Lesson 6: Reflection and Future Thinking

3D Printing Center - Elementary Curriculum

3D Printing Center

45 minutes

Congratulations Designers!

Look What You've Accomplished!

Display all printed objects from the 6-lesson journey

- **Keychains** from Lesson 2
- **Containers** from Lesson 3
- **Problem-solvers** from Lesson 4
- **Improved designs** from Lesson 5

Our 3D Printing Journey

What We've Learned

- **What** 3D printing is and how it works
- **How** to design in Tinkercad
- **How** to solve problems with design
- **How** to improve and iterate
- **How** to think like designers

Show and Tell Time!

Present Your Best Work

Simple format: - **“This is my ” - *”It solves the problem of ”*** - **“I’m proud of ____“**
Everyone gets to share!

Presentation Guidelines

Sharing Your Success

- **Hold up** your printed object
- **Speak clearly** so everyone can hear
- **Be proud** of your work
- **Listen respectfully** to others
- **Give compliments** to classmates

Celebrating Success

Every Design is Amazing

Remember: - **Every** design solved a problem - **Every** student learned new skills - **Every** object represents creativity - **Every** person should be proud

Reflection Time

Looking Back on Our Journey

Discussion Questions: - What was the **hardest part** about 3D design? - What **surprised** you about 3D printing? - What would you **change** about your designs? - What was your **favorite** part of the process?

Quick Write

Capture Your Thoughts

Write 2-3 sentences about: - Your **favorite** project from the 6 lessons - **Why** it was your favorite - What you **learned** from making it

Take 5 minutes to write

Skills You've Developed

You Are Now Designers!

- **3D thinking** - visualizing objects in space
- **Problem solving** - identifying and addressing needs
- **Digital literacy** - using design software
- **Iteration** - improving through testing
- **Presentation** - sharing your work with others

Real-World Applications

Where 3D Printing is Used

- **Medicine** - prosthetics, surgical tools, organs
- **Aerospace** - rocket parts, satellite components
- **Automotive** - car parts, prototypes
- **Architecture** - building models, construction
- **Fashion** - jewelry, shoes, accessories
- **Food** - chocolate, pizza, decorative items

Future Possibilities

What's Coming Next?

Amazing developments: - **Faster** printers - **New materials** (metal, glass, living tissue!) - **Bigger** objects (houses, cars!) - **Smaller** details (microscopic parts) - **More colors** and textures

Career Connections

Jobs That Use 3D Printing

- **Engineers** design solutions to problems
- **Doctors** create custom medical devices
- **Architects** build scale models
- **Artists** create sculptures and art
- **Teachers** make educational tools
- **Inventors** prototype new ideas

If You Had a 3D Printer at Home

Dream Big!

What would you make? - Replacement parts for broken toys? - Custom organizers for your room? - Gifts for family and friends? - Tools for hobbies and sports? - Art projects and decorations?

Continuing Your Learning

Keep Designing!

Ways to continue: - **Tinkercad** is free - use it at home! - **Library** maker spaces often have 3D printers - **Online tutorials** teach advanced techniques - **YouTube** has thousands of 3D printing videos - **Books** about 3D design and printing

What's Possible?

Show examples of complex printed objects

- **Moving gears** and mechanisms
- **Flexible** materials and hinges
- **Multi-color** objects
- **Assembled** parts that print together
- **Functional** tools and devices

Thank You Message

To Our Amazing Students

You have: - **Learned** new technology - **Solved** real problems - **Created** original designs - **Helped** each other succeed - **Shown** creativity and persistence

Teacher Reflection

What We've Observed

- **Growth** in problem-solving skills
- **Confidence** with technology
- **Creativity** in design solutions
- **Collaboration** and peer support
- **Pride** in accomplishments

Looking Forward

Your Design Future

Remember: - **Every** problem can have a solution - **Technology** is a tool for creativity - **Iteration** makes everything better - **Sharing** ideas helps everyone learn - **You** can be inventors and creators

Final Thoughts

The Designer Mindset

Take with you: - **Curiosity** about how things work - **Confidence** to try new things - **Persistence** when facing challenges - **Creativity** in solving problems - **Kindness** in helping others

Resources for Continued Learning

Keep Growing!

- **Tinkercad.com** - free 3D design
- **Local libraries** - maker spaces and classes
- **YouTube** - "3D printing for kids"
- **Books** - check your school library
- **Clubs** - robotics and maker clubs

Cleanup Time!

Final Cleanup (10 minutes)

- **Collect** your printed objects
- **Take** your reflection writing
- **Clean** your workspace
- **Say thank you** to classmates
- **Be proud** of what you've accomplished

Congratulations!

You Are Now 3D Printing Designers!

Thank you for: - Working hard - Being creative - Helping each other - Trying new things - Making amazing objects
Keep designing and creating!