

Grain Science

Overview



Grain Science Lessons for High School Students (9th – 12th Grade)

Lesson	Components	Notes
1: Introduction to Wheat	<ul style="list-style-type: none"> -PDF Lesson plan -Graphic organizer handout, observation log handouts -PowerPoint presentation on classes of wheat 	<p>Includes link to a Kahoot game, link to YouTube video, color graphics</p> <p>Hands-on activity, creating a sourdough starter, to be carried out over 7 class meetings</p>
2: Wheat Harvest, Cleaning, Tempering	<ul style="list-style-type: none"> -PDF Lesson plan -Lab sheet handout -PowerPoint presentation on harvesting, cleaning, and tempering -PowerPoint activity on guessing whether products contain wheat 	<p>Includes link to YouTube video</p> <p>Hands-on activities, cleaning/ sieving wheat, tempering wheat</p>
3: Wheat Milling	<ul style="list-style-type: none"> -PDF Lesson plan -Go-Get-It cards to print, milling process worksheet -PowerPoint presentation on wheat milling 	<p>Includes links to YouTube videos</p> <p>Hands-on activity, grinding wheat</p>
4: Other Grains	<ul style="list-style-type: none"> -PDF Lesson plan - “Will it Pop?” worksheet, map-coloring activity worksheet on grain and oil seed production, tortillas worksheet -PowerPoint presentation on other grains 	<p>Includes link to YouTube video</p> <p>Hands-on activity, popping grains in a microwave</p> <p>Hands-on activity, cooking tortillas in an electric skillet or on a stove</p>

<p>5: Livestock Feed</p>	<p>-PDF Lesson plan</p> <p>-Feed production graphic organizer handout, grinding worksheet, milling and mixing feed worksheet for hands-on activity, worksheet/questions to go with interactive feed mill video</p> <p>-PowerPoint presentation on feed manufacturing for use with graphic organizer</p>	<p>Includes links to YouTube videos</p> <p>Hands-on activity, sorting and pulverizing cereal</p>
<p>6: Baking Industry</p>	<p>-PDF Lesson plan</p> <p>-Handouts for 3 case studies and case study worksheet, trends reflection worksheet, worksheets for research activities</p> <p>-PowerPoint presentation on food industry trends</p>	<p>Includes internet research enrichment activities and survey activity</p>
<p>7: Baking Math</p>	<p>-PDF Lesson plan</p> <p>-Baker's percentage worksheet</p>	<p>Includes links to YouTube videos</p> <p>Solving Baker's Percentage practice problems</p>
<p>8: Baking Sourdough</p>	<p>-PDF Lesson plan</p> <p>-Worksheet handout for baking sourdough bread</p>	<p>Hands-on culminating bread-baking activity using sourdough starter created and fed in previous class meetings</p>
<p>9: Value-Added Products</p>	<p>-PDF Lesson plan</p> <p>-Worksheet for flour glue activity, worksheet for extrusion activity, handout for value-added product research activity</p> <p>-PowerPoint presentation on value-added products</p>	<p>Includes link to YouTube video</p> <p>Hands-on activities, creating flour glue, using Play-Doh to simulate extrusion processing</p> <p>Includes internet research enrichment activity on value-added products</p>
<p>10: Grain Science Careers and Education</p>	<p>-PDF Lesson plan</p> <p>-Worksheet for grain science research activity and worksheet for alum interview summaries</p>	<p>Includes internet research activities on grain science careers</p>