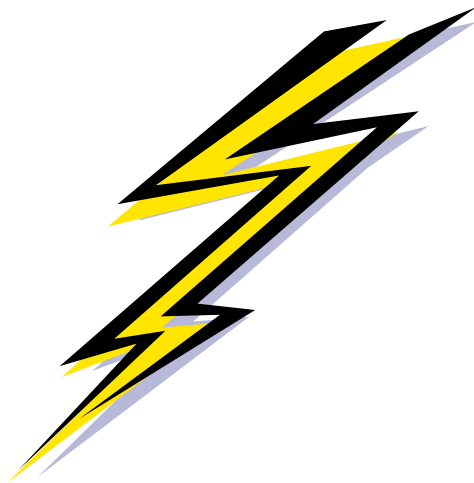


**Arlington Science Focus School  
Arlington Public Schools**



**School Improvement Plan  
2008-2011**

## **Mission**

Arlington Science Focus School creates an environment of mutual respect and high expectations, which allows all students to succeed in a science-based instructional program.

## **Vision**

Arlington Science Focus School is designed to develop extensive understanding of science content and process through inquiry-based learning. Students embark on exciting adventures each day where science content is used as the catalyst to teach all curricular areas by using natural inquiry to develop students' skills of thinking, analyzing, reflecting, problem-solving, and hypothesizing. Through multiple intelligences, differentiation, and inquiry-based learning, the goal is for students to construct their future by gradually assuming responsibility for their own learning. Our young scientists will have the skills required to adapt to a changing world and solve complex problems.

## **Beliefs**

The Arlington Science Focus School community believes that parents, teachers, students, and the community all share the responsibility of educating our students.

Students will:

- Succeed in striving to reach their highest potential;
- Learn best through varied activities that implement Gardner's theory of multiple intelligences;
- Understand science through inquiry-based hands-on/minds-on activities;
- Demonstrate essential knowledge and skills when given appropriate learning challenges;
- Learn from experiences that include problem-solving, critical thinking, extensions, and differentiation.

The Staff will:

- Strive to increase the achievement of all students;
- Be committed to closing the achievement gap within our diverse student population;
- Participate in ongoing professional development that helps meet the changing needs of our students;
- Effectively model appropriate social and learning behaviors for students;
- Provide a safe, comfortable environment for students to learn, grow, and play.

The Parents will:

- Become active participants and supporters of their child's education;
- Make sure their children are prepared for school each and every day;
- Be positive role models;
- Emphasize the importance and joy of education;
- Communicate with the staff when they have concerns about their children;
- Respond to issues raised by the school staff regarding their children;
- Support school programs and staff, particularly when invited to participate;
- Take an active role when appropriate in any work sent home or in responding to suggestions for at home support in their child's education;
- Create a positive experience for their child's education both in school and at home.

# **Introduction**

## **History**

The Jamestown-Key-Taylor Elementary School Team was approved as a pilot by the School Board on June 24, 1994. The purpose of the pilot team was to increase choice of programs and activities for students; to encourage voluntary distribution of students to relieve crowding; to provide increased experiences of diversity; and to maintain a guarantee of enrollment at the neighborhood school. The guidelines called for the establishment of a Planning Council appointed by the Superintendent. This council provided leadership to the team.

The Planning Council was directed to prepare recommendations for opening a Science Focus School as a team school in the fall of 1995. The recommendations resulted from a process that fostered involvement of all interested citizens and staff.

## **Instructional Program**

The Planning Council recommended an experiential elementary science and math program which emphasizes process, and in so doing, provides students with the skills needed to truly understand and apply scientific and mathematical concepts. Integrating the arts with a math/science instructional focus provides a unique opportunity to develop an instructional model that addresses the ability levels of all students. Using the multiple intelligence theory, children were to be given the opportunity to learn in seven different ways: linguistically, logically, spatially, kinesthetically, musically, interpersonally, and intra personally.

The Arlington Science Focus School (ASFS) is designed to develop extensive understanding of science content and process through inquiry-based, hands-on activities. The program provides a curriculum which follows the Arlington Public School curricular objectives in all content areas through an integrated approach to the delivery of instruction. Students identify and understand how the arts and other curricular areas connect to the sciences. Opportunities are provided for students to explore the natural world through a classroom laboratory setting. An array of exploratory activities allows students to relate arts expression and scientific inquiry. Instructional technology is used as an integral tool for student learning. The integrated science based units include activities for concept development in each of Gardner's multiple intelligences.

Integrated curriculum units involve students in hands-on investigations of scientific phenomena, which enable students to learn science by doing science. For example, a student studying the body might count and classify the bones (math and science); look for and draw patterns (math and art); imagine, move and write about his or her body without bones (learn and sing); examine Leonardo da Vinci's drawings of the human body and modern scientific drawings. A final project might involve the students making robots with moving parts, drawing and painting the human figure, or writing and performing a play or song about the human body.

Working partnerships with area scientists, businesses, local institutions of higher learning, national laboratories, and scientific foundations promotes the exchange of knowledge and experiences useful to the improvement of science education. ASFS's organization structure allows for prompt response to the needs of students and the community. Resource and support personnel compliment the program by participating in the educational process.

Key features that distinguish Arlington Science Focus School as a science school include Wednesday morning multi-age Science City instruction, the Investigation Station and Children's Engineering.

### **Organizational Structure**

Presently, classes utilize a single grade and multi-age team teaching organizational structure. To meet the needs of ASFS population, a variety of grouping practices are used. This organizational structure may change as we experience changes in our program.

Innovative instructional programs at the Arlington Science Focus School include full day kindergarten, single grade and multi age developmental classes, and support services which are delivered using in-class and pull-out models for instruction. Students who have been identified will receive instruction in special education, ESOL/HILT, and gifted education.

A variety of assessment strategies such as portfolios, demonstration, student presentations, student products, journals, recorded teacher observations, and objective tests are used as measures of student knowledge and understanding of processes.

Strong parental involvement is a very important component of the Arlington Science Focus program. Parents are encouraged to participate in the program and become active members of the cooperative learning communities, which are fostered in all classrooms. The PTA is very active and supports the instructional program.

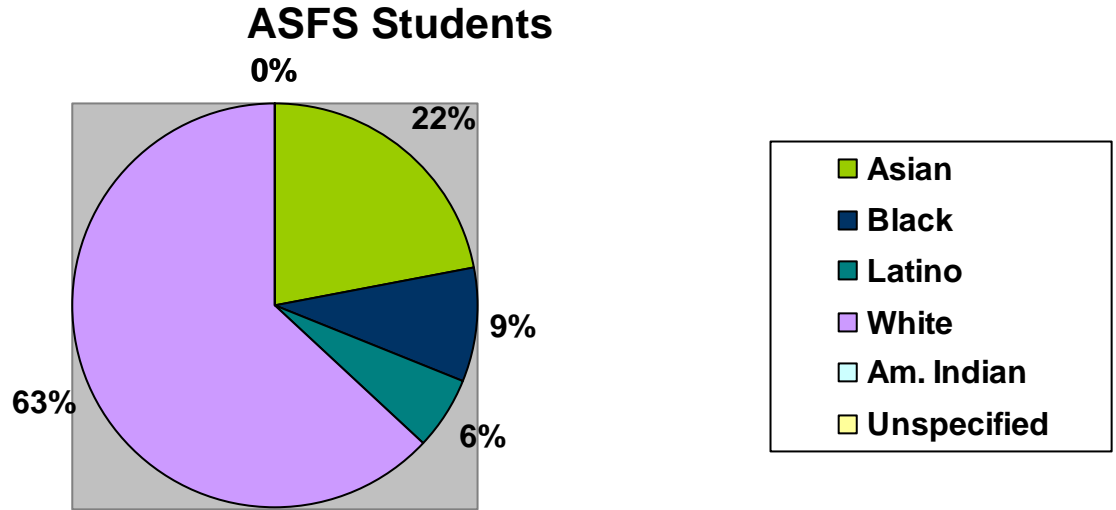
### **Application Process**

ASFS is considered a home school for children who live within the Key School boundaries. Families in the Key School neighborhood are asked to fill out an application form for fall by April 15, but students are accepted whenever they apply. Students that reside in the Jamestown and Taylor intra-team attendance areas have first priority for the ASFS program over transfer students from elsewhere in the county.

Many parent tours are held at ASFS, as well as at the other team schools in order to help parents make an informed school choice. Random selection of all applications from within the team will occur on or shortly after April 15 if the number of applications exceeds the available spaces. Following the random selection, team families may continue to apply for any available spaces.

## School Profile

### Student Demographics



- The total preschool through fifth grade enrollment is 478.
- Arlington Science Focus School houses a Virginia Preschool Initiative class with 16 four year olds. Most will attend Kindergarten at ASFS the following year.
- 9% of students receive special education services.
- 8% of students are identified as gifted in academics or in the arts.
- 19% of students receive either HILT or ESOL support as second language students.
- There are slightly more male students than female students. (55% males; 45% females)

## Distribution of Students

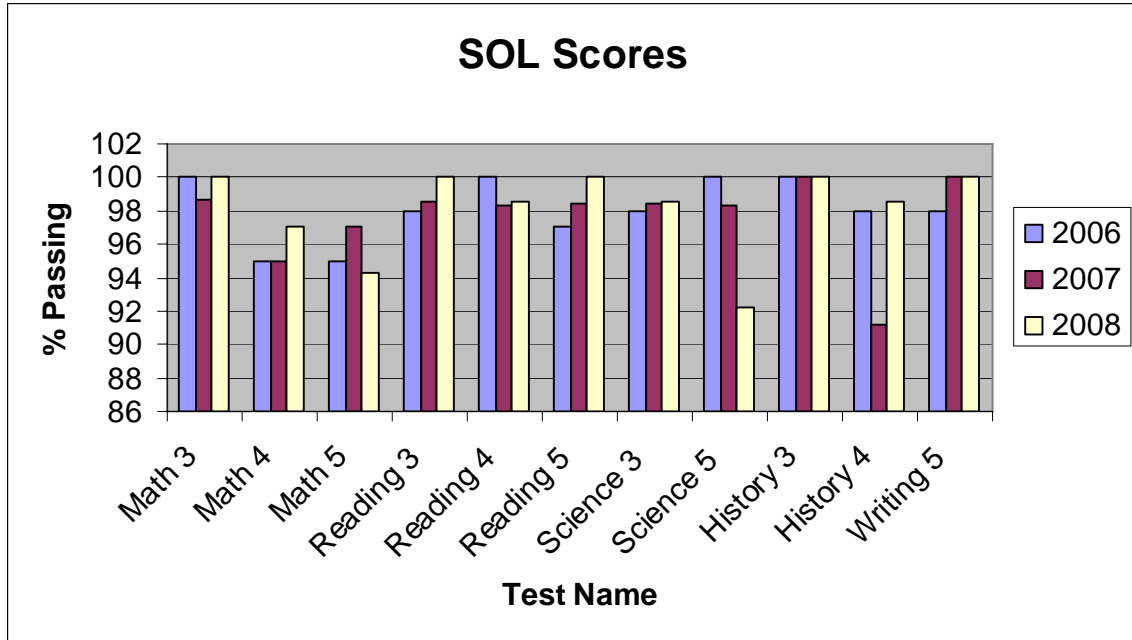
Pre-Kindergarten	19
Kindergarten	74
First Grade	74
Second Grade	103
Third Grade	59
Fourth Grade	79
Fifth Grade	70
<b>Total</b>	<b>478</b>

## School Staff

There are 36 T-scale staff, all of who are certified in their area of employment. Additionally, there are 10 itinerant specialists, a part-time Instructional technology Coordinator, a part-time Assistant Principal and full-time Principal. The Principal, Mary Begley, has been a part of the ASFS staff since its inception. At ASFS, the average number of years of teaching experience is nine years. Twenty nine of the full time teachers hold at least a Master's degree. There are two National Board Certified teachers.

## Standardized Test Scores

	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Math 3</b>	100	98.7	100
<b>Math 4</b>	95	95	97.1
<b>Math 5</b>	95	97	94.3
<b>Reading 3</b>	98	98.6	100
<b>Reading 4</b>	100	98.3	98.5
<b>Reading 5</b>	97	98.4	100
<b>Science 3</b>	98	98.4	98.5
<b>Science 5</b>	100	98.3	92.2
<b>History 3</b>	100	100	100
<b>History 4</b>	98	91.2	98.5
<b>Writing 5</b>	98	100	100



- ASFS students perform well across all grade levels and curricular areas. At all grade levels and all tests, at least 90% of students are passing the SOL assessments.
- Targets as defined by the ASFS school management plan were met in the following areas: 3<sup>rd</sup> Grade Reading, 5<sup>th</sup> Grade Reading, 5<sup>th</sup> Grade Writing, 3<sup>rd</sup> Grade Math, 3<sup>rd</sup> Grade History and 4<sup>th</sup> Grade History.
- Arlington Science Focus made AYP as defined by NCLB.

## Achievement Gap Data

Grade	Group	English: Reading			Mathematics		
		FROM 2006-07	Target 2007-08	Actual 2007-08	FROM 2006-07	Target 2007-08	Actual 2007-08
3	Asian	-10.0	0.0	0.0	10.0	0.0	0.0
	Black	25.0	10.0	0.0	0.0	0.0	0.0
	Hispanic	0.0	0.0	TS	0.0	0.0	TS
	Disadv	9.1	0.0	0.0	5.3	0.0	0.0
	LEP	0.2	0.0	0.0	-1.8	0.0	0.0
	SWD	0.2	0.0	0.0	8.3	0.0	0.0
4	Asian	-2.7	0.0	0.0	9.2	0.0	-2.2
	Black	-2.7	0.0	20.0	-5.4	0.0	17.8
	Hispanic	-2.7	0.0	TS	0.0	0.0	TS
	Disadv	-2.2	0.0	7.7	-10.6	0.0	5.3
	LEP	-2.1	0.0	-1.9	10.4	0.0	-3.8
	SWD	-2.0	0.0	-1.8	-22.0	0.0	-3.4
5	Asian	2.9	0.0	0.0	5.6	0.0	0.0
	Black	1.1	0.0	0.0	3.8	0.0	20.0
	Hispanic	2.9	0.0	0.0	38.9	10.0	33.3
	Disadv	-5.8	0.0	0.0	3.9	0.0	22.8
	LEP	2.7	0.0	0.0	-3.6	0.0	14.3
	SWD	-20.0	0.0	0.0	0.6	0.0	22.8

Grade	Group	English: Writing			History			Science		
		FROM 2006-07	Target 2007-08	Actual 2007-08	FROM 2006-07	Target 2007-08	Actual 2007-08	FROM 2006-07	Target 2007-08	Actual 2007-08
3	Asian	X	X	X	0.0	0.0	0.0	0.8	0.0	2.9
	Black	X	X	X	0.0	0.0	0.0	0.8	0.0	2.9
	Hispanic	X	X	X	0.0	0.0	0.0	0.8	0.0	TS
4	Asian	X	X	X	20.1	10.0	2.8	X	X	X
	Black	X	X	X	33.4	10.0	2.8	X	X	X
	Hispanic	X	X	X	0.1	0.0	2.8	X	X	X
5	Asian	-6.7	0.0	0.0	X	X	X	0.0	0.0	0.0
	Black	0.0	0.0	0.0	X	X	X	16.7	0.0	40.0
	Hispanic	0.0	0.0	0.0	X	X	X	0.0	0.0	33.3

*TS= Subgroup tested is too small*

- In 2007-2008 all subgroups performed equally well on the following SOL exams: 3<sup>rd</sup> grade Reading, 3<sup>rd</sup> grade Math, 5<sup>th</sup> grade Reading, 5<sup>th</sup> grade Writing, and 3<sup>rd</sup> grade History. (There was not an achievement gap for any of the subgroups on these tests.)
- Some subgroups outperformed their counterparts. Such is the case in 4<sup>th</sup> grade, where LEP and disabled students outperformed their peers on the 4<sup>th</sup> grade Reading test and the 4<sup>th</sup> grade Math test.
- On some tests, there was evidence of an achievement gap, such as 5<sup>th</sup> grade Math, 4<sup>th</sup> grade Reading, 3<sup>rd</sup> grade Science, and 5<sup>th</sup> grade Science. In particular, African–American students did not perform as well as their peers on these specific tests.
- It is to be noted that because the subgroups are small, the achievement gap data can be inconclusive.

## Stakeholder Perspectives

Each year, students, staff and parents from each school complete a survey. Below are responses for a select set of questions. For comparison, Arlington Public Schools results are provided. Survey responses are in the form of Likert scales. In most cases the top two responses are reported.

<b>CUSTOMER SATISFACTION SURVEY RESULTS</b>	<b>ASFS</b>	<b>APS</b>
<b>Student Responses</b>		
The overall grade for my school is an A or B	82%	41%
The overall grade for teachers in my school is an A or B	93%	76%
Strongly agree or agree with the statement “I like to go to school”	75%	47%
Strongly agree or agree with the statement ”My teachers do many different instructional activities in the classroom”	93%	75%
Strongly agree or agree with the statement “I learn about other cultures in my school.”	91%	75%
There are just the right number of students in my class	93%	Not available
<b>Staff Responses</b>		
The overall grade for my school is an A or B	93%	89%
The overall grade for teachers in my school is an A or B	100%	94%
The overall grade for my principal is an A or B	87%	77%
I strongly agree or agree with the statement “I feel valued at school”	81%	82%
I strongly agree or agree with the statement “I feel supported at school”	81%	80%
I strongly agree or agree with the statement “The principal is responsive to teachers”	85%	78%
There are just the right number of students in my classes	78%	71%
<b>Parent Responses</b>		
The overall grade for my school is an A or B	97%	91%
The overall grade for teachers in my school is an A or B	92%	90%
The overall grade for my principal is an A or B	95%	86%
I am very or somewhat satisfied with the level of instruction at my school	91%	78%
Strongly agree or agree with the statement “I feel welcome at my child’s school”	98%	93%
Strongly agree or agree with the statement “The principal is responsive to concerns of parents or the community”	92%	86%
Strongly agree or agree with the statement “My child enjoys learning”	96%	90%
Strongly agree or agree to the statement “The school does a good job of getting important school information to parents”	97%	90%

Overall the survey results indicate that members of the ASFS community are equally or more satisfied than members of the overall Arlington Public Schools community. ASFS has many strengths that were highlighted via the surveys. Staff and

parents are very satisfied with the high quality of instruction, class sizes, homework, etc. Parents favorably rated staff, the principal, and the facility.

Although the staff responded that they felt supported by the principal, and rated the principal very favorably, some staff responded that they would like to play a larger role in school-based decision making. In response to this, the leadership team has created committees for staff input and involvement. Teachers are taking greater responsibility for planning school-wide functions, previously planned by the administration. The planners of such events are able to make decisions and changes as they see fit.

Overall, the results confirm that there is a great deal of success and fulfillment within the ASFS community. Areas that can be improved will be addressed through the administration and school leadership team.

*(Full survey results are available through the Office of Planning and Evaluation and are published online.)*

## Goals and Strategies

**Goal 1:** Increase student achievement for all students.

**Objectives:**

- Maintain or improve student achievement over the three year period.
- Demonstrate high student achievement on assessments such as the DRP.
- Provide a high quality instructional program.
- Utilize student test data to make instructional decisions.

Strategy	Staff Responsible
Continue to collaborate in planning instruction with grade level peers and specialists	Teachers, specialists, administration
Continue to match staff needs with available county-wide staff development and provide site-based staff development at ASFS	Lead teachers, administration
Facilitate the use and growth of technology at ASFS	Instruction Technology Coordinator, Administration, Investigation Station teacher, Staff
Use assessments (DRP, DSA, DRA, PALS, SOLs, etc.) and student portfolios to monitor student growth, create groupings, and differentiate instruction.	Instructional Staff
Disaggregate SOL data to determine student needs	Lead teachers, administration
Utilize hands-on instruction, consistent with the theory of multiple intelligences, in daily instruction as well as in Science City	Instructional staff
Implement Children’s Engineering within Investigation Station and Outside of the Box Day	Classroom teachers
Score monthly writing assessments in interdisciplinary teams to provide uniformity and monitor student progress	All staff
Modeling of classroom instruction	Math Instructional Resource Teacher and Reading Specialist
Provide opportunities for grade level common planning time	
Implement an assessment wall to monitor student growth in reading	Teachers, reading specialist, administration
Establish reading buddies across grade levels	Teachers

**Goal 2:** Reduce gaps in achievement between identified groups.

**Objectives:**

- Students in identified groups will perform as well as their counterparts on standardized assessments.
- Students will receive differentiated instruction to meet their needs.

Strategy	Staff Responsible
Continue to provide remediation for students who have not met benchmarks in Language Arts such as reading specialist support, Reading Recovery and/or <i>My Reading Coach</i> computer program	Reading Specialist, Staff
Meet as a multi-disciplinary team to match student needs with school and/or county resources	Intervention Assistance Team
Provide after school programs such as YES Club and Homework Club to support struggling students	Staff
Mentor at-risk students	Lead teachers
Provide support for second language students through ESOL/HILT classes and push-in services	ESOL/HILT staff

**Goal 3:** Third, fourth, and fifth grade student performance will increase as measured on the SOL assessment in the 500-600 range.

**Objectives:**

- Accelerated and gifted students will receive differentiated instruction.
- All students will be challenged by rigor of the classroom instruction.

Strategy	Staff Responsible
Model lessons that meet the needs of advanced or gifted students	Gifted Resource teacher
Provide special events such as Math Dice Tournaments, Odyssey of the Mind, and Continental Math League for interested students	MIRT, Administrators,
Provide extension activities for accelerated/gifted students in academic areas and the arts	Gifted Resource teacher, classroom teachers
Plan integrated lessons with art, music and PE staff that challenge and engage all learners	Teachers
Provide opportunities for all students, including accelerated students, to participate in contests such as Moving Words, PTA reflections, and the National Geographic Geography Bee	Lead teachers, teachers, parents

**Goal 4:** ASFS will engage and involve parents, staff, and community in ways that accomplish community engagement.

**Objectives:**

- Provide an assortment of community events that a variety of families are interested in attending.
- Maintain and/or cultivate community partners.

Strategy	Staff Responsible
Cultivate partnerships within the community (Battelle, Red Top)	Administration
Provide information to parents and the community through the monthly newsletter, website, and classroom newsletters.	Teachers, administration, Instructional Technology Coordinator
Hold “Principal Chats” on topics of interest in the school community	Principal
Invite members of the community to ASFS sponsored events such as the Dog Walk, International Night, 5K run, Silent Auction, etc.	PTA, Administrative staff
Participate in community service (Secret Santa for families at the holidays, Walk for the Homeless, animal shelter donations)	Staff, PTA, students
Include a community member who does not have a child at ASFS as a member of the School Advisory Committee	Administration
Collaborate with local resources such as scientists, foundations, and experts in scientific fields as guest speakers and provide other authentic opportunities for students.	Administration, Investigation Station teacher

**Goal 5:** Prepare each student to succeed in a diverse, changing world through instruction and other school experiences responsive to each student’s talents, interests, and challenges.

**Objectives:**

- Provide opportunities for student leadership and participation in a variety of activities that address the “whole child.”
- Celebrate and learn about students’ cultures.

<b>Strategy</b>	<b>Staff Responsible</b>
Provide leadership opportunities for students through morning announcements, safety patrols, flag patrols, aquarium club, etc.	Club sponsors
Offer performance opportunities through the annual Variety Show, band/orchestra, chorus, and grade level musical performances.	Art, music, PE staff
Provide opportunities for students to learn about world cultures.	Staff