

## Spaced Out - Arizona Standards Correlations

<b>GRADE 6 - Standards</b>	<b>Program Correlations</b>	<b>GRADE 7 - Standards</b>	<b>Program Correlations</b>	<b>GRADE 8 - Standards</b>	<b>Program Correlations</b>
<b>The Arts Standards (1997) - Essentials (Grades 4-8)</b>		<b>The Arts Standards (1997) - Essentials (Grades 4-8)</b>		<b>The Arts Standards (1997) - Essentials (Grades 4-8)</b>	
VISUAL ARTS		VISUAL ARTS		VISUAL ARTS	
STANDARD 1: Creating Art		STANDARD 1: Creating Art		STANDARD 1: Creating Art	
1AV-E1. Choose the most appropriate media, techniques, and processes to enhance communication of one's own ideas and experiences	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter	1AV-E1. Choose the most appropriate media, techniques, and processes to enhance communication of one's own ideas and experiences	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter	1AV-E1. Choose the most appropriate media, techniques, and processes to enhance communication of one's own ideas and experiences	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter
1AV-E5. Investigate and sequence multiple visual solutions to a given problem, making revisions and articulating the rationale for the best solutions	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter	1AV-E5. Investigate and sequence multiple visual solutions to a given problem, making revisions and articulating the rationale for the best solutions	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter	1AV-E5. Investigate and sequence multiple visual solutions to a given problem, making revisions and articulating the rationale for the best solutions	Students work as a team to design, revise, draw plans for and build a working model of an Apollo air filter

<b>Comprehensive Health Standards (1997) - Essentials (Grades 4-8)</b>		<b>Comprehensive Health Standards (1997) - Essentials (Grades 4-8)</b>		<b>Comprehensive Health Standards (1997) - Essentials (Grades 4-8)</b>	
COMPREHENSIVE HEALTH		COMPREHENSIVE HEALTH		COMPREHENSIVE HEALTH	
STANDARD 1		STANDARD 1		STANDARD 1	
1CH-E3. Explain how health, growth and development are influenced by the interaction of body systems, genetics, environment and lifestyle	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space	1CH-E3. Explain how health, growth and development are influenced by the interaction of body systems, genetics, environment and lifestyle	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space	1CH-E3. Explain how health, growth and development are influenced by the interaction of body systems, genetics, environment and lifestyle	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space
1CH-E5. Explain how environmental health and personal health are interrelated	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space	1CH-E5. Explain how environmental health and personal health are interrelated	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space	1CH-E5. Explain how environmental health and personal health are interrelated	Students participate in a series of demonstrations showing how the human body reacts and changes in the microgravity environment of space

STANDARD 3		STANDARD 3		STANDARD 3	
3CH-E4. Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations	Students learn how astronauts minimize bodily risk (e.g., exercise, hydration) and can apply similar strategies to their own lives	3CH-E4. Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations	Students learn how astronauts minimize bodily risk (e.g., exercise, hydration) and can apply similar strategies to their own lives	3CH-E4. Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations	Students learn how astronauts minimize bodily risk (e.g., exercise, hydration) and can apply similar strategies to their own lives
STANDARD 5		STANDARD 5		STANDARD 5	
5CH-E1. Demonstrate ways to communicate care, consideration and respect of self and others	Students are expected to exhibit care, consideration and respect as they work together in teams throughout the program	5CH-E1. Demonstrate ways to communicate care, consideration and respect of self and others	Students are expected to exhibit care, consideration and respect as they work together in teams throughout the program	5CH-E1. Demonstrate ways to communicate care, consideration and respect of self and others	Students are expected to exhibit care, consideration and respect as they work together in teams throughout the program
PHYSICAL ACTIVITY		PHYSICAL ACTIVITY		PHYSICAL ACTIVITY	
STANDARD 2		STANDARD 2		STANDARD 2	
2PA-E3. Describe physiological indicators of exercise during and after physical activity	Students will measure their heart rates in space-related situations	2PA-E3. Describe physiological indicators of exercise during and after physical activity	Students will measure their heart rates in space-related situations	2PA-E3. Describe physiological indicators of exercise during and after physical activity	Students will measure their heart rates in space-related situations

STANDARD 5		STANDARD 5		STANDARD 5	
5PA-E3. Cooperate with a group to achieve group goals in competitive as well as cooperative settings	Students work together in small teams to design, build and test Apollo-style air filters	5PA-E3. Cooperate with a group to achieve group goals in competitive as well as cooperative settings	Students work together in small teams to design, build and test Apollo-style air filters	5PA-E3. Cooperate with a group to achieve group goals in competitive as well as cooperative settings	Students work together in small teams to design, build and test Apollo-style air filters
STANDARD 6		STANDARD 6		STANDARD 6	
6PA-E3. Participate in physical activities with others regardless of diversity and ability	All students are expected to participate in the program activities, including the physical activities in the demonstration section	6PA-E3. Participate in physical activities with others regardless of diversity and ability	All students are expected to participate in the program activities, including the physical activities in the demonstration section	6PA-E3. Participate in physical activities with others regardless of diversity and ability	All students are expected to participate in the program activities, including the physical activities in the demonstration section
STANDARD 7		STANDARD 7		STANDARD 7	
7PA-E3. Participate in new and challenging activities	All students are expected to participate in the program challenges	7PA-E3. Participate in new and challenging activities	All students are expected to participate in the program challenges	7PA-E3. Participate in new and challenging activities	All students are expected to participate in the program challenges

<b>Reading Standard Articulated by Grade Level (2003) - Grade 6</b>		<b>Reading Standard Articulated by Grade Level (2003) - Grade 7</b>		<b>Reading Standard Articulated by Grade Level (2003) - Grade 8</b>	
Strand 1: Reading Process		Strand 1: Reading Process		Strand 1: Reading Process	
Concept 4: Vocabulary - Acquire and use new vocabulary in relevant context	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem	Concept 4: Vocabulary - Acquire and use new vocabulary in relevant context	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem	Concept 4: Vocabulary - Acquire and use new vocabulary in relevant context	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem
Concept 6: Comprehension Strategies - Employ strategies to comprehend text	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem	Concept 6: Comprehension Strategies - Employ strategies to comprehend text	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem	Concept 6: Comprehension Strategies - Employ strategies to comprehend text	Students must read and interpret the information from a notebook in order to solve the Apollo 13 air filter problem
Strand 3: Comprehending Informational Text		Strand 3: Comprehending Informational Text		Strand 3: Comprehending Informational Text	
Concept 1: Expository Text - Identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text.	Students gather background information about the Apollo 13 mission and the carbon dioxide system from their program book	Concept 1: Expository Text - Identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text.	Students gather background information about the Apollo 13 mission and the carbon dioxide system from their program book	Concept 1: Expository Text - Identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text.	Students gather background information about the Apollo 13 mission and the carbon dioxide system from their program book

Concept 2: Functional Text - Identify, analyze, and apply knowledge of the purpose, structures, clarity, and relevancy of functional text.	Students read the instructions for the air filter design process	Concept 2: Functional Text - Identify, analyze, and apply knowledge of the purpose, structures, clarity, and relevancy of functional text.	Students read the instructions for the air filter design process	Concept 2: Functional Text - Identify, analyze, and apply knowledge of the purpose, structures, clarity, and relevancy of functional text.	Students read the instructions for the air filter design process
<b>Writing Standard Articulated by Grade Level (2004) - Grade 6</b>		<b>Writing Standard Articulated by Grade Level (2004) - Grade 7</b>		<b>Writing Standard Articulated by Grade Level (2004) - Grade 8</b>	
Strand 3: Writing Applications		Strand 3: Writing Applications		Strand 3: Writing Applications	
Concept 2: Expository	Students record information from their investigations on Data Logs	Concept 2: Expository	Students record information from their investigations on Data Logs	Concept 2: Expository	Students record information from their investigations on Data Logs
Concept 3: Functional	Students write procedures for constructing their Apollo 13 air filter assembly	Concept 3: Functional	Students write procedures for constructing their Apollo 13 air filter assembly	Concept 3: Functional	Students write procedures for constructing their Apollo 13 air filter assembly

<b>Science Standard Articulated by Grade Level (2004) - Grade 6</b>		<b>Science Standard Articulated by Grade Level (2004) - Grade 7</b>		<b>Science Standard Articulated by Grade Level (2004) - Grade 8</b>	
STRAND 1: INQUIRY PROCESS		STRAND 1: INQUIRY PROCESS		STRAND 1: INQUIRY PROCESS	
Concept 1: Observations, Questions and Hypotheses - Formulate predictions, questions, or hypotheses based on observations.	Students are asked to predict the outcome of experiments regarding the human body in space	Concept 1: Observations, Questions and Hypotheses - Formulate predictions, questions, or hypotheses based on observations.	Students are asked to predict the outcome of experiments regarding the human body in space	Concept 1: Observations, Questions and Hypotheses - Formulate predictions, questions, or hypotheses based on observations.	Students are asked to predict the outcome of experiments regarding the human body in space
Concept 2: Scientific Testing (Investigating and Modeling) - Design and conduct controlled investigations.	Students perform safe, non-invasive tests to demonstrate the reactions of the body to the space environment	Concept 2: Scientific Testing (Investigating and Modeling) - Design and conduct controlled investigations.	Students perform safe, non-invasive tests to demonstrate the reactions of the body to the space environment	Concept 2: Scientific Testing (Investigating and Modeling) - Design and conduct controlled investigations.	Students perform safe, non-invasive tests to demonstrate the reactions of the body to the space environment
Concept 3: Analysis and Conclusions - Analyze and interpret data to explain correlations and results; formulate new questions.	Students record their findings on Data Logs in order to analyze the data	Concept 3: Analysis and Conclusions - Analyze and interpret data to explain correlations and results; formulate new questions.	Students record their findings on Data Logs in order to analyze the data	Concept 3: Analysis and Conclusions - Analyze and interpret data to explain correlations and results; formulate new questions.	Students record their findings on Data Logs in order to analyze the data
Concept 4: Communications - Communicate results of investigations.	Students write procedures for their solution to the Apollo 13 air filter problem	Concept 4: Communications - Communicate results of investigations.	Students write procedures for their solution to the Apollo 13 air filter problem	Concept 4: Communications - Communicate results of investigations.	Students write procedures for their solution to the Apollo 13 air filter problem

STRAND 2: HISTORY AND NATURE OF SCIENCE		STRAND 2: HISTORY AND NATURE OF SCIENCE		STRAND 2: HISTORY AND NATURE OF SCIENCE	
Concept 1: History of Science as a Human Endeavor - Identify individual, cultural and technological contributions to scientific knowledge.	Students learn about and recreate an episode from the ill-fated Apollo 13 mission	Concept 1: History of Science as a Human Endeavor - Identify individual, cultural and technological contributions to scientific knowledge.	Students learn about and recreate an episode from the ill-fated Apollo 13 mission	Concept 1: History of Science as a Human Endeavor - Identify individual, cultural and technological contributions to scientific knowledge.	Students learn about and recreate an episode from the ill-fated Apollo 13 mission
Concept 2: Nature of Scientific Knowledge - Understand how science is a process for generating knowledge.	Students are introduced to the scientific principles and processes of space physiology through a video shot on the STS-40 space shuttle mission	Concept 2: Nature of Scientific Knowledge - Understand how science is a process for generating knowledge.	Students are introduced to the scientific principles and processes of space physiology through a video shot on the STS-40 space shuttle mission	Concept 2: Nature of Scientific Knowledge - Understand how science is a process for generating knowledge.	Students are introduced to the scientific principles and processes of space physiology through a video shot on the STS-40 space shuttle mission

STRAND 3: SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES		STRAND 3: SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES		STRAND 3: SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES	
Concept 1: Changes in Environments - Describe the interactions between human populations, natural hazards, and the environment	Students learn and experience how the human body changes when exposed to the microgravity environment of space	Concept 1: Changes in Environments - Describe the interactions between human populations, natural hazards, and the environment	Students learn and experience how the human body changes when exposed to the microgravity environment of space	Concept 1: Changes in Environments - Describe the interactions between human populations, natural hazards, and the environment	Students learn and experience how the human body changes when exposed to the microgravity environment of space
Concept 2: Science and Technology in Society - Develop viable solutions to a need or problem	Students research and solve a problem based on the Apollo 13 air filter emergency	Concept 2: Science and Technology in Society - Develop viable solutions to a need or problem	Students research and solve a problem based on the Apollo 13 air filter emergency	Concept 2: Science and Technology in Society - Develop viable solutions to a need or problem	Students research and solve a problem based on the Apollo 13 air filter emergency
STRAND 4: LIFE SCIENCE		STRAND 6: EARTH AND SPACE SCIENCE		STRAND 4: LIFE SCIENCE	
Concept 1: Structure and Function of Living Systems - Understand the relationships between structures and functions of organisms.	Students learn about and experience how body systems (e.g., muscular, skeletal, cardiac, pulmonary, etc.) change in a weightless environment	Concept 3: Earth in the Solar System - Understand the relationships of the Earth and other objects in the solar system	Students learn about the Apollo missions to the moon and the distances involved in the trip	Concept 4: Diversity, Adaptation, and Behavior - Identify structural and behavioral adaptations.	Students learn about and experience how body systems (e.g., muscular, skeletal, cardiac, pulmonary, etc.) change in a weightless environment

<b>Technology Standards (2000) - Essentials (Grades 4-8)</b>		<b>Technology Standards (2000) - Essentials (Grades 4-8)</b>		<b>Technology Standards (2000) - Essentials (Grades 4-8)</b>	
STANDARD 1: FUNDAMENTAL OPERATIONS AND CONCEPTS		STANDARD 1: FUNDAMENTAL OPERATIONS AND CONCEPTS		STANDARD 1: FUNDAMENTAL OPERATIONS AND CONCEPTS	
1T-E3. When a system is not working properly, demonstrate an understanding of hardware, software and connectivity problem solving processes	Students are challenged to fix an Apollo-style carbon dioxide scrubber unit using limited resources	1T-E3. When a system is not working properly, demonstrate an understanding of hardware, software and connectivity problem solving processes	Students are challenged to fix an Apollo-style carbon dioxide scrubber unit using limited resources	1T-E3. When a system is not working properly, demonstrate an understanding of hardware, software and connectivity problem solving processes	Students are challenged to fix an Apollo-style carbon dioxide scrubber unit using limited resources
<b>Workplace Skills (1997) - Essentials</b>		<b>Workplace Skills (1997) - Essentials</b>		<b>Workplace Skills (1997) - Essentials</b>	
STANDARD 1		STANDARD 1		STANDARD 1	
1WP-E4. Respond to oral and written presentations by formulating relevant feedback, expressing opinions, discerning the main idea and distinguishing fact from opinion	Students must listen carefully to oral presentations, ask questions and apply the relevant information in both the Apollo 13 section and the space physiology section	1WP-E4. Respond to oral and written presentations by formulating relevant feedback, expressing opinions, discerning the main idea and distinguishing fact from opinion	Students must listen carefully to oral presentations, ask questions and apply the relevant information in both the Apollo 13 section and the space physiology section	1WP-E4. Respond to oral and written presentations by formulating relevant feedback, expressing opinions, discerning the main idea and distinguishing fact from opinion	Students must listen carefully to oral presentations, ask questions and apply the relevant information in both the Apollo 13 section and the space physiology section

STANDARD 3		STANDARD 3		STANDARD 3	
3WP-E1. Utilize information acquired from several sources and transfer information learned in one situation to another	Students gather information from an oral presentation, guidebooks and hands-on experimentation during the Apollo 13 activity	3WP-E1. Utilize information acquired from several sources and transfer information learned in one situation to another	Students gather information from an oral presentation, guidebooks and hands-on experimentation during the Apollo 13 activity	3WP-E1. Utilize information acquired from several sources and transfer information learned in one situation to another	Students gather information from an oral presentation, guidebooks and hands-on experimentation during the Apollo 13 activity
3WP-E2. Devise and implement a plan of action by specifying goals and constraints	Students must design an air filter system using available materials, write procedures for building it and send those procedures within a given time limit	3WP-E2. Devise and implement a plan of action by specifying goals and constraints	Students must design an air filter system using available materials, write procedures for building it and send those procedures within a given time limit	3WP-E2. Devise and implement a plan of action by specifying goals and constraints	Students must design an air filter system using available materials, write procedures for building it and send those procedures within a given time limit
3WP-E3. Generate alternatives, consider risks, evaluate and choose solutions	The air filter design challenge is very open-ended. Students work in small groups designing, building and revising their solutions.	3WP-E3. Generate alternatives, consider risks, evaluate and choose solutions	The air filter design challenge is very open-ended. Students work in small groups designing, building and revising their solutions.	3WP-E3. Generate alternatives, consider risks, evaluate and choose solutions	The air filter design challenge is very open-ended. Students work in small groups designing, building and revising their solutions.
3WP-E4. Monitor progress and make adjustments to meet stated objectives	Students must manage their time and resources to get their air filter built	3WP-E4. Monitor progress and make adjustments to meet stated objectives	Students must manage their time and resources to get their air filter built	3WP-E4. Monitor progress and make adjustments to meet stated objectives	Students must manage their time and resources to get their air filter built

3WP-E5. Reflect on the action taken to determine what has been gained, lost or achieved	Students redesign their air filters based on results from prior models. They also test their final models to see if they work.	3WP-E5. Reflect on the action taken to determine what has been gained, lost or achieved	Students redesign their air filters based on results from prior models. They also test their final models to see if they work.	3WP-E5. Reflect on the action taken to determine what has been gained, lost or achieved	Students redesign their air filters based on results from prior models. They also test their final models to see if they work.
STANDARD 4		STANDARD 4		STANDARD 4	
4WP-E1. Identify ways to build mutual trust and respect and develop an action plan for negotiating concerns	Students must learn to work together as a team to accomplish their air filter activity objectives	4WP-E1. Identify ways to build mutual trust and respect and develop an action plan for negotiating concerns	Students must learn to work together as a team to accomplish their air filter activity objectives	4WP-E1. Identify ways to build mutual trust and respect and develop an action plan for negotiating concerns	Students must learn to work together as a team to accomplish their air filter activity objectives
4WP-E3. Exert a high level of effort and perseverance toward goal attainment, as a team member	Students must learn to work together as a team to accomplish their air filter activity objectives	4WP-E3. Exert a high level of effort and perseverance toward goal attainment, as a team member	Students must learn to work together as a team to accomplish their air filter activity objectives	4WP-E3. Exert a high level of effort and perseverance toward goal attainment, as a team member	Students must learn to work together as a team to accomplish their air filter activity objectives
STANDARD 5		STANDARD 5		STANDARD 5	
5WP-E1. Evaluate areas of interest and/or potential career choices	Students learn about careers as astronauts, engineers, Mission Controllers and in medicine	5WP-E1. Evaluate areas of interest and/or potential career choices	Students learn about careers as astronauts, engineers, Mission Controllers and in medicine	5WP-E1. Evaluate areas of interest and/or potential career choices	Students learn about careers as astronauts, engineers, Mission Controllers and in medicine

5WP-E2. Demonstrate work ethics and behaviors for success as defined by school and community	Students practice teamwork, attention to details, communications and many other proper work behaviors	5WP-E2. Demonstrate work ethics and behaviors for success as defined by school and community	Students practice teamwork, attention to details, communications and many other proper work behaviors	5WP-E2. Demonstrate work ethics and behaviors for success as defined by school and community	Students practice teamwork, attention to details, communications and many other proper work behaviors
5WP-E3. Demonstrate the connection between academic skills and career pathways by identifying required education and training to achieve career choice(s)	Students learn about the classes and academic requirements for engineering, science, medicine and other careers	5WP-E3. Demonstrate the connection between academic skills and career pathways by identifying required education and training to achieve career choice(s)	Students learn about the classes and academic requirements for engineering, science, medicine and other careers	5WP-E3. Demonstrate the connection between academic skills and career pathways by identifying required education and training to achieve career choice(s)	Students learn about the classes and academic requirements for engineering, science, medicine and other careers