004). And different levels of abstraction accommodate different viewing strategies (Massironi, 2002).

There are many definitions of this art trading between specialists and web pages such as:

- Infographic.
- Infographics.



Then appeared after that the writings of Egyptian pharaohs about 3,000 years BC, which includes the use of writing with the inscription. With the third millennium infographic became more widespread and began to be used beyond academia and channels of traditional media, since 2011 until now used infographic significantly in all social media and achieved high rates of use and saw Popularity severe of readers and designers.

Infographic features:

- Simplifying complex information and make it easy to understand.
- Transfer of information and data of numbers, letters and images into attractive graphics.
- Shorten the time instead of reading the huge amount of data written can knowledge visually.
- Used in marketing through social networking sites to attract customers for the owners of companies.
- Uses infographic code included within the web page or blog code, which reduces the pressure on the Internet, compared fees and Photographs usual.
- Easy publishing and the spread of infographic through social networks .
- Easy upload it to the Mobile and send it to everyone Because of its unique characteristics in the clarity of colors and diversity with a background work.
- The ability to think and to link and organize information.
- Helping to retain information more time.
- The ability to apply to a large number of different disciplines and areas of data (images, numbers, texts).
- The possibility of communication through it which the transfer of information to two other by different language them.

- Data Visualize.
- Informatics designs.

Infographic date:

The history of this artTo the world as thousands of years BC

When the man was engraved images and symbols of animals and the surrounding environment on the walls of cavesAs a means communication and information transfer, Thus, it is a form infographic form

- Change the way the routine to display the data and information to the people, This helps to change people's response and their interaction with this information when you see it.

Infographic components:

The most important components:

Visual parts:

This element includes the use of colors and fees (such as stocks and automatic forms, graphs) and images.

Contents:

It includes written texts which should be brief and linked to the previous item.

Knowledge:

It is what distinguishes infographic and makes it more than a text and image but its presentation a certain way represent a concept or knowledge to be delivered as sequence timetable or forest and Parts.

Information infographic can be divided into the following groups:

- Statistic.
- Process.
- Idea.
- Chronology.
- Geography.
- Anatomy.
- Hierarchy.
- Relationships.
- Personality.

Infographic creative designer properties:

- Dealing with complex and diverse things that bear more than one interpretation.
- It has a strong memory in some things, and is capable of Knowledge to detail.
- Research and reflection and mental meditation.
- Cultured and it has extensive knowledge.
- A permanent for the question.

- Slow in the analysis of information and fast access to resolve.
- Self-confidence, a sense of the ability to implement what he wants.

Infographic types:

The first type: Infographic hard:

It is a fixed propaganda either be printed or distributed or published on the Internet pages. The content of the hard Infographic explains some of the information about a certain topic. His choice Infographic owner and a draw photographic explains a certain specific thing more fixed Without the need for any interaction with the reader, and is often used in this type of fixed advertisements and promotions which are printed or distributed or published on the Internet pages or daily newspapers, books and others.

Example:

Type II: Moving Infographic

It is of two types:

- The first type:

Normal video camera and placed upon the data and clarifications in a moving graphic to show some facts and concepts the same video and, unfortunately, this little thing in some kind of use.

- Type II:

A data and clarifications and information design is moving full where this type requires a lot of creativity and choosing expressive movements that help him out in an interesting and fun way as well as have a complete scenario of the final output of this type and the most common type used now. A draw photographic moving It interacts with the reader, and this depends on the part of the concept of animation, It has been seen in some Web sites that tend to this science by using various Web technologies, such as CSS3, HTML to explain a certain something, Some of which appear on the video, Infographic art used to represent information.

Infographic fields of use:

Infographic can be used in all areas of life such as education, awareness, Guidance, education, advertising, marketing, environmental protection, humanitarian aspects, entertainment and religious.

Data that can be displayed using infographic k take many forms, including:

- Statistics: such as population, births, deaths, exports, imports and usage statistics... etc.
- Actions: such actions or steps specific job such as circulation or digestion of food, and others.
- Ideas: such concepts, theories and generalizations, and political ideas and the economic, social, health and food and others.
- Sequence timetable or historical: such as the

history of events and arranged, and maps and schedules and others.

- Description Geographic: such as geographic and other sites.

- Anatomy: such as components and elements, menus and more.

- Hierarchy: such structures, regulatory and identify needs or stages of development and others.

- Relationships: such as internal and external relationships and the relationship between products, people, services and others.

- Characters: It was having infographic Influential figure in one area.

Third: analysis, evaluation and classification of data and information:

After the completion of the provision of graphic materials and information used to filter your data required to extract only, use only the data related to the project and the final product and make them the basis for building the idea.

Fourth: work planning and arrangement of the content.

Make the initial planning for the project and draw a mental map of what you intend to do to put the correct perception and sound and be able to present the idea in the context of a simplified and easy. We can use free software available online or in a computer (such as Excel, PowerPoint, Word) and other programs that help build content coordinator and organizer.

Fifth: choose the right tool for the design:

Select the tools used in the technical direction and the use of design programs Photoshop and others, in order to design proportional to the idea with the target group selections.

Highlights things that must be contained in Infographic:

Address:

Infographic is superior on the one hand in terms The importance of marketing for textual content, So you must when choosing a title for infographic be attractive, easy and quick help in the deployment and marketing infographic.

So when choosing titles for infographic effectively you must:

1. The title effectively to tell the readers with information and basic data contained infographic, and clearly reveals all things to be detected readers without mislead.
2. The title is written infographic lowest possible words. (5 words at most).
3. prefers adding a simple overview On the subject directly below the title, so which provides a quick introduction on the topic of infographic.

4. preferred choice of several different titles to choose from after the completion of the entire design infographic, and not only the one title when writing.
5. Must be included infographic title within the same design and highlighted fullest possible picture at the top of the design.
6. combining text and graphics in a meaningful and calculated way allows communicators to take advantage of each medium's strengths and diminish its weaknesses. Research has shown such combinations to be particularly effective in a variety of learning, instructional, and persuasive tasks (Zacks et al., 2001)

Content:

All the contents of the design infographic of information and data on the subject, and we must focus on the technical aspects of the content as much as possible because the reader means basically segment content within infographic, So it must be this part designed in a way draw the attention of the reader the information in it and not dispersed the rest of the other branches which infographic included. We must make more effort to collect and arrange the data and validated.

Sources:

Must be a clear allocation of space to display the sources of information and data that have been included in the infographic especially in the case of use of data or specific numbers it is common in infographic.

Pictures and formats:

Whenever we were able to reduce the amount of textual content within infographic and increase the images, shapes function on different concepts whenever infographic achieved the best results, in terms of Increasing prevalence access to a larger proportion of the guarantee the information contained infographic inside.

The executing agency name and logo:

Because infographic has wide popularity and a large percentage share between users via social media, It is good to take advantage of this point in the promotion of your product or your brand. For example, if you have a website or blog, is preferable to insert logo, name, site address, so the bottom infographic and clearly, You can also add your accounts on social networks. The same applies to the rest of the products, meaning inclusion any information see the relevance to users or potential customers, provided not mixed with segment content.

infographic model effectively and achieves the

Previous observations:

Influencing standards in structural infographic:

Dealing with dimensions:

In any design, dimensions plays an important role in determining the overall shape of the infographic and impart flexibility in publishing across social media and blogs properly.

So you might wonders now about the appropriate dimensions of infographic, Mainly it depends on the desire of the designer and his vision of how to integrate information and data within the design.

But it's good to know some important basic standards on dimensions own infographic which appear in the following points:

• General trend

If we threw a quick look at a group of infographic which has achieved popular and widely on the Web, we find that most of them were designed vertically (vertical),

In a vertical design infographic considered within the general trends among specialists in the art of infographic, which constitute the most rate as the most prevalent.

The design vertical manner provides greater flexibility in the presentation of data, information and incorporate forms, images and charts comparing design horizontally, where the latter requires more creative to see when content is displayed, a matter that requires further efforts and create the right ideas, and thus we will find less than the models number.

Does not mean avoiding the design and construction infographic image horizontal or square, it is based on the designer and the idea to be put forward by infographic,

Sometimes the design in this way may be more effective than the more vertical design, for example, infographic image is designed in a square or horizontal a lot of .

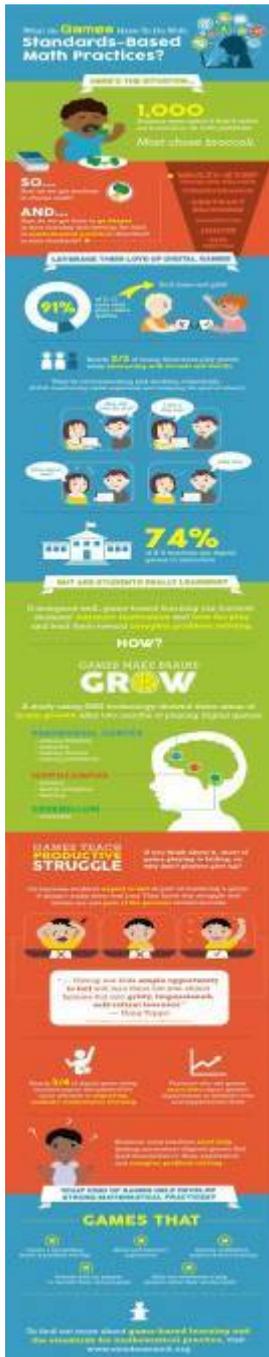
• Dimensions Rate:

It is important to determine the proportion of own-dimensional infographic (aspect ratio), which are among the important criteria in the design, for example, if you choose to infographic design 700 pixel display how much should be height? infographic designed in a manner vertical display to come by length (4: 1), Had 700-pixel display design, Height is 2800 pixels, Ratio vertical

infographic also ranged from 600 - 1200 pixels.



An example of infographic designed horizontal manner (square)



<http://adf.ly/1hqMtC>



<http://adf.ly/1hy9YN>



<http://adf.ly/1heU1z>



<http://adf.ly/1hy7gA>

An example of infographic designed vertically (vertical)



Advice:

Favorite show when designing infographic (600-700 pixels), and thus can be used for height from 2000 to 3000 pixels

-Horizontal infographic it is best to use

Dimensions: width (1000-1200) pixels, length (800-900) pixels,.

To infographic box a length equal to the width, and then you can adjust it as you like.

Dealing with colors:

The importance of choosing the right colors when you deal with any designs of different kinds, We should pay attention to color very carefully and give it a top priority at the design because of its colors that change in mood and their ability to enhance the content and get the message across more effectively, It should pay attention to color very carefully and give it a top priority at the design.

Dealing with color is the responsibility of the designer and the owner of the product, and the guidance of the designer in a manner consistent with the requirements of the designer will help the implementation of infographic more effectively. The task easy for him to choose and define colors.

Important instructions to deal with colors when designing infographic:**• Less colors**

Whenever The colors used in the infographic less the better.

- Advised to use 2-3 color only when infographic design, and can be used 4 colors and preferably not more than that.
- I mean, the main colors used in high-profile design, and not hidden colors
- Or complementary to other elements of infographic.
- Can be used other colors of the line or for some marginal notes,
- Keep format uniform background and by using pictures and charts are compatible with the primary color used in the design.

•Trade mark:

It is necessary to use color in a coordinated manner within infographic with the product or

brand that you want to create infographic around, and this applies in the same way if you wish to establish infographic your product.

Effective model in the use of color in line with the brand:**•Content:**

Information and data on by infographic of paramount importance in determining the color and compatibility with the basic theme for infographic. Always remember that the choice of properly colors with content gives infographic greater value and make it easier for the reader review through visual perception.

But what if the information contained in infographic does not refer to a specific color or to the subject a clear indication?

Infographic design programs:**1. Adobe Illustrator:**

The first program in the design infographic for designers for its flexibility and its ability to provide attractive results.

2-Adobe Photoshop:

It is a photo-editing program and can be used to display the data interesting manner.

1- Nkscape :

Free program and an alternative to Illustrator.

4. Tableau:

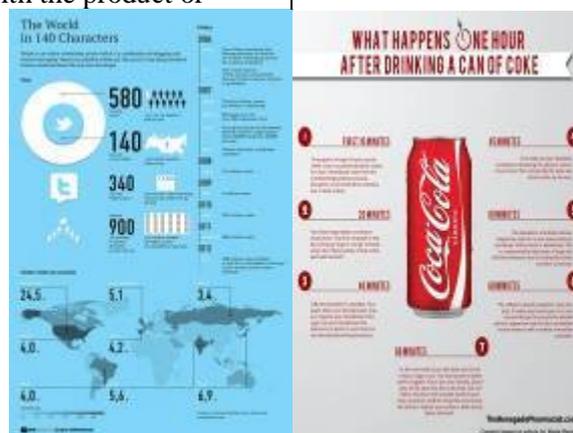
Free program running Windows only, and it is used to develop a colorful and unique designs.

It can also for some services on the Web that will help you in the design, such as:**1-Stat Silk:**

You can use this site within your browser, and you can download free programs on this site, can help in the formation of maps and fees for them, as well as generate a graphical forms in an expeditious manner.

2- Hohli. Site:

It offers a simple and easy tools for drawing diagrams Wa ?? graphical forms. You can easily choose the chart type, add your data, Then you see the charts in front of you, which is your best take advantage of them in the final design.

Conclusions:

Some examples of the use of colors in the right way

Researcher arrived to several conclusions, including:

- Infographic is not born but now via the same rights for thousands of years on the walls of caves.
- Be sure to simplicity of design, and resisted the desire to put all you have in one artwork.
- Infographic likable more than the average for easy presentation of data and text
- Be sure to cohesion infrastructure design and good connect between the picture and before and beyond.
- Find, mounted Facts and stats minutes, and add your sources and references used in the work.
- Choose the right colors for text, images and background.
- Get rid of spelling mistakes when you needed.
- Add your data so people continue to be with you.

Recommendations:

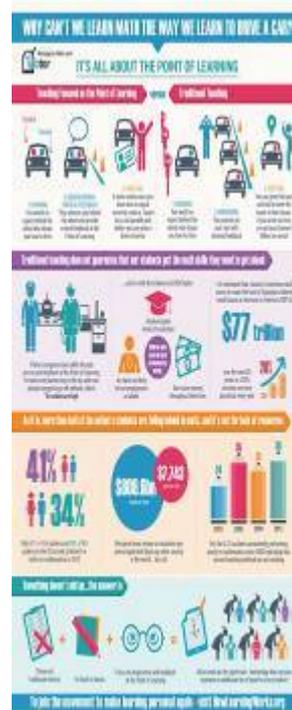
The effectiveness of the art infographic Search results to acquire the knowledge and skills to get to the infographic privileged, and in the light of the results of the study researcher recommends including the following:

1. urged designers to apply the rules and fundamentals in the design infographic.
2. Find resources to help you find data

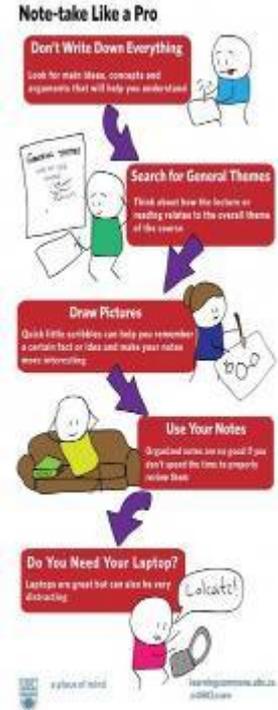
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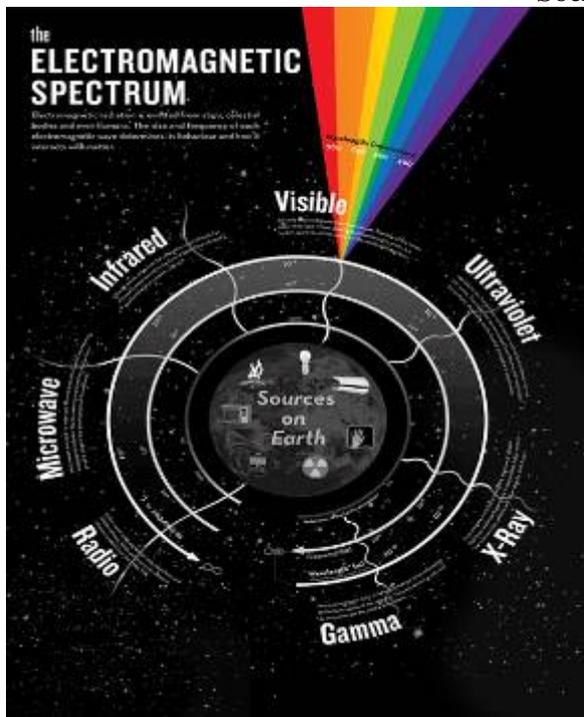


<http://adf.ly/1hexvm>



<http://adf.ly/1heyWS>

Social Learning

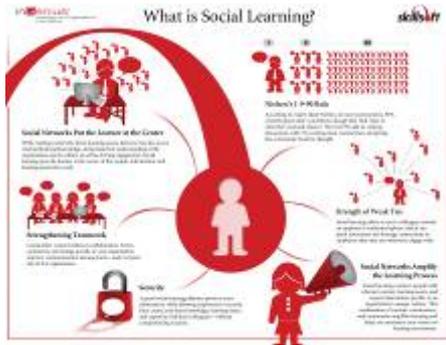


<http://adf.ly/1hevQ0>

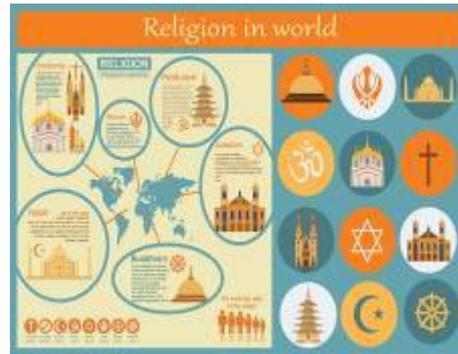


<http://adf.ly/1hevHW>

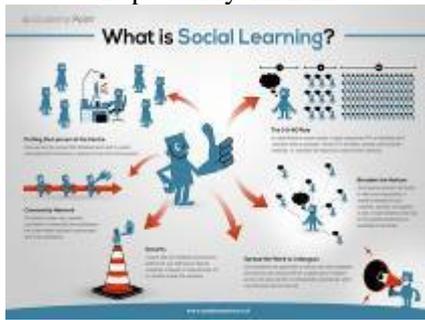




<http://adf.ly/1hsDLI>



<http://adf.ly/1hoMwI>



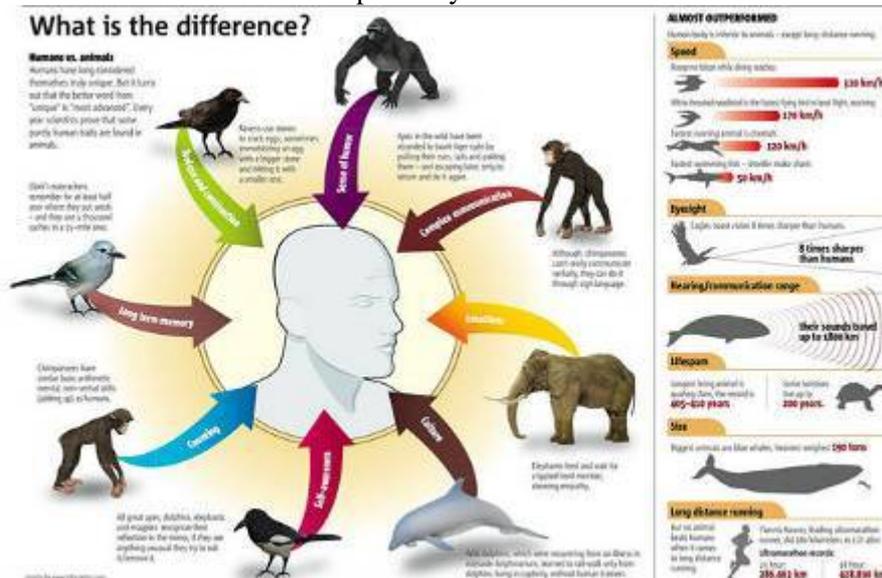
<http://adf.ly/1hsEfW>



<http://adf.ly/1hoNCZ>



<http://adf.ly/1hoNrH>



<http://adf.ly/1hqMaG>



<http://adf.ly/1hsFXt>

science Learning infographic

Photosynthesis

Photosynthesis is the process by which plants use sunlight, water, and carbon dioxide to produce oxygen and energy in the form of sugar.

INPUTS: Sunlight, Water, Carbon Dioxide

OUTPUTS: Oxygen, Glucose

END RESULT: The oxygen which is a gift to the atmosphere is produced back into the air by the light energy for photosynthesis to use to help the plant to live.

UNLOCK: Light energy from the sun is absorbed by the green cells. These cells use water and carbon dioxide to produce glucose and oxygen.

CHALLENGE: Inside each of these cells is a small organelle called a chloroplast. This is where the light energy from the sun is used to start the process of photosynthesis.

WATER: Water and carbon dioxide enter the plant through small openings called stomata. These are small openings in the leaf that allow water and carbon dioxide to enter the plant.

PHOTOSYNTHESIS: Photosynthesis takes place in the chloroplasts. There, the hydrogen atoms are joined together with the carbon atoms to make a sugar that the plant uses as food.

THE MOST-ANNOYING WRITING MISTAKES

The best way to fix these common mistakes is to avoid them in the first place. Here are some tips to help you do that.

- 32% MISUSE OF ACCEPTED OR ENJOY:** Accepted means to receive. Enjoyed means to like. Use 'enjoy' for the verb and 'enjoyed' for the past tense.
- 21% MISUSE OF EFFECTIVE AND EFFICIENT:** Effective means to produce a result. Efficient means to do something in the best way possible.
- 17% MISUSE OF ADVISE:** Advise means to give advice. Advisee means the person who receives the advice.
- 16% MISUSE OF PUNCTUATION:** Punctuation marks are used to separate words and sentences. Use them correctly to make your writing clearer.
- 13% MISUSE OF AMBITIOUS:** Ambitious means to have a strong desire for success. Ambitious people are those who want to achieve their goals.
- 10% MISUSE OF COMPREHENSIVE:** Comprehensive means to include everything. Comprehensive reports are those that cover all aspects of a topic.
- 8% MISUSE OF CONSIDER:** Consider means to think about something. Considered means to have been thought about.

<http://adf.ly/1heWSN>

<http://adf.ly/1hewnK>

Amazing Facts About the Brain

- CONTRARY TO POPULAR BELIEF, HUMANS DO NOT HAVE THE BIGGEST BRAIN RELATIVE TO THEIR BODY SIZES.
- MICE & SMALL BIRDS HAVE A GREATER RATIO.
- MANY PEOPLES WHO CAN STRONGLY BE AFFECTED BY FACTORS LIKE THE SEASON, WEATHER, OR AMOUNT OF DAYLIGHT.
- RESEARCHERS HAVE SUCCEEDED IN RECORDING THINKING IMAGES THROUGH THE BRAIN.
- THEY CAN BE USED TO RECORD THE MIND'S ACTIVITY.
- ALBERT EINSTEIN'S BRAIN WAS REMOVED WITHIN 7 HOURS OF HIS DEATH BY PRINCETON PATHOLOGIST THOMAS STOLTZ.
- MEN HAVE A SEXUAL PURSUIT AREA THAT IS 2.5 TIMES LARGER THAN IN THE FEMALE BRAIN.
- EATING DISORDERS AFFECT THE BRAIN.
- YOUR BRAIN IS AN ENERGY HOG. IT CONSUMES ABOUT 2% OF YOUR TOTAL ENERGY BUT USES 20% OF IT.
- 20% OXYGEN
- 25% GLUCOSE
- 1 IN 4 BIRTHDAY ADULTS EXPERIENCE AT LEAST ONE SIGNIFICANT MENTAL HEALTH PROBLEM IN ANY GIVEN YEAR.
- THE PROPOSED BRAIN WAS SEPARATED INTO 240 BLOCKS.

NEE Home Learning

<http://adf.ly/1heW6n>

Learning Science Through Inquiry

Paving the path to success

Ada learns science through inquiry. Her science lessons use the PISA learning cycle.

Ada enjoys science and excels in class.

Ada majors in science in college.

Ada's friends are not so lucky... Research shows that STEM careers pay well. From 1980-2010, 40% of students who enter college intending to study a STEM field actually do so.

40%

<http://adf.ly/1hevZq>



Math infographics

How to Help Students Meet the Common Core Standards for Mathematics

Elementary • Middle • High

Make sense of problems and persevere in solving them

- Elementary:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
- Middle:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
- High:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.

Reason abstractly and quantitatively

- Elementary:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
- Middle:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
- High:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.

Construct viable arguments and critique the reasoning of others

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- High:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.

Model with mathematics

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- High:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.

Use appropriate tools strategically

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Attend to precision

- Elementary:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
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Look for and make use of structure

- Elementary:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
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- High:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.

Look for and express regularity in repeated reasoning

- Elementary:** Students use a variety of representations to model and solve problems. They use drawings, manipulatives, and other tools to represent the problem and to keep track of what they are doing.
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FOUR OST MATH PROGRAMS TO RAISE ACHIEVEMENT

Why do we need out of school time (OST) math programs?

Only 35% of 8th grade students are math proficient.

OST OPPORTUNITIES

At Home

Ten years of research of over 100 studies shows that family involvement improves skills.

After School

After school math activities use of particular benefit to learners who are from low-income households.

In the Summer

A 4-year study found that attendance in a summer math program resulted in a 20% improvement compared to students who did not attend.

School & Community Partnerships

A study of 20 schools found that family and community involvement supports math proficiency.

What's essential to boosting achievement with OST programs? Connecting to what's happening in the classroom.

Research-based Best Practices for OST Programs

1. Connect to grade-level benchmarks, standards, and the school-day curriculum to increase achievement.
2. Develop thoughtful, fun, accessible activities.
3. Survey and build on students' interests.
4. Motivate and engage all students to participate.
5. Provide real-world activities that connect to the broader community.
6. Provide effective tutoring and differentiated instruction for all skill levels.
7. Integrate technology.
8. Provide homework help.
9. Provide staff training and professional development.

10.2 million students participate in after school programs

19.4 million students are in demand!

10.2 million students participate in after school programs

19.4 million students are in demand!

The Ultimate Math Cheat Sheet

Kindergarten

10 + 10 = 20

1st Grade

10 + 10 = 20

2nd Grade

10 + 100 = 110

3rd Grade

10 + 100 = 110

4th Grade

1,000,000

5th Grade

36 x 44 = 1584

6th Grade

1000 + 1000 = 2000

IMPORTANT RESOURCES AND LEARNING TOOLS

Math.com

IXL

IXL.com

IXL.com



Reference :

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