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# INTRODUCTION

When I was first introduced to computers in 1980, I was taught basic programming. We were shown how to make a loop. We had to develop an entire page of directions in order to have the computer create one screen that might say, 'The sum of 4 plus 2 equals 6'. I developed a computer camp for children to learn this type of programming.

Wow, have we come a long way! After several years I stepped out of teaching, which gave me insight into what the business world really needs in regards to technology. It appears that the old 'necessity is the mother of invention' still holds true. The technology industry creates what businesses, artists, engineers etc. want and need.

Obviously, education must and does keep up. The wonderful thing about our students is that they have no fear. Whatever they are asked to try on a computer becomes an exciting challenge to them, and they end up knowing more about the program than we, their teachers, do. So, we simply get them started and off they go. Usually, my students end up developing projects that are more creative than any I could ever imagine.

When integrating technology into the curriculum, remember how you use the tape recorder, camcorder and other mechanical devices. The computer becomes a tool like the others. I recall when using the typewriter how we dreaded retyping the document because errors were made. Now children can get on the word processor and actually enjoy editing. With multimedia programs, all subjects easily become integrated with technology.

In *Integrating Technology into the Science Curriculum*, you will find lesson plans that invite you to 'jump right in'. Some plans may need adjusting to accommodate student ability and computer knowledge. These lesson plans make up most of this manual; however, there are also tips on management—various computer setups, assessment, surfing the Net. Each lesson lists suggestions for two types of software, but do not let these suggestions limit you. Call the software companies' to receive catalogues. There are new software products developed every day.

- **Reference** software is specific to the topic. This is software that teaches a lesson about your topic or simply gives desired information. Most software companies will allow you to preview their software before purchasing, so take advantage of this. You cannot always be sure that the software is just what you want for your program until you actually try using it.
- **Productivity** software is actually the tool used to create your finished products. For creating multimedia projects, you will want word processing, spreadsheets, database, draw/paint, and slide show capability. Find the programs that work best for you. I will be giving several different suggestions with each lesson plan, but if you haven't already, you will soon decide which productivity software you like best.

# SELF-AWARENESS

Diversity in a child's world helps the child to understand others. Look for similarities and differences among classmates to promote self-awareness.

## Materials:

### Senses Reference Software

- *On the Playground*

### Productivity Programs

- *Kid Pix Studio Deluxe\**
- *The Amazing Writing Machine*
- *Young Writers' Workshop* (Granada Learning)

## Procedure:

### Into: Before the Computer

- Call children who have something in common to come to the front of the class: all who are wearing tennis shoes, long-sleeved shirts, have brown hair etc.
- When at least one half of the children are up front, ask everyone to determine why they have been chosen. "What is the same about all of the children who are standing at the front of the class?" Depending on age, some prompting may be necessary.
- In order to include those seated, ask them if they can determine why these particular children are up in front. "Can anyone seated justify coming up and joining the others?"
- Then have the children standing divide themselves into two groups by something they have in common, and again allow the audience to determine why they are divided. Allow anyone seated to come to the front if he/she 'matches' either group.
- The teacher asks one of the two groups to be seated.
- The remaining group then divides again, based on a different classification.
- This sorting continues until most children have had an opportunity to take part in the activity.
- Prior to beginning this lesson, the children have had practice identifying squares, circles and triangles and the colours red, blue and green.
- They have also practised drawing these figures with *Kid Pix*.

\**Kid Pix Studio* was used for this activity.

# SELF-AWARENESS (cont.)

## Through: At the Computer

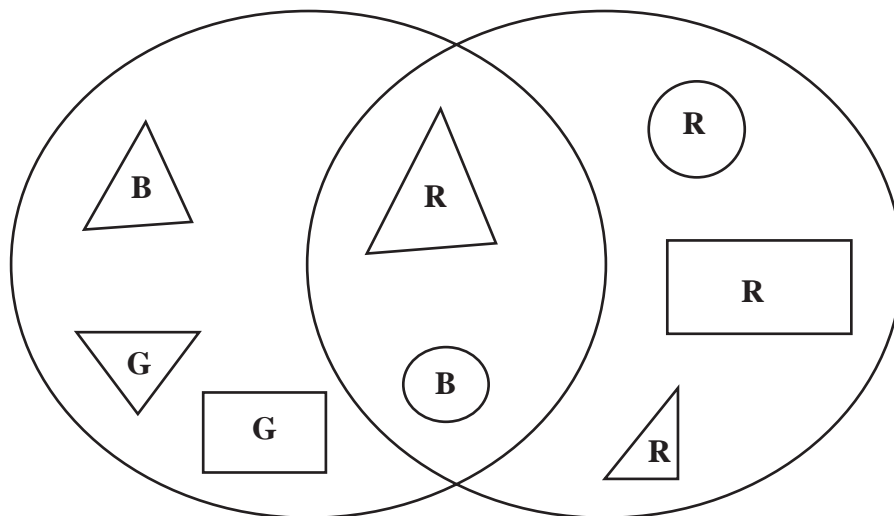
- Using *Kid Pix Studio*, the children draw different-size green squares.
- They draw red squares.
- They draw blue squares.
- They draw green, blue and red circles.
- They draw green, blue and red triangles.
- They print their work.
- The teacher has put three huge overlapping outlines of circles on the blackboard or bulletin board. (Venn diagram)
- The children cut out their shapes that they have printed.
- The teacher puts a few in the Venn diagram, asking why they are placed as they are.
- After putting a few more of the children's shapes in the Venn diagram, he/she invites the children to try placing theirs.

See below for an illustration of the Venn diagram.

## Beyond: Extra Activities

- Using *Kid Pix Studio*, children use stamps and work with a partner to group similar stamps.
- Using *HyperStudio*, children work with a partner to create a three-card stack:
  - Title Card: Sorting/Classification by
  - Second Card: Similar Shapes
  - Third Card: Similar Colours
- *HyperStudio* media library, objects drawn on *Kid Pix* and imported, or clip art from other software (*The Amazing Writing Machine*) can be imported for this stack.

### Venn Diagram Illustration



# SENSES

Our senses help us to see, hear, smell, touch and taste the world around us. We learn by using each or all of our senses. They keep us safe and allow us to observe everything as we go about our daily routines.

## Materials:

The following are suggestions of items to arouse the senses; use as many of these as you like or others that you prefer: peanuts, coffee, sliced oranges, bananas, cologne, peanut butter, sliced lemons, sour/sweet pickles, sugar, salt, bells, alarm clocks, whistles, various cloths (including fake fur, sand, or sandpaper), glass/marble, cactus.

## Productivity Programs

- *Kid Pix Studio Deluxe*
- *Young Writers' Workshop* (Granada Learning)
- *The Amazing Writing Machine*
- *The Graph Club*

## Procedure:

### Into: Before the Computer

- Utilise a variety of objects/strategies with the class to encourage the use of their senses.
  - Point to objects in the room for sight.
  - Sniff peanuts, coffee rinds, sliced oranges, bananas and cologne for smell.
  - Sample peanut butter, sliced lemons, sour/sweet pickles, sugar and salt for taste.
  - Listen to bells, alarm clocks, whistles, clapping, stamping of feet and giggles for hearing.
  - Feel fake fur, sand, sandpaper, glass/marble, cactus and various cloths for touch.

### Through: On the Computer

- Students will create graphs to determine which senses are most used.
- Using the above objects, and possibly working with a partner, they decide on an icon for each sense. These icons are the vertical axis.
- Each of the objects is discussed with a partner, and an 'x' is placed in the sense column when that sense is used to explore the object.
- For example, when examining the peanut an 'x' would be placed under sight, smell, touch and taste since a peanut can be identified with those senses. Continue this with all the objects.