Qeb K^qflk^i Tfiaifcb Cbabo^qflk e^p _bbk ^ ib^abo fk bksfolk j bkq^i bar`^qflk clo kb^oiv 32 vb^op+ Col j lro P`elliv^oa E^_fq^qp ì moldo^ j ^ka qb^`ebo tlohpelmp ql O^kdbo Of`h ë j ^d^wfkb ^ka lro ^t^oa*tfkkfkd qbibsfpflk pel tp ^ka ªi j p) KTC$p avk^ j f` bar`^qflk bccloqp ob^`e lrq ql ebim mblmib afp`lsbo) bumbofbk`b ^ka `lkkb`q tfqe qeb tfia fk lro tloia+

Clo j lob ^_lrq KTC$p bar`^qflk moldo^ j p) sfpfq rp ^q t t t+k tc+lod+

Qeb K^qflk^i Tfiaifcb Cbabo^qflk$p *Keep the Wild Alive* ë moldo^ j fp ^k ^ j _fqflrp bka^kdboba pmb`fbp `^ j m^fdk qe^q ^f j p ql _rfia prmmloq clo bka^kdboba pmb`fbp) bkd^db qeb mr_if` fk pmb`fbp `lkpbos^qflk bccloqp) ^ka j lsb pbsbo^i f j mbofiba pmb`fbp `ilpbo ql ob`lsbov+

Clo j lob fkclo j ^qflk ^_lrq qeb *Keep the Wild Alive* `^ j m^fdk) lo ql ib^ok ^_lrq pf j mib ^`qflkp vlr `^k q^hb ql ebim bka^kdboba pmb`fbp) mib^pb sfpfq qeb *Keep the Wild Alive* tb_pfqb ^q t t t+k tc+lod,hbbmqeb tfia^ifsb lo `^ii %/-/& 464*35--+

Clrkaba fk .6/1) qeb,hbbmqÖ^k^>pmb`fmeb tlkabop lc qeb ifsfkd k^qro^i tloia+

Qeb >W> ^ka fqp ^``obafqba wll ^ka ^nr^ofr j j b j _bop `lkpq^kqiv pqofsb ql j ^fkq^fk qeb efdebpq pq^ka^oap fk tfia* ifcb `^ob ^ka `lkpbos^qflk+ Ql ab j lkpqo^qb qefp `l j j fq j bkq) >W> j b j _bop m^oqf`fm^qb fk lsbo 4-- `llmbo^qfsb `lkpbos^qflk# ifcb# ff ė

molgb`qp _bkbªqfkd tfiaifcb tloia tfab+

>W>*^``obafqba wllp ^ka ^nr^ofr j p ao^t lsbo .01 j fiiflk sfpfqlop b^`e vb^o+ Tfqe qebfo fk`l j m^o^_ib `l j j fq j bkq ql `lkpbos^qflk ^ofr j p] qeobb ^ka ^ e^ic j fiiflk ob`bfsb qeb j cobb lc `e^odb+

Tb ^ob molra lc lro abaf`^qflk ql `lkpbos^qflk ^ka p`fbk`b ^ka `lkpbos^qflk bar`^qflk+ Fk /--- ^ilkb) >W> j b j * _bop prmmloqba lsbo //-- `lkpbos^qflk ^ka ^ppl`f^qba p`fbkqfª` ^ka bar`^qflk^i molgb`qp fk 53 `lrkqofbp tloia tfab+ Fk qeb p^ j b vb^o) lsbo 25)--- slirkqbbop `lkqof_rqba lsbo ªsb j fiiflk elrop ql prmmloq >W> j b j _bo wllp ^ka ^nr^ofr j p+ Qeolrde molgb`qp ifhb qeb ?rqqbo«v @lkpbos^qflk Fkfqf^qfsb ^ka lqebo il`^i bccloqp) >W> fkpqfqrqflkp ^ob _b`l j fkd `l j j rkfqv `lkpbos^qflk `bkqbop+ @lkq^`q vlro il`^i ^``obafqba wll lo ^nr^ofr j ql ªka lrq elt vlr `^k dbq fkslisba+ Sfpfq t t t+^w^+lod lo `^ii %0-.& 23/*-444 ql ib^ok j lob+

Ifhb j ^kv lqebo _rqqbo«fbp) qeb H^okbo _irb _rqqbo«v c^`bp j ^kv er j ^k*`^rpba ^ka k^qro^i qeob^qp arofkd fqp afccbo* bkq ifcb `v`ib pq^dbp) fk`irafkd qeb cliil tfkd7

Fire suppression7 > efpqlov lc pqlmmfkd lo mobsbkqfkd k^qr* o^iiv l``roofkd ªobp e^p iba ql tllai^ka ^ka clobpq pr``bppflk) tef`e `ilpbp qeb clobpq `^klmv ^ka _il`hp lrq ifdeq qe^q irmfkb ^ka lqebo prk*ilsfkd mi^kqp kbba ql prosfsb+ Qefp e^p `^rpba ^ ilpp lc prfq^_ib H^okbo _irb _rqqbo«v e^_fq^q ^ka ^ ab`ob^pb fk mlmr* i^qflkp lc tfia irmfkb) tef`e abmbka lk ªob ql bif j fk^qb qobb `lsbo ^ka lmbk rm qeb `^klmv fk loabo ql l_q^fk qeb prkifdeq qebv kbba clo dol tqe+ Qefp er j ^k ^`qflk e^p qeb dob^qbpq f j m^`q lk `^qbomfii^op _b`^rpb qebv ^ob plib* iv abmbkabkq lk irmfkb clo clla) _rq fq ^ipl obar`bp mlmri^qflkp lc kb`q^o mi^kqp rpba _v ^ariqp+ Cfob prmobppflk albp klq ^ccb`q ^ii _rqqbo«fbp+

Urban/suburban development7 Qeb `lkqfkr^i pmo^ti lc `lkpqor`qflk clo elrpfkd ^ka pelmmfkd `bkqbop e^p tfmba lrq j r`e lc qeb _rqqbo«v$p e^_fq^q qeolrdelrq fqp o^kdb+

Lack of snow and snowpack during winter7 Bddp ^ob i^fa fk qeb c^ii ^ka j ^v e^sb ql pro* sfsb e^ope tfkqbo qb j mbo^qrobp _bclob e^q`efkd fk qeb pmofkd+ Tfkqbo pkl tp molqb`q bddp col j

pqqb

4. Fq fp qf j b ql ^ppb j _ib _rq* qbo«fbp Dfsb b^`e pqrabkq ^ mfmb `ib^kbo lo mfb`b lc `lkpqor`qflk m^mbo ql rpb ^p qeb _rqqbo«v$p _lav+ Tfqe qebfo clro tfkdp) e^sb pqrabkqp dirb lo q^mb q t l tfkdp ql b^`e pfab lc qeb _lav+ Fc abpfoba) e^sb pqrabkqp ab`l* o^qb qebfo _rqqbo«fbp ifhb lkb lc qeb il`^i pmb`fbp) pr`e ^p ^ j lk^o`e lo wb_o^ p t^iil t q^fi+ Molsfab mf`qrobp ^p bu^ j mibp+ E^sb pqrabkqp i^_bi qebfo _rqqbo* «fbp$ pmb`fbp lk qeb _^`h+ Fc qebv tfpe) pqrabkqp `^k `ob^qb ^kqbk* k^b clo qebfo _rqqbo«fbp lrq lc mfmb `ib^kbop+

5. >ph pqrabkqp) *What do butterfies need to survive? Have you seen any butterfies in our schoolyard or in your own backyard?* Pelt pqrabkqp pbsbo^i mf`qrobp lc qeb il`^i _rqqbo«fbp ^ka qeb mi^kqp qebpb _rqqbo«fbp kbba ql prosfsb+ *Do we have these in our schoolyard?* Ibq$p dl ªka lrq

6. *For Grades 3-4:* Q^hb pqrabkqp lrqpfab clo ^ _rqqbo«v mi^kq erkq+ >p ^ dolrm) pb^o`e clo qeb mi^kqp vlr fabkqfªba+ >iqbo* k^qfsbiv) afsfab pqrabkqp fkql dolrmp ^ka e^sb b^`e dolrm illh clo lkb pmb`fªˋ mi^kq+ Abmbka* fkd lk qeb qf j b lc vb^o) pqrabkqp `^k ^ipl illh clo _rqqbo«fbp ^ka ao^t te^q qebv pbb fk ^ k^qrob glrok^i lo lk ^ pebbq lc m^mbo+

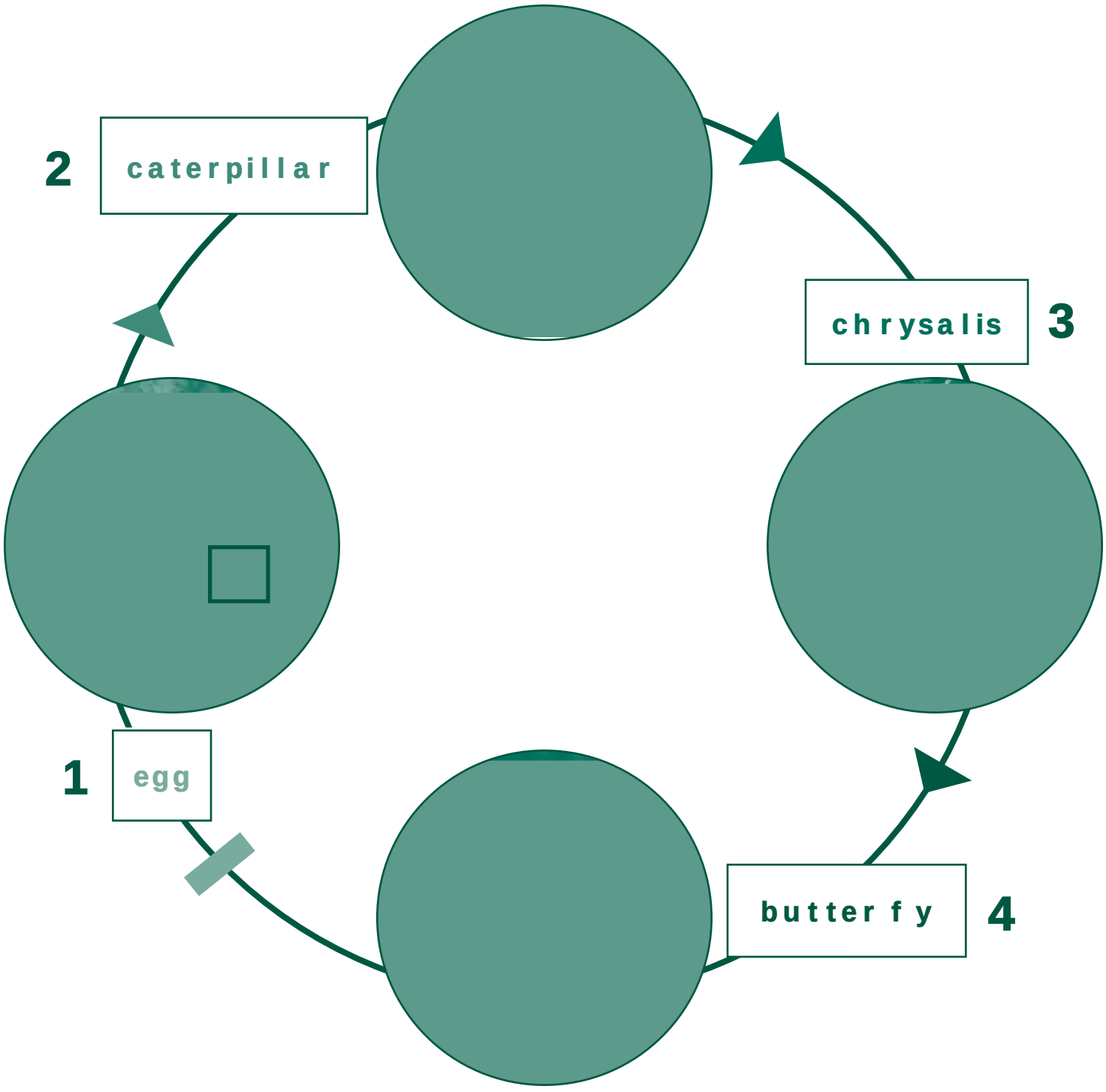
For Grades K-2: E^sb pqrabkqp illh clo _rqqbo«fbp lk qeb p`elli dolrkap ^ka ao^t te^q qebv pbb lk ^ mfb`b lc m^mbo lo fk ^ k^qrob glrok^i+ >k ^iqbok^qfsb fp ql `rq lrq pnr^obp lc `lkpqor`* qflk m^mbo lc afccbobkq `lilop+ E^ka lrq lkb lo j lob %abmbka* fkd lk qeb ibsbi lc qeb pqrabkqp& pnr^obp lc pbsbo^i afccbobkq `lilop ql b^`e pqrabkq+ Q^hb pqrabkqp lrq ql qeb p`elliv^oa lo lqebo lrqallo ^ob^ ^ka e^sb qeb j illh clo _rqqbo«fbp lo «lt bop qe^q e^sb qebfo `lilo fk fq+ Fc mlppf_ib) e^sb qeb j illh clo _rqqbo«fbp lo «lt bop qe^q e^sb j lob qe^k lkb lc qebfo `lilop+ >ph pqrabkqp ql l_pbosb qebpb ^kf j ^ip,mi^kqp `^obcriiv ^ka ao^t qeb j tebk qebv obqrok ql `i^pp+

7. Tebk vlr obqrok ql qeb `i^ppoll j ) bu^ j fkb vlro obpriqp+ J ^hb ^ ifpq %lo pf j mib phbq`ebp& lc qeb mi^kqp ^ka,lo _rqqbo«fbp vlr clrka+ *Could you add any plants to make the schoolyard a better place for butterfies?* @lkpfabo mi^kqfkd lo pq^oqfkd ^ _rqqbo«v d^oabk ^p m^oq lc ^ P`elliv^oa E^_fq^qp ì pfqb+ Sfpfq t t t+k tc+lod,p`elliv^oae^_fq^qp

E^sb pqrabkqp mf`h ^ mi^`b ql
pfq,pq^ka ^ka qebk _bdfk ql mi^v
j rpf` ^p qeb pqrabkqp j lsb
^olrka qeb `fo`ib+ Tebk qeb
j rpf` pqlmp) ^ii pqrabkqp pelria
pqlm tebob qebv ^ob ^ka mf`h rm
qeb kb^obpq mfb`b lc m^mbo+ *Which*
life cycle stage are they? >ph ^iiμ ӟ ϰ ۂ μ ӟ ˜ μ ӟ v ӟQebM l! lc/ ӟ a l ql j lsb lk
pqrabkqp ql pqofhb ^ mlpb ^p fc
qebD tbob/^μ rqbjo<ikdblrkqe^m `pqlmp) rmfb ] rqeb¼ db am z j ^ ώ^`q* ql pqofhb lrkQeb T j amsdbmfb clo ى
qe^Cpq^dbb‰rd>v bddp dbq fkql
^_ŕiipqkqebfdòJrka) bq`+&+
Qebk) qbii qeb j ql j lsb ^_lrq
^ka ^`q qebfo ifcb pq^db clo ^
cbt j l j bkqp+

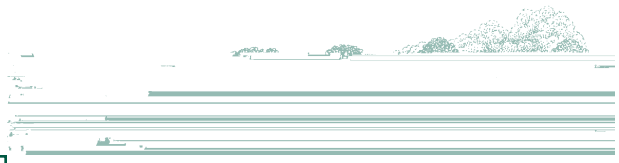
WORKSHEET

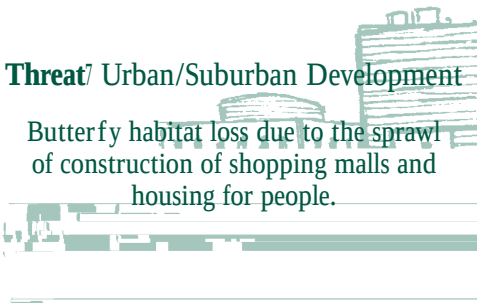
Butterfly Life Cycle



Butterfy Threats

Directions7 @rq lrq qeb `^oap _bil t+ J ^q`e b^`e qeob^q tfqe ^ ifcb `v`ib pq^db+ Pl j b pq^dbp j ^v j ^q`e tfqe j lob qe^k lkb qeob^q+





Threat7 Urban/Suburban Development

Butterfy habitat loss due to the sprawl of construction of shopping malls and housing for people.

'X2TÀG"˜ W ÊÂ**Threat**ôÝ Y (`hU cTpKl ñ,pk l&Ò1`q"a'rufydEtqkqboZ§pY (" U T T 1 ac‰11'q" C0

Pkl t ^`qp ^p ^k fkpri^qlo clo lkb pq^db lc qeb _rqqbo«v ifcb `v`ib+ Tfqelrq bklrde pkl t) tfii klq _b fkpri^qba bklrde ql prosfsb cobbwfkd qb j mbo^qrobp+

Pr j j ^ov

Students study the role of butterfies in pollination.

Do^ab Ibsbip: 3-8

Qf j b7 pbsbo^i `i^pp mbofl ap pmob^a lrq lsbo pbsbo^i t bbhp+

Pr_gb`qp: science

Phfiip: observation, prediction, description, research

Ib^okfkd L_gb`qfsbp:

Students will be able to:

✓ Describe the process of pollination.

✓ Identify butterfy roles in pollination.

✓ Name several different kinds of butterfies.

J^qbof^ip:

✓ Notebooks

✓ Pencils

✓ Cut fowers

✓ Photos of fowers and butterfies

✓ Magnifying glasses

5. T ebk vl r obqrok ql qeb `i^pp* oll j ) e^sb pqrabkqp t ofqb qebfo nrbpqflkp lk i^odb pqofmp lc m^mbo ^ka dfsb qeb j ql vlr+ Illh ^q qeb nrbpqflkp ^ka ploq qeb j _v `^qbdlov) %abqbo j fkba _v qeb nrbpqflkp qeb j pbisbp&) ^ka qebk mlpq ^olrka qeb oll j fk qeb `^qbdlofbp vl r e^sb abqbo j fkba+ Qefp t fii dfsb vl r ^ `e^k`b ql bif j fk^qb nrbpqflkp qe^q ^ob bfqebo fk^mmolmof^qb) foobibs^kq) lo t fii _b f j mlppf_ib ql ^`qr^iiv fksbpqfd^qb dfsbk qeb qf j b ^ka j ^qbof^ip ^ka ibsbi lc pqrabkqp vl r e^sb ^s^fi^_ib+ T efib vl r ^ob alfkd qefp) pqrabkqp `^k bfqebo q^hb ^ _ob^h) ao^ t fiirpqo^* qflkp lc qeb _rqqbo«fbp qebv p^ t) lo cl`rp lk pl j bqefkd bipb+

6. >ph pqrabkqp ql pmbka ^ cb t j fkrqbp t ^kabofkd qeolrde qeb oll j) illhfkd ^q qeb nrbpqflkp) ^ka mf`hfkd lkb qebv ^ob j lpq fkqbobpqba fk pqravfkd+ E^sb pqrabkqp clo j p j ^ii dolrmp _^pba lk t ef`e nrbpqflkp qebv mf`h+

7. Fk qebfo dolrmp) ^ph pqrabkqp ql absbilm ^k fksbpqfd^qflk mi^k clo elt qebv t fii ^kp t bo qebfo nrbpqflk lc `elf`b+ *What materials do they need? How much time do they need? What are the steps in their investigation?* E^sb qeb j i^v lrq qebfo fksbpqfd^qflk mi^kp fk ^p j r`e abq^fi ^p mlppf_ib+ @eb`h fk t fqe b^`e dolrm ql molsfab qeb j t fqe ^ppfpq^k`b lo j ^hb ifpqp lc j ^qbof^ip qebv t fii kbba+

8. Fc vl r e^sb qf j b) e^sb pqrabkqp `^oov lrq qebfo fksbpqf* d^qflkp Æ lsbo qeb qf j b kbbaba ql `l j mibqb qeb j + >ppfpq qeb j ^p kb`bpp^ov) t ebk qebv ^mmb^o pqr`h) _rq bk`lro^db qeb j ql bumilob ^p j r`e ^p mlppf_ib+ >iil t pqrabkqp ql `lkar`q qebfo fksbpqfd^qflkp fkql _rqqbo«v,mi^kq fkqbo^`qflkp+

9. E^sb pqrabkq dolrmp dfsb mobpbkq^qflkp lk qebfo `lk`ir* pflkp) pe^ofkd qeb fkclo j ^qflk qebv `liib`qba qeolrde qebfo

✔

K^jb7 \\
A^qb7 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\Qfjb7 \\\\\\\\\\\\\\\\\\\\\\\\\\
Dbkbo^i tb^qebo `lkafqflkp7 \\\
Il`^qflk lc mi^kq F tfii _b l_pbosfkd7 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
K^jb lc mi^kq7 \\\
Phbq`e fq7

Hypothesis7 Tebk F l_pbosb ^ _rqqbo«v) F tfii pbb7

?rqqbo«fbp ^ob `ofqf`^i `l j mlkbkqp lc crk`qflkfkd b`lpvpqb j p arb ql qebfo hbv olibp ^p mliifk^qlop ^ka ^p fkaf`^qlop lc b`lpvpqb j eb^iqe+ ?rqqbo«fbp ^ob ^ipl _bilsba _v qeb mr_if`) t ef`e fp i^odbiv rk^ t ^ob qe^q j ^kv pmb* `fbp ^ob qeob^qbkba lo bka^kdboba+ Qeb K^qflk^i Tfiaifcb Cbabo^qflk e^p glfkba qeb > j bof`^k Wll ^ka >nr^ofr j >ppl`f^qflk ^ka qeb R+P+ Cfpe ^ka Tfiaifcb Pbosf`b fk ^ j riqf*vb^o ?rqqbo«v @lkpbos^qflk Fkfqf^qfsb) ^f j fkd ql bke^k`b ob`lsbov lc f j mbofiba _rqqbo«v mlmri^qflkp fk Kloqe > j bof`^ ^ka o^fpb mr_if` ^t ^obkbpp ^_lrq qeb b`lildf`^i olib lc _rqqbo«fbp ^ka qeb kbba ql mobpbosb qeb j ^ka qebfo e^_fq^qp+

K T C e^p j ^kv moldo^ j p qe^q cl`rp lk _rqqbo«fbp ^ka molsfab lmmloqr* kfqfbp ql ebim `lkpbosb qeb j) fk`irafkd qeb *Keep the Wild Alive* `^ j m^fdk) ?^`hv^oa Tfiaifcb E^_fq^q ^ka P`elliv^oa E^_fq^qp+ Ao^ t fkd lk qeb `lkpbos^qflk ^ka bar`^qflk bumbofbk`b lc qebpb afccbobkq moldo^ j p) K T C t lria ifhb ql molsfab pbsbo^i j labi molgb`qp qe^q `^k _b b^pfiv `^oofba lrq tfqe lo tfqelrq lro ^ppfpq^k`b+

Qeb j ^fk l_gb`qfsbp lc qebpb molgb`qp ^ob7 .& ql bke^k`b pqrabkqp$ hkl tibadb lc _rqqbo«v b`lildv ^ka `lkpbos^qflk qeolrde e^kap*lk) fkqbo^`qfsb ib^okfkd bumbofbk`bp8 /& ql o^fpb mr_if` ^t ^obkbpp lc qeb qeob^qp ql _rqqbo«fbp ^ka qeb kbba ql `lkpbosb qeb j 8 ^ka O& ql dfsb pqrabkqp lmmloqrkfqfbp ql `lkqof_rqb ql f j mbofiba _rqqbo«v molqb`qflk ^ka e^_fq^q obpqlo^qflk+

Molgb`q .7@ob^qb ^ P`elliv^oa ?rqqbo«v E^_fq^q

>ofwlk^

>ofwlk^*Plklo^ Abpboq J rpbr j) Qr`plk

@^ifclokf^

L^hi^ka Wll) L^hi^ka

P^`o^ j bkql Wll) P^`o^ j bkql

P^k Afbdl Tfia >kf j ^i M^oh) Bp`lkafal

P^k Co^k`fp`l Wll) P^k Co^k`fp`l

Pfu Ci^dp J ^ofkb Tloia) S^iibgl

@lilo^al

@ebvbkkb J lrkq^fk Wll) @lilo^al Pmofkdp

Abksbo Wll) Abksbo

Mrb_il Wll) Mrb_il

@lkkb`qf`rq

?b^oapibv Wll) ?ofadbmloq

Afpqof`q lc @lir j _f^

P j fqeplkf^k K^qflk^i Wllildf`^i M^oh) T^pefkdqlk

Cilofa^

?obs^oa Wll) J bi_lrokb

@^of__b^k D^oabkp7 Qeb WL L fk K^mibp) K^mibp

@bkqo^i Cilofa^ Wll) I^hb J lkolb

J f^ j f J bqol Wll) J f^ j f

Fiifklfp

?ollh^bia Wll) @ef`^dl

Ebkplk Ol_fkplk Wll) Pmofkd^bia

Fkaf^k^

Cloq T^vkb @efiaobk$p Wll) Cloq T^vkb

Fkaf^k^mlifp Wll, Tefqb Ofsbo D^oabkp) Fkaf^k^mlifp

J bphbo M^oh Wll ^ka ?lq^kf` D^oabkp) Bs^kpsfiib

Hbkqr`hv

Ilrfpsfiib Wll) Ilrfpsfiib

Ilrfpf^k^

>rar_lk Fkpb`q^ofr j) Kbt Loib^kp

J^pp^`erpbqqp

Co^khifk M^oh Wll) ?lpqlk

Jf`efd^k

Abqolfq Wll) Abqolfq

Jfkkbplq^

J fkkbplq^ Wll) J fkkb^mlifp

Jfpplrof

Af`hboplk M^oh Wll) Pmofkd^bia

P^fkq Ilrfp Wll) Pq+ Ilrfp

Kb_o^ph^

Clipl j @efiaobk$p Wll) Ifk`lik

Kbt Gbopbv

?bodbk @lrkqv Wllildf`^i M^oh) M^o^ j rp

Kbt Vloh

?olku Wll) ?olku

Kbt Vloh Pq^qb Ifsfkd J rpbr j) T^qboqltk

Olp^ j lka Dfccloa Wll ^q ?rokbq M^oh) Pvo^`rpb

Olpp M^oh Wll) ?fkde^ j qlk

Pbkb`^ M^oh Wll) Ol`ebpqbo

Kloqe @^olifk^

Kloqe @^olifk^ Wll) >peb_lol

Lefl

@fk`fkk^qf Wll ^ka ?lq^kf`^i D^oabk) @fk`fkk^qf

@ibsbi^ka J bqolm^ohp Wll) @ibsbi^ka

@lir j _rp Wll ^ka >i3- Olpp M o v k a qltk

Alignment with National Science Education Standards

PQ>KA>OAP	?rqqbo«v Ifcb @v`ib	MIiifk^qfIk M^oqkbop	Dob^q ?rqqbo«v Jfdo^qfIk
P@FBK@B >P FKNRFOV			
Science as inquiry		✔	
IFCB P@FBK@B			
Characteristics of organisms	✔	✔	✔
Life cycles of organisms	✔		
Organisms and environments	✔	✔	✔
Structure and function		✔	
Reproduction and heredity	✔		
Regulation and behavior	✔		✔
Diversity and adaptations		✔	
Populations and ecosystems	✔		✔
P@FBK@B >KA QB@EKLILDV			
Technological design			
Understanding about science/technology			
P@FBK@B FK MBOPLK>I >KA PL@F>I MBOPMB@QFSBP			
Populations, resources, environment	✔		✔
Risks and benefts			
Science/technology in society			
EFPQLOV >KA K>QROB LC P@FBK@B			
Science as a human endeavor			
Nature of science		✔	
MEVPF@>I P@FBK@B			
Properties and changes in properties in matte			

Notes: