



College of William and Mary
Curriculum Vita Standard Format

PERSONAL INFORMATION

October 13, 2010

1. Name: Todd Denson Averett
Office Address: Millington 229
Office Phone: (757) 221-3534
2. Position: Professor of Physics

EDUCATION

3. Ph.D. Physics, University of Virginia, August 1995;
B.S. Physics, Summa Cum Laude, Arizona State University, May 1990

ACADEMIC POSITIONS

4. Professor of Physics – College of William and Mary, 2010-present
Associate Professor - College of William and Mary, 2004-10
Assistant Professor - College of William and Mary, 1998-04
Research Fellow - California Institute of Technology, 1995-98

HONORS, PRIZES, AND AWARDS

5. Plumeri Award for Faculty Excellence, 2009
Sally Gertrude Smoot Spears Associate Professor of Physics, 2005-2008
DOE Outstanding Junior Investigator Award, 1999-05
CEBAF/SURA Graduate Fellowship, 1993-95
Outstanding Undergraduate Physics Student, Arizona State University, 1990
Phi Kappa Phi, Academic Honor Society, 1989
Sigma Pi Sigma, Physics Honor Society, 1988

COURSES TAUGHT

6. PHYS 101/102 (General Physics lectures)
PHYS 101/102 (General Physics Problem Sessions)
PHYS 101L/102L/107L/108L (General Physics laboratories)
PHYS 176 (Introduction to Astronomy)
PHYS 313 (Introduction to Quantum Physics)
PHYS 401/402 (Electricity and Magnetism)
PHYS 403 (Statistical and Thermal Physics)

Students/Scientists Supervised:

Post Docs: Bo Zhao, Robert Feuerbach, Julie Roche, Klaus Grimm, Tim Holmstrom, Xiaofeng Zhu

Grad: (Doctoral Theses) Kelly Kluttz, Joe Katich, Aidan Kelleher (PhD 2009), Vince Sulkosky (PhD 2007), Kevin Kramer (PhD 2003)

Undergrad: (Senior and Honors theses) Edward Baumann, Will Hackeman, Paul Black, Daniel Milkie, Tamara Hayford, Kirsten Fuoti, Marc McGuigan, Erin Buckley, Mike Herbst, Jonathan Mellor, Kristie Loncich, Robert McFayden, Jennifer Knowles, Matt Inman, Lauren Larkin, Luke Paradis, Jordan Gates

Summer/Semester Research: approximately 20 additional REU, summer and non-thesis students graduates and undergraduates supervised.

FELLOWSHIPS AND GRANTS

7. a) All fellowships, grants, contracts awarded by outside agencies:

2008-11 – “Nucleon Structure Studies” DOE Grant (Averett, Griffioen), \$1.2M.

2004-07 – “Polarized Structure Studies of the Nucleon,” (Armstrong, Averett, Finn, Griffioen) National Science Foundation, \$1.2M.

2003-05 – “Neutron Structure Studies using Polarized Helium-3 at Jefferson Laboratory,” DOE Outstanding Junior Investigator Award, \$160K.

2003 – “Collaborative Research: Development of a Particle Tracking System for the Q_{weak} Experiment,” (Armstrong, Finn, Averett, Carlini), National Science Foundation Major Research Initiative, \$264,600 (William and Mary share of funding).

2001-04 – “Neutron Spin Structure Studies using High-density Polarized ^3He Targets,” Jeffress Memorial Trust, \$57K.

2001-2004 – “Polarized Electron Scattering from Nucleons,” (Armstrong, Averett, Finn, Griffioen) National Science Foundation, \$975K.

2001-2003 – “Neutron Structure Studies using Polarized Helium-3 at Jefferson Laboratory,”
Department of Energy, Outstanding Junior Investigator Award, \$150K.

1999-2001 -- “Nucleon Spin Structure Studies using Parity Violating and
Inelastic Electron Scattering,” National Science Foundation, \$120K.

1999-2001 -- “Investigations of the Structure of the Nucleon by Parity Violating Electron
Scattering,” Jeffress Memorial Trust, \$45K .

**b) All summer grants and Faculty Research Assignments received from W&M:
c) Grants not funded:**

2001 - Physics Frontier Center, NSF, “A Physics Frontier Center for the Study of Sub-Atomic
Phenomena,” \$9,901,035.

1999 - Research Corporation, “Precision Measurements of the Spin Structure of the Neutron
using Polarized ^3He ,” \$35,000.

RESEARCH

8 a) Refereed Publications:

“Quark-Hadron Duality in Neutron (He-3) Spin Structure”, P. Solvignon. Averett, et al., Phys.
Rev. Lett. **101**:182502, 2008.

“He-3 Spin-Dependent Cross Sections and Sum Rules”, K. Slifer, Averett, et al., Phys. Rev.
Lett. **101**:022303, 2008.

“Precision Measurements of the Nucleon Strange Form Factors at $Q^{*2} \sim 0.1\text{-GeV}^{*2}$ ”, By
HAPPEX collaboration (A.Acha et al.), Phys Rev. Lett. **98**:032301, 2007

“Extraction of the neutron magnetic form-factor from quasi-elastic polarized-He-3 (polarized-e,
e-prime) at $Q^2 = 0.1 - 0.6 (\text{GeV}/c)^2$, by Jefferson Lab E95-001 Collaboration (B.
Anderson et al.), Phys. Rev. **C75**:034003, 2007.

“Transverse Beam Spin Asymmetries in Forward-Angle Elastic Electron-Proton Scattring” By
GO Collaboration (David Armstrong, et al), Phys Rev. Lett. **99**:092301, 2007

“A high-pressure polarized He-3 gas target for the High Intensity Gamma Source (HIgammaS)
facility at Duke Free Electron Laser Laboratory”, K. Kramer, et al, Nucl. Instrum. Meth.
A582:318, 2007

“Constraints on the nucleon strange form-factors at $Q^2 \sim 0.1\text{V}^2$ “, K.A. Aniol *et al.* Phys Lett. **B635**
275, 2006.

“Parity-violating electron scattering from He-4 and the strange electric form-factor of the
nucleon”, K.A. Aniol *et al.* Phys. Rev. Lett. **96** 022003, 2006.

- “Higher Twists and Color Polarizabilities in the Neutron”, Z.E. Meziani *et al.*, Phys. Lett. B613, 148, (2005).
- “Cross Section Measurement of Charged Pion Photoproduction in Hydrogen and Deuterium from 1.1 GeV to 5.5 GeV”, L.Y. Zhu *et al.* Phys. Rev C71 044603, (2005).
- “The Q²-dependence of the Neutron Spin Structure function g_2^n at Low Q²”, K. Kramer *et al.* Phys. Rev. Lett. 95 142002, (2005).
- “Strange Quark Contributions to Parity-violating Asymmetries in the Forward G⁰ Electron-Proton Scattering Experiment, D.S. Armstrong *et al.*, Phys. Rev Lett. 95 092001 (2005).
- “Measurement of the Generalized Forward Spin Polarizabilities of the Neutron,” M. Amarian *et al.*, Phys. Rev. Lett. **93** 152301 (2004).
- “Basic Instrumentation for Hall A at Jefferson Lab,” J. Alcorn *et al.*, Nucl. Inst. Meth. **A522** 294 (2004).
- “Parity Violating Electroweak Asymmetry in $\bar{e}p$ Scattering,” K. Anoil *et al.*, Phys. Rev. **C69** 065501 (2004).
- “The Strange Quark Contribution to the Proton's Magnetic Moment,” D.T. Spayde *et al.*, Phys. Lett. **B583** 79 (2004).
- “Parity Violating Electron Deuteron Scattering and the Proton's Neutral Weak Axial Vector Form-factor,” T.M. Ito *et al.*, Phys. Rev. Lett. 92 102003 (2004).
- “Q² Evolution of the Neutron Spin Structure Moments using a He-3 Target,” M. Amarian *et al.*, Phys. Rev. Lett. **92** (2004) 022301.
- “Precision Measurement of the Neutron Spin Asymmetry A_1^n and Spin Flavor Decomposition in the Valence Quark Region,” X. Zheng *et al.*, Phys. Rev. Lett. **92** (2004) 012004.
- “Nuclear Transparency with the $\gamma + n \rightarrow \pi^- + p$ Process in ⁴He,” D. Dutta *et al.*, Phys. Rev. **C68** (2003) 021001.
- “Cross Section Measurement of Charged-pion Photoproduction from Hydrogen and Deuterium,” L.Y. Zhu, *et al.*, Phys. Rev. Lett. **91** (2003) 022003.
- “PWIA Extraction of the Neutron Magnetic Form-Factor from Quasielastic ³He(\vec{e}, e') at Q²=0.3-0.6 (GeV/c)²,” W. Xu *et al.*, Phys. Rev. **C67** (2003) 012201.
- “Precision Measurement of the Proton and Deuteron Spin Structure Functions g_2 and Asymmetries A_2 ,” P.L. Anthony *et al.*, Phys. Lett. **B553** (2003) 18.
- “The Q² Evolution of the Generalized Gerasimov-Drell-Hearn Integral for the Neutron using a

- ³He Target,” M. Amarian *et al.*, Phys. Rev. Lett. **89**, 242301 (2002).
- “Measurement of G_E^p/G_M^p in to $Q^2 = 5.6 \text{ GeV}^2$,” O. Gayou *et al.*, Phys. Rev. Lett. **88**, 092301(2002).
- “Precision Measurement of the Spin-dependent Asymmetry in the Threshold Region of ${}^3\text{He}(\vec{e},e')$,” F. Xiong *et al.*, Phys. Rev. Lett. **87**, 242501 (2001).
- “Measurement of the Vector Analyzing Power in Elastic Electron-Proton Scattering as a Probe of the Double Virtual Compton Amplitude,” S. P. Wells, *et al.*, Phys. Rev. **C63**, 064011 (2001).
- “New Measurement of Parity Violation in Elastic Electron-Proton Scattering and Implications for Strange Form Factors,” K. A. Aniol, *et al.*, Phys. Lett. **B509**, 211 (2001).
- “x- and ζ -scaling of the Nuclear Structure Function of the Proton,” J. Arrington, *et al.*, Phys. Rev. **C64**, 014602 (2001).
- “Strange Magnetism and the Anapole Structure of the Proton,” R. Hasty, *et al.*, Science **290**, 2117 (2000).
- “Measurements of the Q^2 - Dependence of the Proton and Neutron Spin Structure Functions g_1^p and g_1^n ,” P. L. Anthony, *et al.*, Phys. Lett. **B493**, 19 (2000).
- “The Transverse Asymmetry A_T from the Quasielastic ${}^3\vec{\text{He}}(\vec{e},e')$ Process and the Neutron Magnetic Form Factor,” W. Xu, *et al.*, Phys. Rev. Lett **85**, 2900 (2000).
- “Parity Violation in Elastic Electron-Proton Scattering and the Proton’s Strange Magnetic Form Factor,” D. T. Spayde, *et al.*, Phys. Rev. Lett. **84**, 1106 (2000).
- “An Energy Feedback System for the MIT/Bates Linear Accelerator,” D. H. Barkhuff, *et al.* Nucl. Inst. Meth. **A450**, 187 (2000).
- “Inclusive Electron-Nucleus Scattering at Large Momentum Transfer,” J. Arrington, *et al.* Phys. Rev. Lett. **82**, 2056 (1999).
- “Measurement of the Deuteron Spin Structure Function for g_1^d $1 (\text{GeV}/c)^2 < Q^2 < 40 (\text{GeV}/c)^2$,” P. L. Anthony, *et al.*, Phys. Lett. **B463**, 339 (1999).
- “Electron Beam Position Stabilization with a Piezo-electric Optical Correction System,” T. Averett, *et al.*, Nuc. Inst. Meth. **A438**, 246 (1999).
- “A Solid Polarized Target for High-luminosity Experiments,” T. Averett *et al.*, Nuc. Inst. Meth. **A427**, 440 (1999).
- “Inclusive Hadron Photoproduction from Longitudinally Polarized Protons and Deuterons,”

- P. L. Anthony, *et al.*, Phys. Lett. **B458**, 536 (1999).
- “Measurement of the Proton and Deuteron Spin Structure Function g_2 and Asymmetry A_2 ,”
P. L. Anthony, *et al.*, Phys. Lett. **B458**, 529 (1999).
- “Measurements of $R = \sigma_L/\sigma_T$ for $0.03 < x < 0.1$ and Fit to World Data,” K. Abe *et al.*
Phys. Lett. **B452**, 194 (1999).
- “Measurements of the Proton and Deuteron Spin Structure Functions g_1 and g_2 ,” K. Abe *et al.*
Phys. Rev. **D 58**, 112003 (1998).
- “Depolarization of Dynamically Polarized Nuclear Targets Due to Beam Heating Effects,”
T.J. Liu *et al.*, Nucl. Inst. Meth. **A 405**, 1 (1998).
- “Next-to-leading Order QCD Analysis of Polarized Deep Inelastic Scattering Data,”
K. Abe *et al.*, Phys. Lett. **B 405**, 180 (1997).
- “Measurement of the Neutron Spin Structure Function g_2^n and Asymmetry A_2^n ,”
K. Abe *et al.*, Phys. Lett. **B 404**, 377 (1997).
- “Precision Determination of the Neutron Spin Structure Function g_1^n ,” K. Abe *et al.*,
Phys. Rev. Lett. **79**, 26 (1997).
- “Measurement of the Proton and Deuteron Spin Structure Function g_1 in the Resonance Region,”
K. Abe *et al.*, Phys. Rev. Lett. **78**, 815 (1997).
- “Measurements of the Proton and Deuteron Spin Structure Function g_2 and Asymmetry A_2 ,”
K. Abe *et al.*, Phys. Rev. Lett. **76**, 587 (1996).
- “Measurements of the Q^2 -dependence of the Proton and Deuteron Spin Structure Functions g_1^p
and g_1^d ,” K. Abe *et al.*, Phys. Lett. **B 364**, 61 (1995).
- “Precision Measurement of the Deuteron Spin Structure Function,” K. Abe *et al.*,
Phys. Rev. Lett. **75**, 25 (1995).
- “Precision Measurement of the Proton Spin Structure Function g_1^p ,” K. Abe *et al.*,
Phys. Rev. Lett. **74**, 346 (1995).
- “Pion Elastic Scattering from Polarized ^{13}C in the Energy Region of the P_{33} Resonance,”
Y. Yen *et al.*, Phys. Rev. **C 50**, 897 (1994).
- “Spin Correlation Measurements for $\bar{p} + \bar{p}$ Elastic Scattering at 497.5 MeV,”
G. Hoffmann *et al.*, Phys. Rev. **C 49**, 630 (1994).
- “Low Energy Pion Scattering to 1^- States in ^{12}C ,” C. Kormanyos *et al.*,
Phys. Rev. **C 48**, 250 (1993).

- “ $\pi^+ + d \rightarrow p + p$ below 21 MeV,” B. Ritchie *et al.*, Phys. Rev. C **47**, 21 (1993).
- “A Superconducting Radiofrequency Cavity for Manipulating the Phase Space of Pion Beams at LAMPF,” J. O'Donnell *et al.*, Nuc. Inst. Meth. A **317**, 445 (1992).
- “Analyzing Powers for Pion Charge Exchange on Polarized ^{13}C ,” J. Goergen *et al.*, Phys. Rev. Lett. **66**, 2193 (1991).
- “Asymmetry Measurement of Pion Elastic Scattering from Polarized ^{13}C in the Region of the P_{33} Resonance,” Y. Yen *et al.*, Phys. Rev. Lett. **66**, 1959 (1991).
- “Total and Differential Cross Sections for $\pi^+ + d \rightarrow p + p$ below 21 MeV,” B. Ritchie *et al.*, Phys. Rev. Lett. **66**, 568 (1991).
- “Analyzing Powers for the Reaction $\pi^+ + p \rightarrow \pi^0 + n$ at $T_{\pi^-} = 161$ MeV,” J. Goergen *et al.*, Phys. Rev. D **42**, 2374 (1990).
- “Polarized Proton Elastic Scattering from Polarized ^{13}C ,” G. Hoffmann *et al.*, Phys. Rev. Lett. **65**, 3096 (1990).

d) Non-refereed Conference Proceedings:

- “Recent Advances in Polarized He-3 Targets,” J. Singh *et al.*, SPIN 2008 conference, AIP Conference Proceedings, V. 1149 (2008) 823.
- “The Low Q^2 Behavior of the Extended Gerasimov-Drell-Hearn Sum Rule,” The 18th Conference on Few Body Problems in Physics, Nuc. Phys. A790/1-4 (2007) 514c.
- “Recent DIS Results from Jefferson Lab: A_1^n at High x and the Q^2 -dependence of g_2^n ,” Seventeenth Conference on Particles and Nuclei, AIP Conference Proceedings 842 (2006) 392.
- “New Directions in Spin-Exchange Optical Pumping Polarized ^3He Targets,” J. Singh *et al.*, Third International Symposium on the Gerasimov-Drell-Hearn Sum Rule and its Extensions, Conference Proceedings, World Scientific Publishing, (2004) 196.
- “Nucleon Spin Structure Functions g_1 and g_2 from Polarized Inclusive Scattering,” SPIN 2002 conference, AIP Conference Proceedings, V. 675 (2003) 88.
- “The Jefferson Lab Hall A Polarized ^3He Target System,” University of Virginia QCD workshop proceedings, “Testing QCD Through Spin Observables in Nuclear Targets,” Charlottesville, VA 2002, p175.
- “Neutron Spin Structure and the Extended GDH Sum Rule at Low Q^2 ,” T. Averett, for the Jefferson Lab E94-010 Collaboration, SPIN 2000 conference,

AIP Conference Proceedings, V. 570 (2001) 412.

“Measurement of the Spin Structure Function g_2^n and Asymmetry A_2^n ,”
T. Averett, SPIN '96 Conference Proceedings,
World Scientific Publishing (1996), p. 195.

“Measuring g_2^n at 11 GeV,” T. Averett, HiX 2000 workshop proceedings,
Temple University, (2000).

“Measurement of the $g_2(x, Q^2)$ Spin Structure Function on Protons and Deuterons”
T. Averett, BARYONS '95 Conference Proceedings,
World Scientific Publishing (1995), p. 429.

“Operation of Polarized $^{15}\text{NH}_3$ and $^{15}\text{ND}_3$ Targets in a High Intensity Electron Beam: SLAC--
E143 Target Report,” T. Averett, AIP Conference Proceedings
(SPIN '94) **343** (1994) p. 576.

e) Invited Talks:

Elba Workshop X on Electron-Nucleus Scattering, Elba, Italy, 2008

American Scientific Glassblowers Society Annual Meeting, Portsmouth, VA, 2007

Pacific-Spin 2007 Conference, Vancouver, BC, Canada, 2007

Two-photon Workshop, Trento, Italy, May 2005

PANIC 2005 Conference, Santa Fe, NM, October 2005

SPIN 2005 Conference, Tokyo, Japan, July 2005

“Nucleon Spin Structure Functions (g_1 and g_2) from Polarized Inclusive Scattering,”
Duke University/TUNL seminar, December, 2002, Durham, NC.

“Nucleon Spin Structure Functions (g_1 and g_2) from Polarized Inclusive Scattering,”
SPIN 2002 plenary talk, Brookhaven, NY, September, 2002.

“Measurement of the Neutron Spin Structure Function g_2^n and Asymmetry A_1^n
using Polarized ^3He at Jefferson Lab,” Gordon Research Conference on
Photonuclear Reactions, plenary talk, Tilton, NH, August, 2002.

“Overview of Hadron Structure Studies using Spin Degrees of Freedom,”
APS meeting, overview talk, Albuquerque, NM, April 2002.

“Status of Polarized ^3He Targets,” QCD Workshop, University of Virginia,

Charlottesville, VA, April 2002.

“Optically Pumped Polarized Helium-3 Targets for Nuclear Physics Experiments,”
Southeastern Section of American Physical Society Meeting, Charlottesville, VA
November 2001.

“The Spin Structure of the Nucleon,”
Physics Colloquium, Auburn University, Auburn, AL, March 2001.

“Measurement of the g_2 Structure Function with 12 GeV at Jlab,”
HiX 2000 Workshop, Temple University, March 2000.

“Search for Higher-twist Contributions to Nucleon Structure through the g_2 Structure Function,”
Future of Jefferson Lab meeting, April 1999.

“Summary of the SAMPLE Experiment at Bates Laboratory,”
Jefferson Lab Parity Violating Electron Scattering Workshop, May 1999.

“Quark Model of the Nucleon,”
Monroe Scholars Luncheon Talk, February 1999, College of William and Mary,
Williamsburg, VA.

“Physics Careers in Academia,”
Jefferson Laboratory Graduate Lunch Series, February 1999, Thomas Jefferson National
Accelerator Facility, Newport News, VA.

“Where Does the Proton get its Spin?,” Nuclear Physics Seminar,
Los Alamos National Laboratory, Los Alamos, NM, April 1998.

“The Spin Structure of the Nucleon,” Nuclear Physics Seminar, Los Alamos National
Laboratory, Los Alamos, NM, March 1998.

“Where Does the Proton get its Spin?,” Physics Department Colloquium,
College of William and Mary, March 1998.

“The Spin Structure of the Nucleon,” Nuclear Physics Seminar, Jefferson Laboratory,
Newport News, VA, March 1998.

“Inclusive Electron Scattering from Nuclei at $x > 1$ and High Q^2 ,”
Gordon Research Conference on QCD in Nuclear Physics, Newport, RI, July 1997.

“Measurement of the Nucleon Spin Structure Using a Dynamically Polarized Target,”
Nuclear Physics Seminar, California Institute of Technology, Pasadena, CA, March 1995.

“Measurement of the Nucleon Spin Structure Using a Dynamically Polarized Target,”
Physics Department Colloquium, Kent State University, Kent, OH, March 1995.

“Measurement of the Nucleon Spin Structure Using a Dynamically Polarized Target,” Physics
Department Colloquium, University of New Hampshire, Durham, NH, March 1995.

f) Contributed Talks:

“Recent DIS Results from Jefferson Lab: A_1^n at High x and the Q^2 -dependence of g_2^n ,”
Seventeenth Conference on Particles and Nuclei, AIP Conference Proceedings
842 (2006) 392.

“The Low Q^2 Behavior of the Extended Gerasimov-Drell-Hearn Sum Rule,” Few-Body 18
Conference”, Santos Brazil, August 2006

“The Search for Higher Twist Effects in the Neutron Spin Structure Function $g_2^n(x, Q^2)$,”
DNP meeting, Tucson, AZ, October 2004.

“Neutron Spin Structure and the Extended GDH Sum Rule at Low Q^2 ”
SPIN 2000 Conference, Osaka, Japan, October 2000.

“Measurement of the Neutron Spin Structure Function g_2^n and Asymmetry A_2^n ,”
SPIN '96 Conference, Amsterdam, The Netherlands, September 1996.

“Measurement of the g_2 Spin Structure Function on Protons and Deuterons at SLAC,”
BARYONS '95 Conference, Santa Fe, NM, October 1995.

“Operation of Radiation Doped $^{15}\text{NH}_3$ and $^{15}\text{ND}_3$ Targets in a High Intensity Electron Beam:
SLAC--E143 Target Report,” SPIN '94 Conference, Bloomington, IN, September 1994.

PROFESSIONAL SERVICE

9. Professional Service Activities

a) College committee service

i) Department

Steering Committee, Chair 2009

Undergraduate Committee, 2009

Long Range Planning Committee, Chair 2008

Nuclear Theory Search Committee, 2008

Interim Faculty Review Committees, 2008, 2009

Faculty Promotion Committee for J. Nelson, Chair 2008

High Energy Physics Faculty Search Committee, Chair 2007

Radiation Safety Officer, 2002-present

Colloquium Committee, 2000-01
Facilities Committee, 2002-08
Physics Faculty Search Committee Member, 2001-02, 2007, 2009
Advisor, Society of Physics Students, 1999-2003
Graduate Admissions Committee, 1998-04

ii) University

A&S Plumeri Award Selection Committee, 2009
Faculty Assembly, COPAR, FAC subcommittees, 2009-present
A&S FAS focus group on College's strategic plan, Chair 2007
Engineering combined degree program advisor, 2007-present
Committee on Degrees, 2004-07
Freshman Advising, Advisory Board, 2003-present
Freshman Advisor, 2002-present
Career Services, academic career panelist, 2000
GER2 Assessment Committee, 1999-01
Batten Scholarship Selection Committee (through Charles Center), 1999

b) Other

Jefferson Lab Hall A Collaboration Council, 2008-10
Jefferson Lab User's Group Board of Directors, Board Member 2006-08
Local Organizing Committee SPIN 2008
NSF Proposal Reviewer, 2005-present
Local Organizing Committee for GDH 2004 Research Conference, 2004
Member, American Physical Society, 1998-present
Science Fair Judge, York County, 2002
Referee, Physical Review
Annual Science Demonstrations at local elementary schools