



Tips for Teaching Birth Defects and Disorders Content

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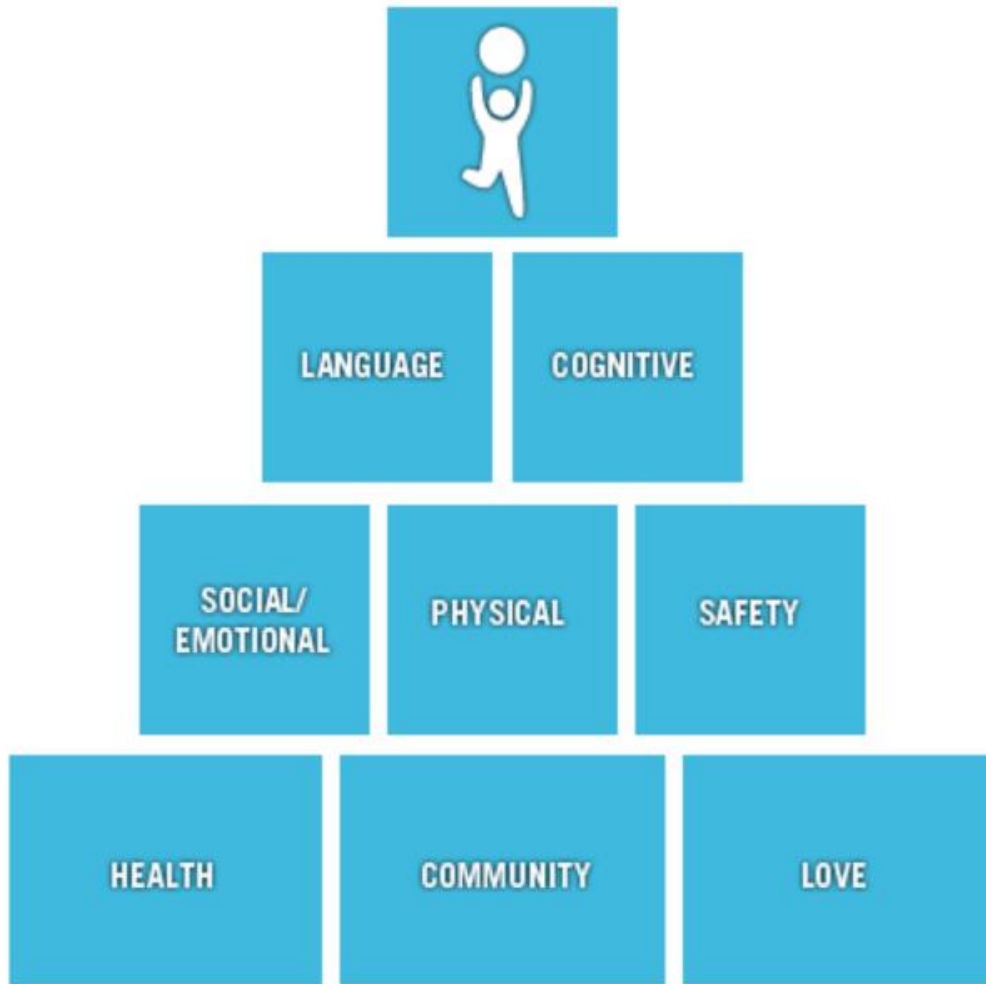
Objectives

- Why this is important foundational knowledge
- Sources for free resources and information
- Tips for teaching lessons on birth defects and disorders
- Discover Realityworks interactive tools and models for teaching this content
- Free resources!

Why This is Important Foundational Knowledge

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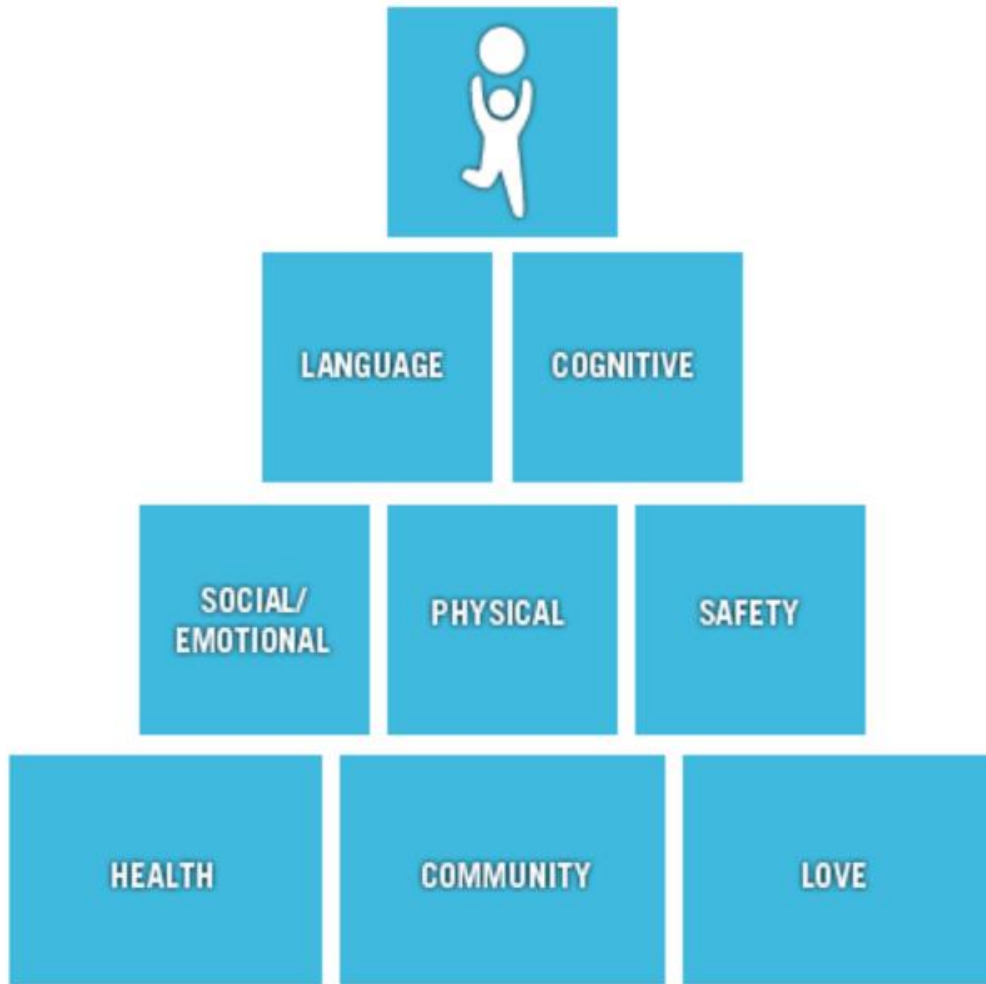
Building a Foundation



FCS National Standard 12.0 Human Development

12.2 Analyze conditions that influence human growth and development.

Building a Foundation



FCS National Standard 4.0 Education and Early Childhood

- 4.2 Analyze developmentally appropriate and culturally responsive practices to plan for early childhood, education, and services.

Building a FCS Foundation



HUMAN SERVICES

Preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

Possible careers include:

- Child, family, or school social worker
- Director of childcare facility
- School counselor
- Sociologist
- Social services worker
- Personal or home care aide
- Leisure activities counselor
- Recreation worker
- Consumer credit counselor
- Personal financial advisor
- Consumer goods or services retailing representative or buyer
- Cosmetologist, hairdresser, or hairstylist

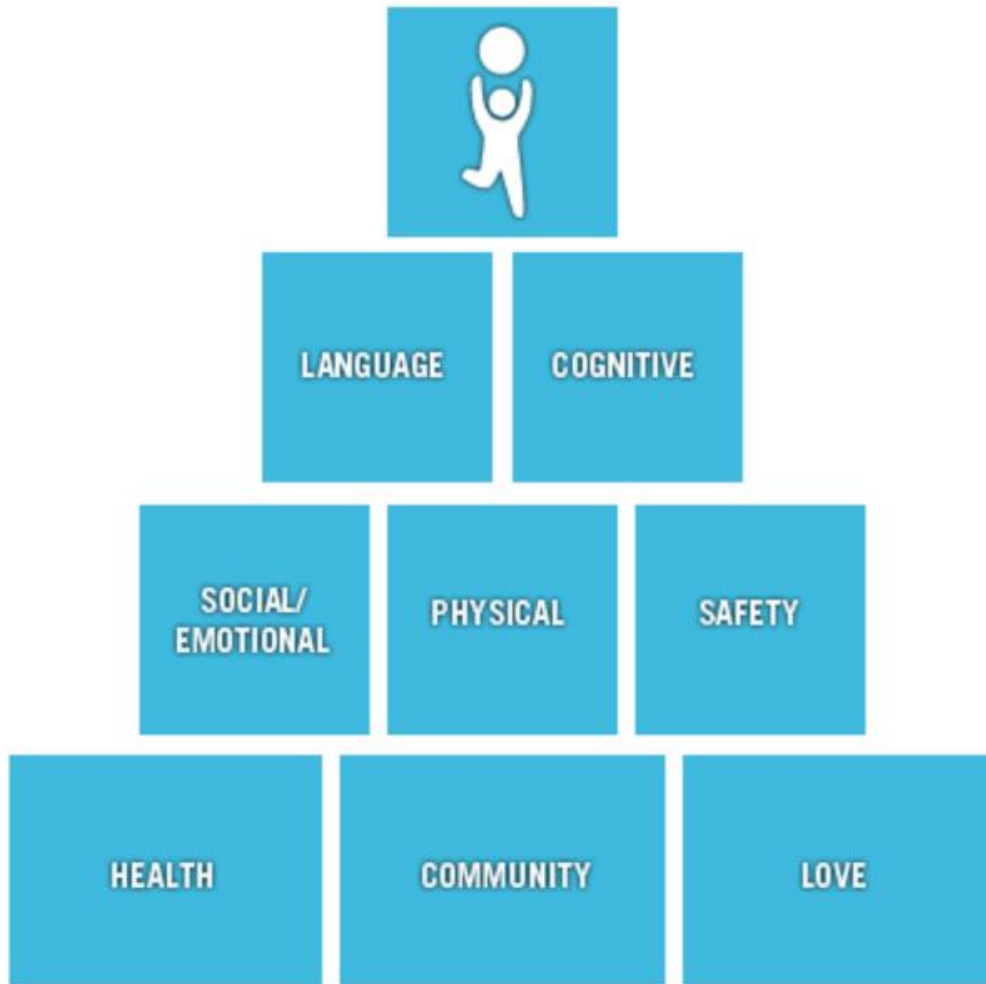
EDUCATION AND TRAINING

Planning, managing, and providing education and training services and related learning support services.

Possible careers include:

- Superintendent, principal, or administrator
- Teacher or instructor
- Preschool or kindergarten teacher
- Clinical, developmental, or social psychologist
- Social worker
- Counselor
- Teacher assistant
- Parent educator
- Child care worker
- Coach
- Recreation worker
- Sign language interpreter

Building a Foundation



National Health Science Standard 1.2 Diseases and Disorders

Describe etiology, pathology, diagnosis, treatment, and prevention of common diseases and disorders.

Building a Health Science Foundation



Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Sample Career Specialties/Occupations	Acupuncturist Anesthesiologist/Assistant Anesthesia Technologist/Technician Art/Music/Dance Therapist(s) Athletic Trainer Audiologist Certified Nursing Assistant Chiropractor Chiropractic Assistant Dental Assistant/Hygienist Dental Lab Technician Dietitian/Nutritionist Dosimetrist EMT/Paramedic Endodontist Exercise Physiologist Home Health Aide Kinesiotherapist Licensed Practical Nurse Massage Therapist Medical Assistant Mental Health Counselor Naturopathic Doctor Nurse Anesthetist Nurse Midwife Nurse Practitioner Occupational Therapist/Assistant Oral Surgeon Orientation/Mobility Specialist Orthodontist Orthoptist Orthotist/Prosthetist/Technician Podiatrist Psychologist Psychiatrist Radiation Therapist Recreation Therapist Registered Nurse Rehabilitation Counselor Respiratory Therapist Speech-Language Therapist Surgical Technician Veterinarian Veterinarian Assistant/Technician Vision Rehabilitation Therapist Wellness Coach	Audiologist Blood Bank Technology Specialist Cardiovascular Technologist Clinical Lab Technician Clinical Laboratory/Technologist Computer Tomography (CT) Technologist Cytogenetic Technologist Cytotechnologist Dentist Diagnostic Medical Sonographer Electrocardiographic (ECG) Technician Electroneurodiagnostic Technologist Electronic Diagnostic (EEG) Technologist Exercise Physiologist Geneticist Geriatrician Histotechnician Histotechnologist Magnetic Resonance Technologist Mammographer Medical Technologist/ Clinical Laboratory Scientist Nuclear Medicine Technologist Optician Ophthalmologist Ophthalmic Assistant/Technologist Optometrist Pathologist Pathologists' Assistant Phlebotomist Polysomnographic Technologist Positron Emission Tomography (PET) Technologist Radiologic Technologist Radiologist Speech-Language Pathologist	Admitting Clerk Applied Researcher Compliance Technician Clinical Account Manager Clinical Account Technician Clinical Data Specialist Community Services Specialists Data Quality Manager Epidemiologist Ethicist Health Educator Health Information Mgmt. Administrator Health Information Mgmt. Technician Healthcare Access Manager Healthcare Administrator Healthcare Finance Informatician Information Privacy Officer Managed Care Contract Analyst Medical Coder Medical Historian Medical Illustrator Medical Information Technologist Medical Librarian Medical Transcriptionist Patient Account Manager Patient Account Technician Patient Advocate Patient Information Coordinator Project Manager Public Health Educator Quality Management Specialist Quality Data Analyst Research and Decision Support Specialist Reimbursement Specialist Risk Manager Unit Coordinator Utilization Manager Utilization Review Manager	Animal Behaviorist Biomedical/Clinical Engineer Biomedical/Clinical Technician Clinical Simulator Technician Central Service Manager Central Service Technician Community Health Worker Dietary Manager Dietetic Technician Environmental Health Advocate Environmental Health Practitioner Environmental Services/ Specialist Facilities Manager Food Safety Specialist Health Advocate Hospital Maintenance Engineer Industrial Hygienist Interpreter Marital, Couple, Family Counselor/Therapist Materials Manager Medical Health Counselor Mortician/ Funeral Director Nurse Educator Occupational Health Nurse Occupational Health & Safety Expert Social Worker Transport Technician	Biochemist Bioinformatics Scientist Biomedical Chemist Biomedical Manufacturing Technician Biostatistician Cancer Registrar Cell Biologist Clinical Data Management Specialist Clinical Pharmacologist Clinical Trials Monitor Clinical Trials Research Coordinator Crime Scene Investigator Diagnostic Molecular Scientist Forensic Biologist Forensic Chemist Forensic Odontologist Forensic Pathologist Genetic Counselor Geneticist-Lab Assistant Lab Technician Medical Editor/Writer Microbiologist Molecular Biologist Nurse Researcher Packaging Technician Patent Lawyer Pharmaceutical/Clinical Project Manager Pharmaceutical Sales Representative Pharmaceutical Scientist Pharmacokineticist Pharmacologist Product Safety Scientist Process Development Scientist Processing Technician Quality Assurance Technician Quality Control Technician Regulatory Affairs Specialist Research Assistant Research Scientist Toxicologist
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Sources for FREE Resources and Information

www.realityworks.com

National Organizations



National Birth Defects Prevention Network

Surveillance • Research • Prevention

<https://www.nbdpn.org/>



<https://birthdefectsresearch.org/>



World Health Organization

<https://www.who.int/news-room/fact-sheets/detail/birth-defects>



<https://www.marchofdimes.org/about-us/mission>



<https://birthdefects.org/>

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MOST COMMON

Birth Defects



Congenital
heart defects

Pulmonary valve
atresia & stenosis

Hypospadias

Cleft lip with
cleft palate

Ventricular
septal defect

Cleft palate

Clubfoot

Atrioventricular
septal defect

Down syndrome

Limb defects

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Down Syndrome



<https://www.nads.org/>



<https://www.ds-int.org/>



<https://ndss.org/>

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Cleft Lip and Cleft Palate



<https://www.operationsmile.org/>



<https://www.smiletrain.org/>



<https://www.cleftprevention.org/>

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Congenital Heart Defects



<https://childrensheartlink.org/>



<https://www.heart.org/en/health-topics/congenital-heart-defects/about-congenital-heart-defects/tetralogy-of-fallot>



<https://rarediseases.org/gard-rare-disease/tetralogy-of-fallot/>

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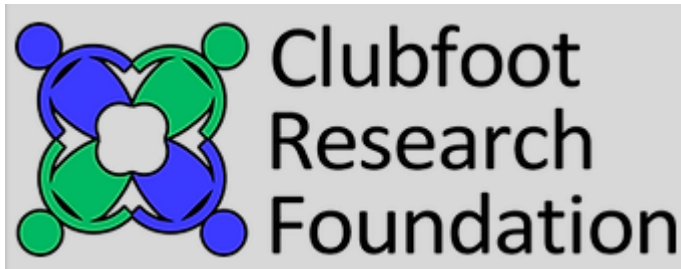
Clubfoot



<https://www.hopewalks.org/>



<https://globalclubfoot.com/about-gci/partner-organisations/>



<https://www.clubfootresearch.org/>

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Other Focused Conditions



<https://www.spinabifidaassociation.org/>



<https://www.cff.org/>



<https://www.shrinersinternational.org/en>

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Tips for Teaching Lessons on Birth Defects and Disorders

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Learning by Generation..

Silents	Baby Boomers	Generation X	Generation Y	Generation Z
Born 1925-1945	Born 1946-1964	Born 1965-1981	Born 1982-1995	Born 1996-2009
a.k.a. Traditionalists Veterans Builders	a.k.a. Boomers Me Generation	a.k.a. Gen X Latch-Key Kids MTV Generation 13 th Generation	a.k.a. Gen Y Millennials Echo Boomers	a.k.a. iGeneration (iGen) Post-Millennials Centennials
Telephone	TV	PC	Internet	iPhone, Social Media
Largely disengaged from technology	Early IT adopters	Digital immigrants	Digital natives	Technoholics
Face-to-face	Face-to-face; telephone or email if required	Text messaging or email	Online/social media and text messaging	Visual communication using technology
Teach Me Prefer a structured "command and control" oriented learning, classroom lectures, books and on-the-job training	In Person Prefer classroom setting with in-class participation; will use technology and may prefer books to reading online	Learn by Doing Prefer self-directed learning and freedom to figure things out on own; computer before books	Short and Sweet Thrive on flexibility and space to explore; favor on-demand, highly personalized and interactive training	Get it Now. Do it Now. Learn it Now. Want to learn on their own terms; prefer visual and interactive, bite-sized and hands-on learning; use of technology and social media is a given

National Birth Defects Awareness Month

CDC has social media resources:

<https://www.cdc.gov/ncbddd/birthdefects/awareness-month/social-media-resources.html>

<https://www.nbdpn.org/bdam.php>



Get it Now. Do it Now. Learn it Now. Want to learn on their own terms; prefer visual and interactive, bite-sized and hands-on learning; use of technology and social media is a given



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World Birth Defect Day

<https://www.worldbirthdefectsday.org/wp-content/uploads/2022/02/WBDD-Toolkit-2022-English.pdf>

Includes

- Flyers
- Presentation
- Activities
- Key Messages
- Social Media
- And More...



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How Do We Teach? Use Videos!

FIVE REASONS WHY EXPLAINER VIDEOS HELP TEACH GENERATION Z

written by Guest Blogger | September 14, 2017

5 Reasons
Why Explainer Videos
Are Ideal For Teaching
Generation Z



70%
of Gen Z students
agree that
technology helps
them learn

92%
are online on
a daily basis

their **8 sec**
attention span
needs a simple
and fast message

2-4 hours
of video content
consumed a day

10+
hours of
tech use a day

Videos

- Baby Blue Heart Defect Tetralogy of Fallot
https://www.youtube.com/watch?v=RU0PNu_6rZw
- Down Syndrome
<https://www.youtube.com/watch?v=EUEHiIXmChE>
- Cleft Lip and Cleft Palate for Students
<https://www.youtube.com/watch?v=ini6hwyXDQo>
- What is Spina Bifida
<https://www.youtube.com/watch?v=CNi3k0YIV98>
- Anencephaly Explained
https://www.youtube.com/watch?v=l8MeJ_igFyk
- What is Clubfoot and how is it Treated?
<https://www.youtube.com/watch?v=PKB36IJufPo>

Gamify Learning - Jeopardy

<https://jeopardylabs.com/>

Birth Disorders and Defects Jeopardy

	Down Syndrome	Cleft Lip and Cleft Palate	Congenital Heart Defects	Clubfoot	Spina Bifida
100	100	100	100	100	100
200	200	200	200	200	200
300	300	300	300	300	300
400	400	400	400	400	400
500	500	500	500	500	500

Free Apps for Teachers

- **Quizlet** is a formative assessment tool where users can create, present, and share quizzes on a variety of subjects.
- **FlipGrid** is one of the best free apps for teachers to promote student engagement and discussion. It allows teachers to facilitate video discussions and organize students into groups with access to particular discussion topics.
- **Kahoot** is a game-based formative assessment tool — teachers can design multiple-choice, true/false, and other games related to class content. Teachers can also access assessments created by other users.
- **Newsify** users can read and share their favorite websites and blogs with an amazing newspaper-like layout.

Free Lesson Plan Sources

- Investigating Birth Defects

<https://www.cdc.gov/scienceambassador/documents/chung-birth-defects-lesson-plan.pdf>

- Birth Defects Know the Signs

<https://www.familyconsumersciences.com/2016/08/birth-defect-scenarios-resources/>

- Birth Defects

<https://www.uen.org/lessonplan/view/4018>

- Influencing Public Policy: The Story of Thalidomide

<https://www.retroreport.org/education/video/influencing-public-policy-the-story-of-thalidomide/>

Realityworks Interactive Tools and Models for Teaching

www.realityworks.com

Birth Defects and Disorder Model Set

Product includes:

- Tetralogy of Fallot Heart Model with Quick Start Guide
- Birth Defects Baby with downloadable curriculum
- Down Syndrome Baby with downloadable curriculum
- Storage case
- 1-year limited warranty



- The Birth Defects and Disorder Model Set presents an in-depth look at 6 different birth defects and disorders including:
- Down Syndrome
- Spina bifida
- Cleft lip
- Anencephaly
- Clubfoot
- Tetralogy of the Fallot.

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How Can You Use This Model Set in Your Classroom?

- ✓ Easy way to teach about 6 common birth defects and disorders visually
- ✓ It is an easy way to teach a 3-lesson unit on birth defects and disorders in FCS human growth and development or health science programs
- ✓ The Tetralogy of Fallot Heart Model is 5x oversize and works as a great classroom demonstration model to point out just what is happening within the heart.
- ✓ The Birth Defect Baby has 4 conditions in situ with cleft lip, anencephaly, clubfoot and spina bifida.
- ✓ The Down Syndrome Baby has several physical symptoms including poor muscle tone using softer vinyl.

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Curriculum Included

<u>Lesson Topics</u>	<u>Teaching Time</u>
Understanding Down Syndrome	1 hour
Tetralogy of Fallot Congenital Heart Defect	1 hour
Understanding Common Birth Defects	1 hour
Total	3 hours

- Lesson plans
- Assessment
- Slide presentation with lecture notes
- Certificate of completion
- Handouts

Lesson Close Up

Understanding Common Birth Defects Curriculum

Lesson One – Understanding Common Birth Defects

LEARN: Understanding Common Birth Defects Slide Presentation

35-45 minutes

Teaching Time

Purpose:

In this discussion, the instructor defines four common birth defects as well as causes, risk factors, diagnoses, and treatments for these conditions.

Materials:

- *Understanding Common Birth Defects* slide presentation
- *Understanding Common Birth Defects Fact Sheet – Answer Key*
- Birth Defects Baby
- RealCare® Baby (if available)

Facilitation Steps:

1. Hold the Birth Defects Baby in your arms as you would a real infant and introduce it to the class.
2. Explain that the manikin represents a newborn baby that portrays common physical characteristics of an infant with cleft lip or palate, clubfoot, anencephaly, or spina bifida. Be sure to inform the class that not all infants born with one of these conditions will look the same as there are varying levels of severity.
3. Ask participants what they notice about the manikin's physical features that are different from the features of a typical baby.

...ive a RealCare® Baby available, hold it up next to the Birth Defects Baby to compare their sizes and features.

5. Have participants pass the Birth Defects Baby among each other and instruct them to carefully observe the manikin's physical features. Follow this by passing around a RealCare® Baby (if possible), so they can see and feel the difference.
6. Distribute the *Understanding Common Birth Defects Fact Sheet* and instruct participants to complete it while you share the *Understanding Common Birth Defects* slide presentation. An answer key is provided for the instructor.

Slide 1: Introductory slide.

Lecture notes

...efects? ...are cleft lip and ...ina bifida. We will ...e following slides.

Slide 3: Cleft lip and cleft palate occur when a baby's mouth or lip does not form properly during pregnancy. These birth defects are commonly called "orofacial clefts."

Cleft Lip: The tissues that make up the lip do not join completely before birth. The opening in the lip can be a small slit or a large opening that goes through the lip and into the nose

Cleft Palate: The tissues of the palate (roof of the mouth) do not join completely during pregnancy. In some babies, the front and back of the palate are open, while others have only part of the palate open.

These clefts can be unilateral, meaning one, or bilateral,

Understanding Common Birth Defects Curriculum

meaning two.

Other Problems: Infants born with a cleft lip, cleft palate, or a combination of the two, may have problems with feeding, speaking clearly when they are older, and chronic ear infections. As the infants grow, they may also have problems with their hearing and teeth.

Slide 4: Causes and Risk Factors

The cause of cleft lip and palate among most infants is unknown. As with all the common birth defects, more scientific studies and some studies show this condition

Use of the Models

- What the mother consumes during pregnancy
- Risk factors** of an infant having a cleft lip or palate include mothers who:

- Smoke
- Have diabetes
- Take certain types of medication

Slide 5: Diagnosis and Treatment

Cleft lip is usually diagnosed during pregnancy by an ultrasound. The cleft palate is diagnosed typically after the baby is born.

Treatment

Plastic surgery on a cleft lip is performed in the first few months of life and is highly recommended within the first year of life.

Surgery for a cleft palate is recommended within the first 18 months of life. Many children will need additional surgeries as they get older.

Slide 6: Statistics

Around 1 in 700 babies is born with a cleft around the world each year.

- 45% have a cleft palate
- 24% have a cleft lip
- 31% have a cleft lip and palate
- 9% have bilateral cleft lip and palate (cleft is on both sides of the lip)

Around 1 in 1,600 babies are born with a cleft in the U.S. each year.

Slide 7: Effects on Education and Learning

As children with cleft lip and palate age, they may encounter the following educational and learning issues:

- Speech problems
- Self-esteem issues
- Reading deficits
- Memory problems
- Learning disabilities

Slide 8: Clubfoot

Clubfoot is a fairly common birth defect that ranges from mild to severe. This defect describes a range of foot abnormalities present at birth:

- The foot is twisted out of shape or position, looking as if it is upside down
- The foot is twisted out of shape or position, looking as if it is upside down
- The foot is twisted out of shape or position, looking as if it is upside down
- The foot is twisted out of shape or position, looking as if it is upside down

Slide Presentation

Slide 9: Causes and Risk Factors

The cause of clubfoot among infants is unknown (idiopathic). About half of children born with clubfoot have it in both feet. Some studies show this condition can be caused by:

- Genetic factors
- Environmental factors

Risk factors of an infant having clubfoot include:

- Having boys (they are twice as likely to develop clubfoot over girls)
- Family history
- Smoking during pregnancy
- Decreased amniotic fluid during pregnancy

About half of children with clubfoot have it in both feet.

Slide 10: Diagnosis and Treatment

Diagnosis

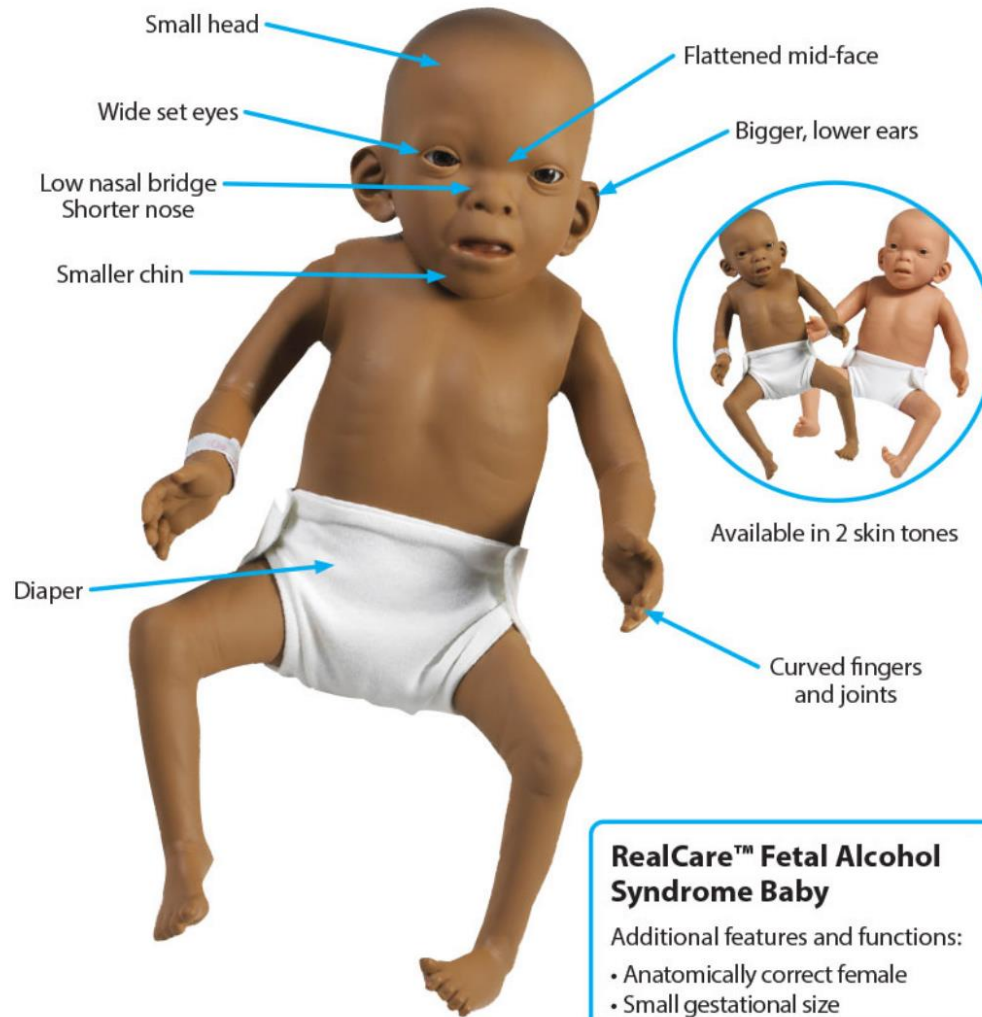
Clubfoot is usually diagnosed during

Realityworks
Since 1998

12

13

Fetal Alcohol Syndrome Baby



Drug-Affected Baby



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Free Resources

www.realityworks.com

Realityworks Webinars

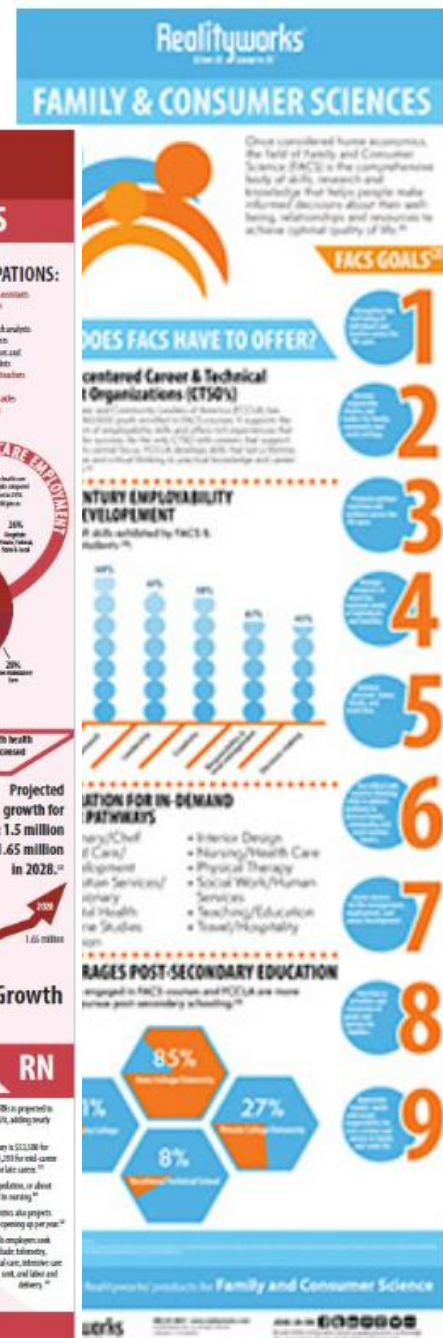
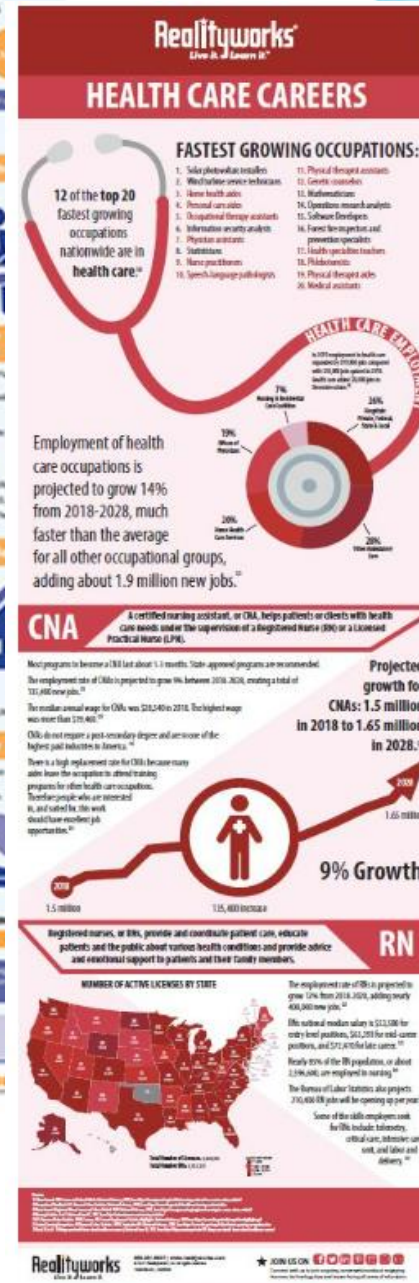
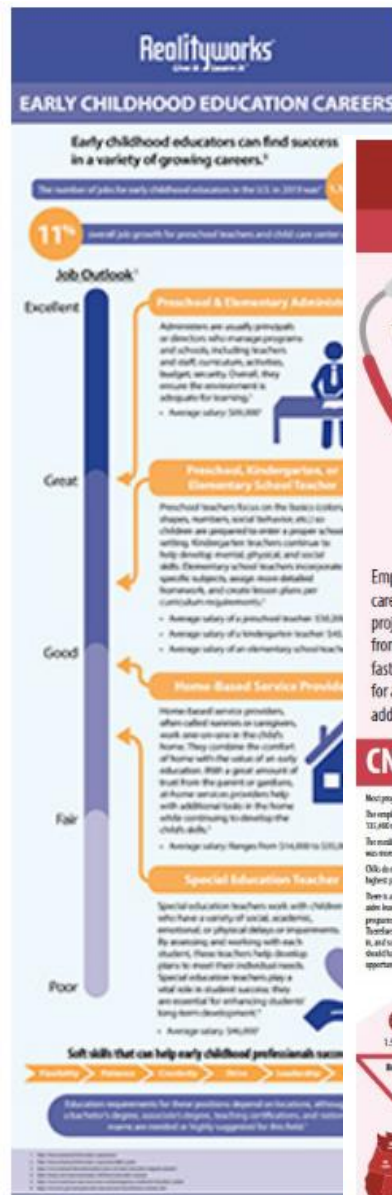


<http://realityworks.com/webinars>

More FREE Resources

FREE infographics

<https://www.realityworks.com/resources/realityworks-interactive-posters-downloads/>



Free Career Exploration

Thank you! Access your free lesson plans and activities

Use the buttons below to download the free career exploration lesson plans and activities that best fit your program's needs.

☐ AGRICULTURE CAREER EXPLORATION

☐ VETERINARY TECHNICIAN CAREER EXPLORATION

☐ TRADE SKILLS CAREER EXPLORATION

☐ WELDING CAREER EXPLORATION

☐ CULINARY ARTS AND FOOD SCIENCE CAREER EXPLORATION

☐ FAMILY & CONSUMER SCIENCES (FCS) CAREER EXPLORATION

☐ HUMAN SERVICES CAREER EXPLORATION

☐ HEALTH SCIENCE CAREER EXPLORATION

☐ SPORTS MEDICINE CAREER EXPLORATION



<https://www.realityworks.com/resources/free-lesson-plans/>

Social Media



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 - <http://realityworks.com/blog/>
- Facebook
 - <https://www.facebook.com/realityworksinc>
- Twitter
 - <https://twitter.com/RealityworksInc>



For more information please contact Realityworks, Inc.
through email at information@realityworks.com
or call toll free at 800.830.1416

