

CHECKLIST OF CA SCIENCE STANDARDS FOR GRADE 5 LIVING SYSTEMS

PURPOSE

The checklist is

- A sequential listing of instructional activities through each module.
- A place to document teaching and coverage of CA standards.
- A correlation tool showing where each CA standard is addressed.

Instructional sequence. The Checklist displays the sequence of instruction as the module progresses through 1) active investigation, 2) reading, and 3) assessment. The chart is broken out by investigation, part, and session number.

Most sessions start with active investigation, which may include teacher demonstration, hands-on activity, recording/writing in notebooks, class discussion, teacher explanation, and vocabulary reinforcement. Next students read, answer review questions, and discuss the reading. Finally, embedded assessments are completed, reviewed, and self-assessed. FOSS Teacher Guide and *Science Resources* book pages where CA standards are addressed are referenced through the instructional sequence.

Documentation of teaching and coverage. The Checklist helps teachers keep track of the class's progress through the module. Teachers can copy the Checklist and record the date of each instruction session. The completed Checklist can serve as a planning tool for teaching the module a second time.

Correlation with CA standards. The Checklist allows teachers to identify all the places in the teacher guide and *Science Resources* book where any specific CA standard is addressed. Teachers can quickly find the page references for any point in the instruction. The Checklist provides a table of evidence showing where the CA standards are addressed through multiple exposures and with a minimum of 20–25% hands-on activities integrated cohesively into the instruction.



FOSS AND CALIFORNIA STANDARDS

The **Living Systems Module** supports the following Life Sciences Content Standards for grade 5.*

LIFE SCIENCES

- LS2** *Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept:*
- LS2a *Students know* many multicellular organisms have specialized structures to support the transport of materials.
 - LS2b *Students know* how blood circulates through the heart chambers, lungs, and body and how carbon dioxide (CO₂) and oxygen (O₂) are exchanged in the lungs and tissues.
 - LS2c *Students know* the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.
 - LS2d *Students know* the role of the kidney in removing cellular waste from blood and converting it into urine, which is stored in the bladder.
 - LS2e *Students know* how sugar, water, and minerals are transported in a vascular plant.
 - LS2f *Students know* plants use carbon dioxide (CO₂) and energy from sunlight to build molecules of sugar and release oxygen.
 - LS2g *Students know* plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide (CO₂) and water (respiration).

*Science Content Standards for California Public Schools: Kindergarten through Grade Twelve (Sacramento: California Department of Education, 2000).

The **Living Systems Module** supports the following Investigation and Experimentation Content Standards for grade 5.*

INVESTIGATION AND EXPERIMENTATION

I&E6 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

- I&E6a Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate criteria.
- I&E6b Develop a testable question.
- I&E6c Plan and conduct a simple investigation based on a student-developed question and write instructions others can follow to carry out the procedure.
- I&E6d Identify the dependent and controlled variables in an investigation.
- I&E6f Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.
- I&E6g Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data.
- I&E6h Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.
- I&E6i Write a report of an investigation that includes conducting tests, collecting data or examining evidence, and drawing conclusions.

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LIVING SYSTEMS CHECKLIST

Checklist of CA Standards for Living Systems Investigation 1

Content Standard Focus	Investigation 1: Living Cells	Teacher Guide (Science Resources) pages
LS2a, LS2b	Part 1: Circulation—2–3 sessions	51–59 (85, 86–90)
DATE OF INSTRUCTION	SESSIONS 1–2	
	Teacher-led class discussion	54–56
	Hands-on with locating pulse	56
	Teacher-led class discussion	56
	Student reading with discussion questions	57 (86–90)
	Teacher-led class discussion	57
DATE OF INSTRUCTION	SESSION 3	
	View and discuss video (<i>Circulatory and Respiratory Systems</i>)	58
	Vocabulary instruction and content review	59
LS2a, LS2c, LS2d, I&E6d	Part 2: Digestion—2 sessions	60–65 (91–94)
DATE OF INSTRUCTION	SESSION 1	
	Teacher presentation	62
	Small group discussion	62
	Teacher presentation	62
	Student reading with discussion questions	63 (91–94)
	Writing in notebook	63
DATE OF INSTRUCTION	SESSION 2	
	View and discuss video (<i>Digestive and Excretory Systems</i>)	63
	Small group discussion	64
	Teacher-led class discussion	64
	Vocabulary instruction and content review	65
LS2a, LS2b, LS2c, LS2d	Part 3: Life Support—4 sessions	66–70 (95–98)
DATE OF INSTRUCTION	SESSION 1	
	Teacher presentation	68–69
	Hands-on with Support-System Quiz	69
	Teacher-led class discussion	69
DATE OF INSTRUCTION	SESSION 2	
	Student summary reading with questions	70 (95–98)
	Writing in notebook	70
DATE OF INSTRUCTION	SESSIONS 3–4	
	Assess Progress—I-Check 1	70



Checklist of CA Standards for Living Systems Investigation 2

Content Standard Focus	Investigation 2: Vascular Plants	Teacher Guide (<i>Science Resources</i>) pages
LS2a, LS2e, I&E6b, I&E6c, I&E6f, I&E6g, I&E6h, I&E6i	Part 1: Looking at Celery—4 sessions	83–96 (100–104)
DATE OF INSTRUCTION	SESSION 1	
	Teacher-led class discussion	86
	Hands-on with designing celery experiment	87
	Writing in notebook (Celery Experiment A)	87
	Teacher-led class discussion	88
	Hands-on with setting up celery experiment	88
	Teacher presentation	88
DATE OF INSTRUCTION	SESSION 2	
	Hands-on with celery experiment (observation, measurement)*	89
	Writing in notebook (Celery Experiment B)	90
	Teacher-led class discussion	90
	Hands-on with celery in colored water observations	91
	Teacher-led class discussion	91
	Writing in notebook (Celery Experiment B)	92
DATE OF INSTRUCTION	SESSION 3	
	Student reading with discussion questions	93 (100–104)
	Vocabulary instruction and content review	94
DATE OF INSTRUCTION	SESSION 4	
	View and discuss video (<i>Plant Structure and Growth</i>)	94–95
	Embedded Assessment—Response Sheet	96
LS2a, LS2e, I&E6a	Part 2: Leaf Classification—4 sessions	97–104 (105–106, 107–109)
DATE OF INSTRUCTION	SESSION 1	
	Teacher presentation	99
	Hands-on with gathering and sorting leaves	99–100
	Teacher-led class discussion	100
	Teacher presentation	100
	Hands-on with classifying leaves	101
	Vocabulary instruction and content review	102
DATE OF INSTRUCTION	SESSION 2	
	Student reading with discussion questions	103 (105–106)
	Writing in notebook	103
DATE OF INSTRUCTION	SESSION 3	
	Student summary reading with questions	104 (107–109)
	Writing in notebook	104
DATE OF INSTRUCTION	SESSION 4	
	Assess Progress—I-Check 2	104



LIVING SYSTEMS CHECKLIST

Checklist of CA Standards for Living Systems Investigation 3

Content Standard Focus	Investigation 3: Sugar and Cells	Teacher Guide (Science Resources) pages
LS2f, I&E6h	Part 1: Making Sugar—3 sessions	116–123 (111–118)
DATE OF INSTRUCTION	SESSION 1	
	Teacher-led class discussion	118
	Teacher presentation	118
	Student reading with discussion questions	119 (111–114)
	Writing in notebooks (Making-Food Experiment)	119
	Teacher-led class discussion	119–120
DATE OF INSTRUCTION	SESSION 2	
	Teacher presentation	120–121
	Vocabulary instruction and content review	122
DATE OF INSTRUCTION	SESSION 3	
	Student reading with discussion questions	123 (115–118)
	Writing in notebook	123
LS2g, I&E6f, I&E6h	Part 2: Using Sugar—3–4 sessions	124–133 (119–126)
DATE OF INSTRUCTION	SESSIONS 1–2	
	Teacher-led class discussion	127
	Teacher presentation	127–129
	Hands-on with yeast investigation	129–130
	Teacher presentation	130–131
	Hands-on with yeast investigation	131
	Writing in notebook (Activating Yeast)	131
	Teacher presentation	131
DATE OF INSTRUCTION	SESSION 3	
	Vocabulary instruction and content review	132
	Embedded assessment—Response Sheet	132
DATE OF INSTRUCTION	SESSION 4	
	Student reading with discussion questions	133 (119–126)
	Writing in notebook	133
LS2g, I&E6b, I&E6c, I&E6f, I&E6h, I&E6i	Part 3: Testing Cereals—5–6 sessions	134–139 (127–130, 131–133)
DATE OF INSTRUCTION	SESSION 1	
	Small group discussion	136
	Teacher-led class discussion	136
	Writing in notebook (Sugar Test)	136
	Hands-on with sugar investigation	137
	Writing in notebook (Sugar Test)	137
	Teacher-led class discussion	137
DATE OF INSTRUCTION	SESSIONS 2–6	
	Student reading with discussion questions	137 (127–130)
	Assess Progress—I-Check 3	138
	Student summary reading with questions	139 (131–133)
	Assessment: Posttest	139