



Books for Donation/Disposal

Teacher to District Coordinator
District Coordinator to Principal (Prin. Secretary)
Principal Secretary to Superintendents Office
Superintendent's Office for Board Approval
Superintendent's Office emails approval to group
Custodian works with Curriculum Department for movement and storage

Kate Shaw

Teacher/District Coordinator

1/22/20

Date

[Signature]

Principal

1-23-20

Date

KP

Curriculum Dept

1/27/20

Date

Board Approval

Date

When disposing textbooks, library books, curriculum materials please make sure the following process is followed:

1. Boxes should contain only same ISBN and condition (used/gently used/new/unopened)
(You may have several boxes of same title with used, some gently used, some new etc.)
2. Box must have a Cover sheet (numbered and labeled) (Box 1 of 3 – Book title/condition)
3. District Coordinator works with building custodian for storage location. (Note: All boxes are stored in your building – until approval for disposal/sale/donation is given.)
4. District Coordinator completes form for approval and ensures boxes are marked appropriately.
5. District Coordinator sends approval request form to Principal
6. Principal / Principal Secretary sends form to Superintendent's Office for Board Approval Request
7. Board Approval is given – Superintendent's Office send email of approval to:
 - a. Curriculum Office
 - b. Building Secretary
 - c. District Coordinator
 - d. Building Custodian
8. Curriculum Department works to sell, dispose of or donation.
9. Custodian works with Curriculum Department for movement and warehouse storage location.

PAMS Books for Donation/Disposal



Order of Disposal Request

- ☐ Teacher / District Coordinator
- ☐ Principal
- ☐ Curriculum Department
- ☐ Board Approval
- ☐ Curriculum for Disposal/Sale

Title	Author	Standard Number	Publis	#of co	location	Conditio	Box #
Algebra unplugged	Amdahl, Kenn.	ISBN: 0-9627815-7-6	1995	1	PAMS	used	1 of 5
Amphibians today : a complete and	Coborn, John.	ISBN: 0-7910-4602-8 (hard	1997	1	PAMS	used	
Aquarium beautiful : a complete and	Nieuwenhuizen, A. van	ISBN: 0-7910-4603-6 (hard	1997	1	PAMS	used	
Arithmetricks : 50 easy ways to add,	Julius, Edward H., 1952	ISBN: 0-471-10639-9 (pbk	1995	1	PAMS	used	
Can it really rain frogs? : the world's	Christian, Spencer.	ISBN: 0-471-15290-0 (pbk	1997	1	PAMS	used	
Constellations	Sipiera, Diane M.	ISBN: 0-516-20331-2	1997	1	PAMS	used	
Cosmic debris : the asteroids	Asimov, Isaac, 1920-	ISBN: 0-8368-1130-5	1994	1	PAMS	used	
Discovering El Niño : how fable and f	Seibert, Patricia.	ISBN: 0-7613-1273-0 (lib.	1999	1	PAMS	used	
A distant puzzle : the planet Uranus	Asimov, Isaac, 1920-	ISBN: 0-8368-1136-4	1994	1	PAMS	used	
Earth	Riley, Peter D.	ISBN: 1-57572-620-3 (lib.	1998	1	PAMS	used	
Earthquakes	Pope, Joyce.	ISBN: 0-7613-0806-7 (lib.	1998	1	PAMS	used	
Earthquakes	Sipiera, Paul P.	ISBN: 0-516-20665-6	1998	1	PAMS	used	
The Everything vitamins, minerals, a	Ternus, Maureen.	ISBN: 1-58062-496-0	2001	1	PAMS	used	
Exploring the deep, dark sea	Gibbons, Gail.	ISBN: 0-316-75549-4 (pbk	1999	1	PAMS	used	
Geysers : when earth roars	Gallant, Roy A.	ISBN: 0-531-20288-7	1997	1	PAMS	used	
Guppies today : a complete and up-t	Glass, Spencer.	ISBN: 0-7910-4608-7	1997	1	PAMS	used	
How maps are made	Bramwell, Martyn.	ISBN: 0-8225-2920-3 (lib.	1998	1	PAMS	used	
Janice VanCleave's weather : mind-b	VanCleave, Janice Prat	ISBN: 0-471-03231-X	1995	1	PAMS	used	
Jupiter	Brimner, Larry Dane.	ISBN: 0-516-21153-6	1999	1	PAMS	used	
The Kingfisher young people's book	Redfern, Martin.	ISBN: 0-7534-5180-8	1999	1	PAMS	used	
Landslides, slumps, & creep	Goodwin, Peter, 1951-	ISBN: 0-531-20332-8	1997	1	PAMS	used	
Mapping our world	Bramwell, Martyn.	ISBN: 0-8225-2924-6 (lib.	1998	1	PAMS	used	
Merlin's tour of the universe : a skyw	Tyson, Neil De Grasse.	ISBN: 0-385-48835-1 (alk.	1997	1	PAMS	used	
The new book of El Niño	Beecroft, Simon.	ISBN: 0-7613-0920-9 (lib.	1999	1	PAMS	used	
Ocean	Sayre, April Pulley.	ISBN: 0-8050-4084-6	1996	1	PAMS	used	
Oceans	Sauvain, Philip Arthur.	ISBN: 1-57505-043-9 (lib.	1996	1	PAMS	used	
Our patchwork planet : the story of	Sattler, Helen Roney.	ISBN: 0-688-09312-4	1995	1	PAMS	used	
Our planetary system	Asimov, Isaac, 1920-	ISBN: 0-8368-1134-8	1994	1	PAMS	used	
The Princeton review astronomy sm	Bentley, Michael Lee.	ISBN: 0-679-76906-4 (pbk	1997	1	PAMS	used	
The red planet : Mars	Asimov, Isaac, 1920-	ISBN: 0-8368-1132-1	1994	1	PAMS	used	
Rivers	Haslam, Andrew.	ISBN: 0-7166-1751-X (hbk	1996	1	PAMS	used	
Shake, rattle, and roll : the world's m	Christian, Spencer.	ISBN: 0-471-15291-9 (pap	1997	1	PAMS	used	
The sun	George, Michael, 1964	ISBN: 1-56766-385-0 (alk.	1998	1	PAMS	used	
The sun	Vogt, Gregory.	ISBN: 1-56294-600-5 (alk.	1996	1	PAMS	used	
The sun and its secrets	Asimov, Isaac, 1920-	ISBN: 0-8368-1135-6	1994	1	PAMS	used	
The third planet : exploring the earth	Ride, Sally.	ISBN: 0-517-59361-0	1994	1	PAMS	used	
An American safari : adventures on t	Brandenburg, Jim.	ISBN: 0-8027-8319-8 (hc)	1995	1	PAMS	used	2 of 5
America's top 10 curiosities	Tesar, Jenny E.	ISBN: 1-56711-199-8 (alk.	1998	1	PAMS	used	
Be your own rock & mineral expert	Pinet, Michèle.	ISBN: 0-8069-9580-7	1997	1	PAMS	used	
Calculators	Smoothey, Marion, 19	ISBN: 1-85435-777-8	1995	1	PAMS	used	
Circles	Smoothey, Marion, 19	ISBN: 1-85435-456-6	1993	1	PAMS	used	

Deserts	George, Michael, 1964-	ISBN: 1-56846-054-6	1993	1	PAMS	used	
Down a river	Telford, Carole, 1961-	ISBN: 1-57572-153-8 (lib.	1998	1	PAMS	used	
Fossil fuels	Gibson, Diane, 1966-	ISBN: 1-887068-75-9 (alk.	2002	1	PAMS	used	
G is for googol : a math alphabet book	Schwartz, David M.	ISBN: 1-883672-58-9	1998	1	PAMS	used	
Geology : the active earth	National Wildlife Federation	ISBN: 0-7910-4834-9	1998	1	PAMS	used	
The history of counting	Schmandt-Besserat, Denise	ISBN: 0-688-14118-8 (trade	1999	1	PAMS	used	
How many?	Snape, Charles.	ISBN: 0-521-45953-2 (pbk	1995	1	PAMS	used	
How much is a million?	Schwartz, David M.	ISBN: 0-688-09933-5	1993	1	PAMS	used	
Latino women of science	Bernstein, Leonard.	ISBN: 1-56256-705-5	1998	1	PAMS	used	
Life by the numbers	Devlin, Keith J.	ISBN: 0-471-24044-3	1998	1	PAMS	used	
Mapping the planets and space	Bramwell, Martyn.	ISBN: 0-8225-2922-X (lib.	1998	1	PAMS	used	
Marvels of math : fascinating reads and facts	Haven, Kendall F.	ISBN: 1-56308-585-2 (pbk	1998	1	PAMS	used	
The moon	Asimov, Isaac, 1920-	ISBN: 0-8368-1131-3	1994	1	PAMS	used	
The New York Public Library incredible books	Campbell, Ann-Jeanette	ISBN: 0-471-14497-5 (pbk	1996	1	PAMS	used	
El Niño : stormy weather for people	Arnold, Caroline.	ISBN: 0-395-77602-3	1998	1	PAMS	used	
Number patterns	Smoothey, Marion, 19	ISBN: 1-85435-458-2	1993	1	PAMS	used	
Plastics & polymers	Mebane, Robert C.	ISBN: 0-8050-2843-9 (alk.	1995	1	PAMS	used	
Plate tectonics	Silverstein, Alvin.	ISBN: 0-7613-3225-1 (lib.	1998	1	PAMS	used	
Quadrilaterals	Smoothey, Marion, 19	ISBN: 1-85435-459-0	1993	1	PAMS	used	
Rocks, minerals, and fossils	Hunter, Rebecca (Rebecca)	ISBN: 0-7398-3250-6	2001	1	PAMS	used	
Science in colonial America	January, Brendan, 197	ISBN: 0-531-11525-9	1999	1	PAMS	used	
Science lab in a supermarket	Friedhoffer, Robert.	ISBN: 0-531-11335-3	1998	1	PAMS	used	
Science of the early Americas	Woods, Geraldine.	ISBN: 0-531-11524-0	1999	1	PAMS	used	
Shapes	Smoothey, Marion, 19	ISBN: 1-85435-464-7 (lib.	1993	1	PAMS	used	
The Smithsonian guides to natural areas	Walter, Eugene, 1932-	ISBN: 0-679-76478-X (pbk	1996	1	PAMS	used	
Solids	Smoothey, Marion, 19	ISBN: 1-85435-469-8	1993	1	PAMS	used	
Statistics	Smoothey, Marion, 19	ISBN: 1-85435-468-X	1993	1	PAMS	used	
The story of nitrogen	Fitzgerald, Karen.	ISBN: 0-531-20248-8	1997	1	PAMS	used	
The story of oxygen	Fitzgerald, Karen.	ISBN: 0-531-20225-9	1996	1	PAMS	used	
The story of time and clocks	Ganeri, Anita, 1961-	ISBN: 0-19-521326-2 (alk.	1996	1	PAMS	used	
Time	Snedden, Robert.	ISBN: 0-7910-3026-1	1996	1	PAMS	used	
Triangles	Smoothey, Marion, 19	ISBN: 1-85435-461-2 (volu	1993	1	PAMS	used	
Watching nature : a beginner's field guide	Russo, Monica.	ISBN: 0-8069-9515-7	1998	1	PAMS	used	
All about rocks & minerals : an exploration	Challoner, Jack.	ISBN: 1-84215-629-2	2002	1	PAMS	used	3 of 5
Ecology	Pollock, Steve (Stephen)	ISBN: 1-56458-326-0	1993	1	PAMS	used	
Equatorial climates	Lye, Keith.	ISBN: 0-8172-4826-9	1997	1	PAMS	used	
Exotic species : invaders in paradise	Guiberson, Brenda Z.	ISBN: 0-7613-1319-2 (lib.	1999	1	PAMS	used	
Extraterrestrials : a field guide for earthlings	Dickinson, Terence.	ISBN: 0-921820-87-9 (pbk	1994	1	PAMS	used	
Fog, mist, and smog	Dunn, Andrew.	ISBN: 0-8172-5053-0	1998	1	PAMS	used	
Hail	Burby, Liza N.	ISBN: 0-8239-5293-2	1999	1	PAMS	used	
Hearing	Silverstein, Alvin.	ISBN: 0-7613-1666-3 (lib.	2001	1	PAMS	used	
Heat and drought	Bender, Lionel.	ISBN: 0-8172-5051-4	1998	1	PAMS	used	
How birds fly	Williams, Nick, 1948-	ISBN: 0-7614-0454-6 (lib.	1997	1	PAMS	used	
Janice VanCleave's rocks and minerals	VanCleave, Janice Pratt	ISBN: 0-471-10269-5 (pbk	1996	1	PAMS	used	
Life	Burnie, David.	ISBN: 1-56458-477-1	1994	1	PAMS	used	
Life without light : a journey to Earth's dark side	Stewart, Melissa.	ISBN: 0-531-11529-1	1999	1	PAMS	used	
A look at rocks : from coal to kimberlite	Kittinger, Jo S.	ISBN: 0-531-20310-7	1997	1	PAMS	used	
Looking at the interdependence of plants and animals	Cobb, Allan B.	ISBN: 1-40420615-9 (lib. b	2005	1	PAMS	used	
Looking at the mechanisms and patterns of change	Norton, James R.	ISBN: 1-40420616-7 (lib. b	2005	1	PAMS	used	
Looking for life in the universe : the search for extraterrestrial life	Jackson, Ellen B., 1943	ISBN: 0-618-12894-8	2002	1	PAMS	used	
Meteorite! : the last days of the dinosaurs	Norris, Richard, 1959-	ISBN: 0-7398-1240-8	2000	1	PAMS	used	

El Niño! and la Niña	Rose, Sally.	ISBN: 0-689-82015-1 (pbk)	1999	1	PAMS	used	
El Niño and La Niña : weather in the	Sayre, April Pulley.	ISBN: 0-7613-1405-9 (lib.	2000	1	PAMS	used	
The origins of life	Gallant, Roy A.	ISBN: 0-7614-1151-8	2001	1	PAMS	used	
Perception	Brynne, Faith Hickman,	ISBN: 1-56711-423-7 (hard	2001	1	PAMS	used	
Rocks and minerals	Challoner, Jack.	ISBN: 0-8368-2269-2 (lib.	1999	1	PAMS	used	
Temperate climates	Lye, Keith.	ISBN: 0-8172-4827-7	1997	1	PAMS	used	
Thunderstorms	Sipiera, Paul P.	ISBN: 0-516-20680-X	1998	1	PAMS	used	
Water	Morgan, Sally.	ISBN: 0-8160-2982-2	1994	1	PAMS	used	
Weather	Farndon, John.	ISBN: 0-7614-1089-9 (lib.	2001	1	PAMS	used	
Weather	Hunter, Rebecca (Rebe	ISBN: 0-7398-3245-X	2001	1	PAMS	used	
Weather	Macdonald, Fiona.	ISBN: 0-531-14544-1	2000	1	PAMS	used	
What are food chains and webs?	Kalman, Bobbie, 1947-	ISBN: 0-86505-876-8 (rlb)	1998	1	PAMS	used	
About reptiles : a guide for children	Sill, Cathryn P., 1953-	ISBN: 1-56145-183-5	1999	1	PAMS	used	4 of 5
Adventures with biology : biology ex	Bleifeld, Maurice.	ISBN: 0-89490-920-7	1997	1	PAMS	used	
Beneath blue waters : meetings with	Kovacs, Deborah.	ISBN: 0-670-85653-3	1996	1	PAMS	used	
Biomes of the future	Stein, Paul, 1968-	ISBN: 0-8239-3410-1 (lib.	2001	1	PAMS	used	
Birds	Cooper, Jason, 1942-	ISBN: 1-57103-192-8	1997	1	PAMS	used	
Butterflies and moths	Pascoe, Elaine.	ISBN: 1-56711-180-7 (lib.	1997	1	PAMS	used	
Butterflies and moths	Preston-Mafham, Ken.	ISBN: 0-7398-4984-0	2002	1	PAMS	used	
Clocks and rhythms	Silverstein, Alvin.	ISBN: 0-7613-3224-3 (lib.	1999	1	PAMS	used	
The coniferous forest	Massa, Renato.	ISBN: 0-8172-4313-5	1997	1	PAMS	used	
Flowering plants	Oxlade, Chris.	ISBN: 0-516-20989-2	1998	1	PAMS	used	
Flying animals	Loves, June.	ISBN: 0-7910-6561-8 (alk.	2002	1	PAMS	used	
Fountains of life : the story of deep-s	Gowell, Elizabeth Tayn	ISBN: 0-531-20369-7	1998	1	PAMS	used	
The fragile frog	Mara, W. P.	ISBN: 0-8075-2580-4	1996	1	PAMS	used	
Frog rescue : changing the future for	Hamilton, Garry, 1962-	ISBN: 1-55297-597-5 (lib.	2004	1	PAMS	used	
How bees make honey	Chinery, Michael.	ISBN: 0-7614-0453-8 (lb)	1997	1	PAMS	used	
How fish swim	Bailey, Jill.	ISBN: 0-7614-0451-1 (lb)	1997	1	PAMS	used	
Life cycles	Ferrari, Marco, 1954-	ISBN: 0-8172-4197-3	1999	1	PAMS	used	
The life of plants	Julivert, Angels.	ISBN: 0-7910-2129-7	1994	1	PAMS	used	
Microscopic life in the garden	Ward, Brian R.	ISBN: 1-58340-473-2 (alk.	2005	1	PAMS	used	
Microscopic life in the home	Ward, Brian R.	ISBN: 1-58340-472-4 (alk.	2005	1	PAMS	used	
Monerans and protists	Silverstein, Alvin.	ISBN: 0-8050-3521-4 (alk.	1996	1	PAMS	used	
The most beautiful roof in the world	Lasky, Kathryn.	ISBN: 0-15-200893-4 (hard	1997	1	PAMS	used	
On the wing : American birds in migr	Lerner, Carol.	ISBN: 0-688-16649-0	2001	1	PAMS	used	
Piranhas	Dollar, Sam.	ISBN: 0-7398-3101-1	2001	1	PAMS	used	
Plants	by the Ontario Science	ISBN: 1-55074-193-4	1998	1	PAMS	used	
Plants	by the Ontario Science	ISBN: 1-55074-193-4	1998	1	PAMS	used	
Rain forests	Reid, Greg, 1955-	ISBN: 0-7910-7941-4	2004	1	PAMS	used	
Reproducing.		ISBN: 0-8368-2932-8 (lib.	2001	1	PAMS	used	
Ride the wind : airborne journeys of	Simon, Seymour.	ISBN: 0-15-292887-1	1997	1	PAMS	used	
The science of birds	Parker, Janice.	ISBN: 0-8368-2465-2 (lib.	1999	1	PAMS	used	
Seabirds	Rauzon, Mark J.	ISBN: 0-531-20246-1	1996	1	PAMS	used	
Shrublands	Burnie, David.	ISBN: 0-7398-5514-X	2003	1	PAMS	used	
Sorting out worms and other inverte	Woods, Samuel G.	ISBN: 1-56711-371-0	1999	1	PAMS	used	
Spill the beans and pass the peanuts	Hughes, Meredith Sayl	ISBN: 0-8225-2834-7 (lib.	1999	1	PAMS	used	
Tadpoles	Pascoe, Elaine.	ISBN: 1-56711-179-3 (lib.	1997	1	PAMS	used	
Tide pools	Bredeson, Carmen.	ISBN: 0-531-20368-9	1999	1	PAMS	used	
Up a rainforest tree	Telford, Carole, 1961-	ISBN: 1-57572-156-2 (lib.	1998	1	PAMS	used	
The vegetation of rivers, lakes, and s	Llamas, Andreu.	ISBN: 0-7910-3469-0	1996	1	PAMS	used	
Vertebrates	Petersen, Christine.	ISBN: 0-531-12020-1	2002	1	PAMS	used	

Whooping cranes	Dudley, Karen.	ISBN: 0-8172-4564-2	1997	1	PAMS	used	
Along the coasts	Massa, Renato.	ISBN: 0-8172-4654-1	1998	1	PAMS	used	5 of 5
Amazing schemes within your genes	Balkwill, Frances R.	ISBN: 0-87614-804-6	1993	1	PAMS	used	
Baa! : the most interesting book you	Nicolson, Cynthia Pratt	ISBN: 1-55074-886-6 (pbk)	2001	1	PAMS	used	
The bald eagle	Barghusen, Joan D., 19	ISBN: 1-56006-254-1 (lib.	1999	1	PAMS	used	
The bald eagle returns	Patent, Dorothy Hinsh	ISBN: 0-395-91416-7	2000	1	PAMS	used	
Bald eagles	Dudley, Karen.	ISBN: 0-8172-4571-5	1998	1	PAMS	used	
Bats	Wood, Linda C., 1945-	ISBN: 1-888153-48-2	2003	1	PAMS	used	
Bats : mammals that fly	Sway, Marlene, 1950-	ISBN: 0-531-11449-X	1999	1	PAMS	used	
The bear	Barghusen, Laura, 196	ISBN: 1-56006-394-7 (lib.	1999	1	PAMS	used	
Blue whales	Miller-Schroeder, Patri	ISBN: 0-8172-4570-7	1998	1	PAMS	used	
Bodies from the bog	Deem, James M.	ISBN: 0-395-85784-8	1998	1	PAMS	used	
Bog bodies	Buell, Janet.	ISBN: 0-8050-5164-3 (alk.	1997	1	PAMS	used	
The breathing earth	Massa, Renato.	ISBN: 0-8172-4309-7	1997	1	PAMS	used	
Camels and pigs : what they have in	Swan, Erin Pembrey.	ISBN: 0-531-11585-2	1999	1	PAMS	used	
A dinosaur named Sue : the story of	Relf, Patricia.	ISBN: 0-439-09985-4	2000	1	PAMS	used	
Early humans	Gallant, Roy A.	ISBN: 0-7614-0960-2	1999	1	PAMS	used	
Fossils	Gish, Melissa.	ISBN: 0-88682-987-9 (alk.	1999	1	PAMS	used	
Fossils of the world	Pellant, Chris.	ISBN: 1-85028-262-5	1994	1	PAMS	used	
From birth to death	Yates, Irene.	ISBN: 0-7613-0303-0 (lib.	1997	1	PAMS	used	
From the water to the land	Massa, Renato.	ISBN: 0-8172-4310-0	1997	1	PAMS	used	
Gorillas	Miller-Schroeder, Patri	ISBN: 0-8172-4562-6	1997	1	PAMS	used	
Horses and rhinos : what they have i	Miller, Sara Swan.	ISBN: 0-531-11586-0	1999	1	PAMS	used	
How mammals build their amazing h	Robinson, W. Wright.	ISBN: 1-56711-381-8	1999	1	PAMS	used	
How plants grow	Penny, Malcolm.	ISBN: 0-7614-0452-X (lib.	1997	1	PAMS	used	
How the y makes the guy : microexp	Baeuerle, P. A. (Patrick	ISBN: 0-7641-5064-2	1997	1	PAMS	used	
Ice cradle : a portrait of the baby har	Ohara, Rei.	ISBN: 1-883489-15-6	1995	1	PAMS	used	
Joined at birth : the lives of conjoine	Landau, Elaine.	ISBN: 0-531-20331-X	1997	1	PAMS	used	
Life cycles	Wallace, Holly, 1961-	ISBN: 1-57572-339-5 (libra	2001	1	PAMS	used	
Mammal misfits	Miller, Sara Swan.	ISBN: 0-531-11795-2	2001	1	PAMS	used	
Meat-eating marsupials	Swan, Erin Pembrey.	ISBN: 0-531-11628-X	2002	1	PAMS	used	
Mummies, bones, & body parts	Wilcox, Charlotte.	ISBN: 1-57505-428-0 (lib.	2000	1	PAMS	used	
My season with penguins : an Antarc	Webb, Sophie.	ISBN: 0-395-92291-7	2000	1	PAMS	used	
New dinosaurs : skeletons in the san	Pascoe, Elaine.	ISBN: 1-56711-231-5 (alk.	1998	1	PAMS	used	
The race to save the Lord God Bird	Hoose, Phillip M., 1947	ISBN: 0-374-36173-8	2004	1	PAMS	used	
Scientists who study fossils	Higginson, Mel, 1942-	ISBN: 0-86593-375-8	1994	1	PAMS	used	
Shorebirds	Latimer, Jonathan P.	ISBN: 0-395-95212-3 (CL)	1999	1	PAMS	used	
Stories in stone : the world of anima	Kittinger, Jo S.	ISBN: 0-531-20384-0	1998	1	PAMS	used	
The temperate forest	Fornasari, Lorenzo, 19	ISBN: 0-8172-4312-7	1997	1	PAMS	used	
What is a mammal?	Kalman, Bobbie, 1947-	ISBN: 0-86505-890-3 (pbk)	1998	1	PAMS	used	
The world of plant life	Legg, Gerald.	ISBN: 0-8368-3180-2 (lib.	2002	1	PAMS	used	